

**INTERCULTURAL DIFFERENCES IN
SUGGESTIBILITY AMONGST
UNIVERSITY STUDENTS**

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Assignment completed in partial fulfilment of the requirements

for the degree of

Master of Arts (Counselling Psychology)

at the

Stellenbosch University

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April 2005

STATEMENT

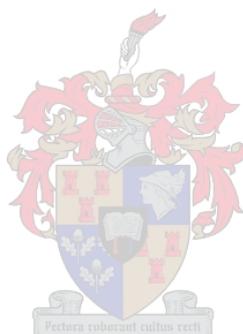
I, the undersigned, hereby declare that the work contained in this assignment is my own original work, and that I have not previously in its entirety or part submitted it at any university for a degree.

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Signature

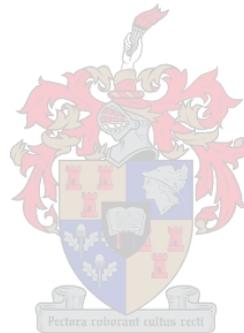
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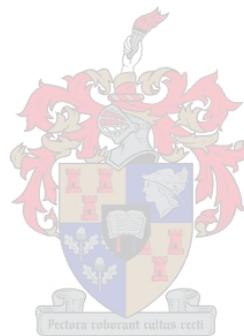
ABSTRACT

The current study investigates intercultural differences in suggestibility between Black, coloured and White students at a South African university using the Creative Imagination Scale (CIS), (Wilson & Barber, 1978). The CIS and a short biographical questionnaire measuring embeddedness in traditional culture were administered to three samples (N=20 each) from students belonging to the above cultural groups. Statistical tests were applied to determine the effects of ethnicity, cultural embeddedness and gender on CIS scores. The results indicate that these three dimensions do not significantly impact on CIS scores. Implications of the results obtained are discussed and ensuing recommendations for future related research are made.



OPSOMMING

Die huidige ondersoek bestudeer interkulturele verskille in suggereerbaarheid, soos gemeet deur die Creative Imagination Scale (CIS), (Wilson & Barber, 1978), tussen Bruin, Swart en Wit studente aan 'n Suid-Afrikaanse universiteit. Die CIS en 'n kort biografiese vraelys, wat ontwerp is om kulturele gebondenheid te meet, is op drie steekproewe (N=20 elk) van studente uit die drie bogenoemde kultuurgroepe toegepas. Die toetsdata is statisties ontleed om die effek van etnisiteit, kulturgebondenheid en geslag op CIS toetsvlakke uit te wys. Dit is bevind dat die drie dimensies geen beduidende impak op CIS toetsvlakke het nie. Die implikasies wat hierdie bevindinge inhou word bespreek en aanbevelings vir toekomstige verwante navorsing word gemaak.



ACKNOWLEDGEMENTS

I wish to express my utmost gratitude to my promoter, Dr HM De Vos, for his insight, patience, guidance and countless positive suggestions, which all played an invaluable role in the completion of this thesis.

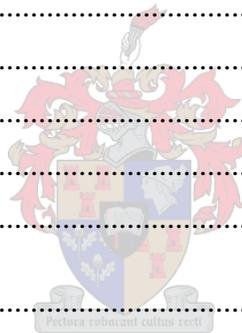
I also wish to acknowledge my research participants, especially these who took the trouble to help with the recruitment of further participants due to the difficulties inherent in obtaining black participants on campus.

Much thanks is also due to Mrs Connie Park for frequent yet willing assistance with the formatting and layout of numerous drafts of this work.



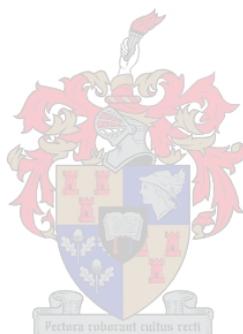
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INTERCULTURAL DIFFERENCES IN SUGGESTIBILITY AMONGST UNIVERSITY STUDENTS

INTRODUCTION

This research sets out to study intercultural differences in hypnotic suggestibility between Black, Coloured and White students at a South African university, the University of Stellenbosch. The aim is two-fold: Firstly, to prepare the ground for investigation of differences in hypnotic suggestibility amongst the above racial groupings within the broader context of the South African population, contributing to better informed choices in the modality of psychotherapeutic interventions for a culturally diverse clientele. Secondly, it is hoped to provide an explanatory paradigm within which any intercultural differences in hypnotic suggestibility can be understood.

In the West, hypnosis as a tool for promoting well-being has been known for approximately two centuries, adopting various guises and passing through the hands of practitioners with varying levels of professional affiliation, from renowned scientists to charlatans (Seidman, 1999). To this day, it remains poorly understood in many circles and thus finds itself nearer the fringe of the science of Psychology, with much debate, theorizing and obscurity remaining concerning the way it really works (Barrios, 2001; Hasegawa & Jamieson, 2002; Kallio & Revonsuo, 2003; Sarbin, 2002). Nevertheless, this prodigal son of our field has amply proven its merits in clinical practice and the research efforts of many over the years has brought it increasingly into the fold of interventions for many Psychologists (Seidman, 1999). The diversity of therapeutic applications for hypnosis range from the controversial age-regression techniques used to uncover past traumatic experiences which need to be processed to alleviate current ailments, to analgesia, phantom limb pain (Oakley & Kalligan, 2002), changing unwanted behaviour like smoking, snoring and eating habits (Kraft, 2003), bed-wetting, improving concentration and recall for students, as well as enhancing performance in various other settings including competitive sport. Recently, hypnosis has also been proven effective in enhancing the functioning of the immune system (Gruzelier *et al.*, 2002; Seidman, 1999), extending possibilities for its application to the HIV pandemic in South Africa.

With the above in mind, the need for this research stems from the lack of information available on the efficacy of hypnosis for people rooted in an African culture. To date, Psychology and its various types of interventions have been predominantly Western inventions. When these artefacts of Western thought are merely transplanted into an African context, their efficacy is often altered because of different values, epistemologies and conceptions of reality (Viljoen, 2003). If Psychology is to be maximally relevant in South Africa's multi-cultural environment, these differences in efficacy need to be discovered and understood so that the necessary bridges can be built to produce workable interventions.

Suggestibility, or a person's ability to produce and experience the phenomena suggested, is the most significant component of hypnotic susceptibility (Kirsch & Braffman, 1999) and has creative imagination, mediating between the verbal suggestions and the person's experience, as its closest correlate, playing a larger role than the two other components, expectancy and attentional abilities. For the purposes of this pilot study, the only construct that will be used to measure intercultural differences in hypnotic suggestibility will be creative imagination, using Wilson and Barber's Creative Imagination Scale (Wilson & Barber, 1978). An important consideration for the choice of this particular instrument is that it has recently been standardized for South Africa using samples from the University of Stellenbosch (Van Niekerk, 1999). To date, it is the only such instrument with norms available for both Black and White South Africans.

A multi-levelled approach will be necessary in order to understand hypnosis and its effects generally, and to create an explanatory framework within which the causes of intercultural differences in suggestibility can be understood. Such an approach should probe different layers of the individual's bio-psycho-social make-up – and stretch over various explanatory domains, so as to attempt to encompass the epistemological and ontological basis of a person's reaction to suggestions (Hasegawa & Jamieson, 2002; Kallio & Revonsuo, 2003). This study will therefore include a focus on certain differences in Western and traditional African cultures, thought to affect suggestibility and its correlates, which will hopefully go some way towards explaining possible variances in hypnotic suggestibility. The links in the explanatory framework between cultural variables and correlates of hypnotic suggestibility are often only hypotheses and require further research which would serve to verify their existence and clarify their nature.

LITERATURE OVERVIEW

This section provides an overview of some of the most well known paradigms and theories that have been used to explain hypnotic phenomena as well as of research on the relationship between suggestibility and a range of individual traits. Findings on aspects of traditional African culture relevant for this study's explanatory framework will also be included.

The following are some of the most widely known theories and paradigms within which hypnotic phenomena are understood.

Hypnobehaviourism seeks to explain hypnotic phenomena in terms of Pavlovian theories of conditioning (Salter, 1949). Barrios (2001) sets forth a theory of hypnosis based on principles of conditioning and inhibition, explaining hypnotic phenomena as the result of the conditioning of inhibitory sets and second-order conditioning. During the eighties a new development occurred, incorporating cognitive and behavioural techniques with hypnosis. This cognitive-behavioural hypnotherapy is based on the premise that most psychological disturbance results from a destructive type of self-hypnosis, termed negative self-hypnosis (Aroaz, 1982, 1985).

The socio-psychological approach explains hypnosis within a Sociological perspective (Coe, 1978; Sarbin & Coe, 1972). Emphasis is placed on factors such as the definition of roles and role enactment by the hypnotized patient.

The cognitive-behaviourist approach extends the Socio-Psychological model to include cognitive elements (Spanos & Chaves, 1989).

In its pure form, the socio-cognitive approach explains Hypnosis in terms of human interactions (Coe & Sarbin, 1991; Kirsch, 1991; Lynn & Rhue, 1991b; Wagstaff, 1991) Originally, These theories sought to explain hypnosis as a purely psychological phenomenon, refuting the necessity for physiological (state) explanations. Gruzelier (2000), however proposes an integration of socio-cognitive and neuro-cognitive theories in the light of recent developments in Neuro-physiology, including new thinking on brain functioning and improved methods for measuring brain activity.

Currently, the two most prominent theories for a neuro-physiological explanation of hypnotic phenomena are Hilgard's (1978) Neo-dissociation theory of a split consciousness and Bouwers' (1992) theory of dissociated control.

According to the neo-dissociation theory, the brain is constantly engaged in two or more concomitant streams of cognitive activity. Dissociation occurs due to the fact that these

streams of cognitive activity are separated by an amnesic block, allowing a person's thoughts, emotions and behaviour to be influenced without the subject being aware of it (Posthumus, 2001). The cognitive streams also maintain a logical and realistic relationship to one another during the influencing process (Kirsch & Lynn, 1998; Woody & Bowers, 1994). Hilgard terms the person's dissociated part or aspect the "hidden observer". The hidden observer can, e.g., be aware of pain at a given moment, while the rest of the person has no awareness of it whatsoever (Woody & Bouwers, 1994).

Bouwers' (1992) theory of dissociated control developed from Hilgard's neo-dissociation theory. This theory emphasises the automaticity of subjects' cognitive and behavioural responses to suggestions while under hypnosis (Kihlstrom, 1998). According to Bouwers (1992), the possibility exists that highly hypnotizable individuals process information differently to low hypnotizables: The hypothesis is that access to sub-systems of control is gained more directly and automatically under hypnosis, due to less control than usual being exerted by higher executive levels of cognition (Posthumus, 2001). Subjects' experience of a response to a suggestion (e.g. for arm rigidity) occurring without their volition would be quite realistic, due to the behaviour having taken place without the intervention of higher executive control functions (Woody & Sadler, 1998).

Jamieson and Sheehan (2002) studied the relationship between hypnotic susceptibility and sustained attentional ability (the ability to strongly maintain the focus of attention over a period of time) and found that no positive statistical relationship could be demonstrated between the two constructs in general. The only attentional factor found to correlate significantly with higher levels of susceptibility was absorption.

In defining absorption, Tellegen (1981, cited in Jamieson & Sheehan, 2002) distinguishes between two styles of attending, typified by their own idiosyncratic mental sets: the instrumental and experiential mental sets. The instrumental mental set is characterized by reality-oriented, effortful and goal-directed striving, e.g. driving (Roche & McConkey, 1990, cited in Jamieson and Sheehan, 2002). The experiential set on the other hand is non-striving, effortless and non-volitional and allows for the relinquishing of the instrumental set in a context where a person feels safe to do so, e.g. watching television (Tellegen, 1981, cited in Jamieson & Sheehan, 2002). Absorption can thus be defined as a state with a trance-like quality, characterized by the setting aside of the instrumental set and adoption of an experiential set.

Brown *et al.* (2001) note the reduction in critical thought processes brought about by absorption, or the exchange of an instrumental mental set for an experiential one. In their study, exploring the effect of absorption and reduced critical thought on suggestibility in the hypnotic context, they found that hypnotic inductions suggesting both relaxation and absorption lead to greater differences between baseline (awake) and experimental (hypnotized) scores for objective and subjective suggestibility, compared to inductions focusing solely on relaxation.

Milling, Kirsch and Burgess (2000) however found empirical evidence showing the relationship between absorption and suggestibility to be heavily moderated by the context effect, signifying that absorption might not be such a predominant personality trait of suggestibility as it was previously thought to be.

West (2003) found a negative correlation between hypnotic suggestibility and academic achievement. Using multiple regression, it was found that low academic grades were significant predictors of high hypnotic suggestibility. This is however not a function of the intelligence of highly suggestibles, but can tentatively be linked to the types of mental skills and processes required to produce a piece of high quality academic work, i.e. understanding, synthesis, analysis and integration (West, 2003). This is possibly related to attentional factors, such as a preference for passive, absorbed experiential mental sets related to daydreaming and distractibility from immediate tasks at hand (Jamieson & Sheehan, 2002).

It is however noteworthy that highly suggestible people are able to benefit from hypnotic interventions designed to improve academic performance by enlarging the attention span and increasing levels of concentration, mental alertness and motivation (Wark, 1996). Wark's (1996) study demonstrated significant improvements in academic performance amongst a selected group of highly suggestible students through a programme based on active-alert hypnosis, visualization exercises and self-hypnosis. Improvements in academic performance brought about by active-alert hypnosis are attributed to the bringing about of a more focussed attention span and a greater ability to concentrate (Liebenberg, 1998; Wark, 1996). Research also indicates that both active-alert and traditional relaxation hypnotic interventions can bring about improvements in academic performance (Brennan, 1993; De Vos, 2003).

Ordi and Miguel (1999) found that females obtained significantly higher scores than males on the Inventory of Suggestibility, an instrument providing a general measure of suggestibility and four sub-scales: dreaming/fantasizing, absorption, emotional involvement and influencibility by others. Gender differences in the relationship of age, IQ, social competence and levels of suggestibility were also found by Crossman (2001). While strong negative

association between age, IQ and suggestibility was found in boys (i.e. their levels of suggestibility decreased with age and IQ), this effect was much weaker for girls. Crossman (2001) also found a positive relationship between social competence and suggestibility to exist for boys, while this effect did not exist for girls.

However, Pitsch, Sapp and McNeely (2001) investigated interactions between gender, locus of control, transcript type (direct vs. indirect) and hypnotisability and found no significant interactions between these factors.

Jamieson and Gruzelier (2001) found a relationship between hypnotic suggestibility and a sub-set of schizotypy items related to cognitive and perceptual reality distortions. The schizotypy items were from the Personality Syndrome Questionnaire, used to measure the construct of schizotypy. The concept of schizotypy grew out of the dimensional view of schizophrenia which saw the disorder as the extreme of a continuum of cognitive, affective and behavioural tendencies throughout the general population rather than as a qualitatively distinct clinical category (Claridge, 1985, cited in Jamieson & Gruzelier, 2001). A strong correlation also exists between high levels of suggestibility, belief in the paranormal and field dependency (Hergovich, 2003).

Researchers in the field of hypnosis have also found the following personal traits to correlate strongly with high levels of suggestibility:

- stronger constant and automatic attentional abilities (Crawford, 1994; Gruzelier, 1998);
- Greater global automatic information processing capacities (Laurence, Slako & Le Beau, 1998);
- Faster adaptability and quicker reaction times (Crawford, Horton & Lamas, 1998);
- More pronounced ability to ignore irrelevant environmental stimuli due to underlying neurological differences measured in the frontal limbic attentional system (Crawford, 1994; Gruzelier, 1998);
- greater ability to inhibit brain activity in the left hemisphere when given hypnotic suggestions (Gruzelier, 1998; Gruzelier & Warren, 1993);
- Greater increases in brain activity in the right temporal lobe when exposed to auditory stimuli (Jutai, Gruzelier, Golds & Thomas, 1993);

- better control over intense emotions, a deeper experience of emotions (specifically negative emotions), as well as greater use of imaginative representations (De Pascalis, Marucci & Penna, 1989; Ray, 1997); and

Greater hemispheric inequalities with increased right-hemispheric activity (De Pascalis & Perrone, 1996; Sabourin, Cutcomb, Crawford & Pribram, 1990).

A study such as this one is complicated yet rendered valuable due to a considerable lack of psychological research available on the personality and functioning of people living in traditional African cultural contexts (Viljoen, 2003). The development of an authentic African Psychology has also been hampered by the fact that most psychological research on Africans has been undertaken from a Western paradigm, doing nothing to dispel the hegemony of Occidental assumptions in the field. The anthropologist Hammond-Tooke (sited in Viljoen, 2003), aptly demonstrated the inappropriate nature of this artificially enforced coupling. His research amongst various African tribes indicates that a number of Western diagnostic categories are not applicable to African clients, leading to tragic scenarios of inappropriate diagnoses and misguided interventions by mental health practitioners.

For the purposes of this study, it is important to note that most Black South Africans find themselves in a transitional phase, somewhere on the continuum between traditional African culture and a Western lifestyle and frame of reference. This does not necessarily imply progress or a move towards a qualitatively better lifestyle (Segolo, sited in Viljoen, 2003). The existence of this continuum of acculturation implies that it is insufferably reductionist to generalize by lumping all Black South Africans together as a homogenous category. Factors such as family background, level of education, urbanization and the individual's own choice on how to construct his/her own identity all come into play when determining a person's position on the continuum of acculturation.

RESEARCH METHODOLOGY

Participants

All participants were students at the University of Stellenbosch, South Africa, between the ages of 18 and 26 with an average age of 21.2 years. Three convenience samples (N=20 each) were drawn, one from each of the cultural groups under study, i.e. Black (mother-tongue speakers of an indigenous African language), Coloured (mother-tongue speakers of either English or Afrikaans) and White (mother-tongue speakers of either English or Afrikaans).

Participants received no material remuneration or course credits for participating in this study.

Although efforts were made to obtain random samples, this was not always feasible due to the limited availability of Black and Coloured students on campus and the subsequent expedient of employing social networks to recruit participants. This led to the necessity of artificially ensuring representativity of gender, age variance and course of study, as it is likely that these variables could influence levels of creative imagination.

Volunteers were used to recruit participants for the Black and Coloured samples. So as to influence expectancy amongst recruits to the minimum, these volunteers were asked to familiarize themselves with the content of the invitation letter (Appendix C), and to use only the information it contains when telling potential participants about the study. The letter correctly states that the research concerns intercultural differences in creative imagination and mentions that participants will at no time be hypnotized during the assessment session. This precaution was also necessary due to prevalent religious concerns about possible adverse spiritual effects of hypnosis.

Procedure

The creative imagination assessments were conducted live on various occasions on groups numbering between 2 and 11 participants. The assessment sessions were presented by the author, sometimes accompanied by an assistant. The script for administering the Creative Imagination Scale (CIS) provided in Wilson and Barber (1978) (see Appendix A) was used. Testing took place in appropriately furnished rooms or halls of university residences and a quiet seminar room in the Arts Faculty's computer centre.

The CIS was administered after a short (5 minutes) discussion to establish rapport and obtain informed consent. In obtaining informed consent, the study was presented to subjects purely as research on intercultural differences in levels of creative imagination, never mentioning its correlation with hypnosis. As far as possible, the word "hypnosis" was never mentioned, except to reassure concerned participants that they would not be hypnotized. Care was taken to ensure that the CIS administration should not be associated with testing for hypnotic susceptibility. Participants were only informed that the CIS is a creative imagination test. Participants were told that they would be doing the author a favour by participating. It was emphasized that the testing was for research purposes only and that the administration of the tests would have no long-term or therapeutic consequences.

After fully explaining the administration procedure, informed consent was obtained verbally. The subjects were invited to enjoy the session. The CIS was administered using a Braille script. No prior hypnotic induction or "think with" statements preceded the administration.

Following the administration of the scale, subjects were asked not to interact with one another and immediately completed a short biographical questionnaire and CIS answer form (see Appendix B). The biographical questionnaire captures individual data measuring where African participants are situated on the continuum between traditional and Western culture, while the CIS answer form uses Likert-type scales allowing participants to rate how real or intense their experience of the scenarios suggested in the 10 CIS items were to them.

The assessment sessions were completed in approximately 35 minutes. The introductory discussion took at most 5 minutes depending on the size of the group, 20 minutes was spent on the actual administration and 10 minutes was given for filling in the biographical questionnaire and CIS answer form. Afterwards, participants were given the opportunity to discuss their experiences during the administration, providing the author and one another insight into the qualitative dimension of their experience. After each session, participants were requested not to share the content of the CIS items with others, as this could contaminate future participants' reaction to the test.

Measuring Instruments

Biographical Questionnaire

A short biographical questionnaire, compiled by the author, preceded the CIS answer form and was attached to it (Appendix B). The items relate to ethnic affiliation (Black, Coloured or White), whether the participant comes from a rural or urban environment, whether they grew up in a conservative/traditional home and how important cultural values and traditions are to them. Items related to age and course of study were also included.

The items concerning rural vs. urban origin, nature of family background and importance of cultural values and traditions are designed to provide information to shed light on where African participants find themselves on the continuum between traditional and Western culture.

Creative Imagination Scale

The Creative Imagination Scale (Wilson & Barber, 1978) was used in the course of this study. It is a 10-item scale, designed to stimulate both the cognitive and ideomotor effects which comprise hypnosis (Kirsch, 1999; Wark, 1996) but was designed in such a way that

hypnotic induction is not required for its administration (Van Niekerk, 1999; Wilson & Barber, 1978), making it appear less threatening or intrusive. This was valuable in the current context with potential participants' fears concerning hypnosis, which would have detracted from their willingness to take part in a test clearly associated with hypnosis. The test can also be administered individually or in groups, adding to its flexibility.

The CIS was also standardized and proven to be a valid measure of creative imagination for Black and White students at the University of Stellenbosch by Van Niekerk (1999), making it the only test of this kind available with norms based on a South African sample. Admittedly, Van Niekerk's sample was limited to one particular context, the University of Stellenbosch, which varies widely in many respects from the universe of the total South African population. Nevertheless, it is this same atypical sub-group which forms the population for the current study, making Van Niekerk's work valuable.

Furthermore, the CIS can be validly and comfortably administered in a short single session (Gibson & Heap, 1991, cited in Van Niekerk, 1999). It is a quick and easy test to administer, score and interpret, especially for a beginner therapist who is gaining experience in the basic principles of adapting hypnotherapeutic methods to the individual characteristics of each client (Gibson & Heap, 1991, cited in Van Niekerk, 1999). The test provides a total score indicating a person's general level of creative imagination while the pattern of responses also provides information on differences in levels of creative imagination in the various sense modalities tested (Gibson & Heap, 1991, cited in Van Niekerk, 1999).

The 10 items of the CIS are provided in the administration script (Appendix A). The types of imaginary productions they aim to achieve, as classified from a cognitive-behaviourist perspective (Kirsch & Braffman, 1999) include motor productions (movement), motor inhibitions (paralysis), cognitive productions (sensory and other distortions or hallucinations) and cognitive inhibition (sensory deprivation or loss of cognitive function such as recall). It is apparent that none of the items focus on cognitive inhibitions, except if item 3 (finger anaesthesia) and item 10 (inhibiting stressful thoughts) do have a cognitive inhibition component.

Statistical Methods

Both parametric and non-parametric statistical methods were used to analyse the data in this study. The use of non-parametric methods was necessitated by the need to make valid inferences from small samples. The two statistical tests used were the Analysis of Variance or ANOVA (parametric) and the Kruskal-Wallis (non-parametric).

Results

This section outlines the relationships between subjects' score on the CIS and variables including ethnicity, family background and gender.

Since *t*-tests are used when the independent variable has only two levels, it is statistically preferable to do an analysis of variance (ANOVA) if the independent variable has more than two levels (Field, 2000). The ANOVA results for ethnicity and gender are summarized in Table 1 and Table 3 respectively. A non-parametric method, the Kruskal-Wallis test was used to analyse the data concerning the relationship between scores on the CIS and type of family background for blacks (Table 2), and the relationship between ethnicity and CIS score for females (Table 4) and males (Table 5).

Table 1

ANOVA Results for CIS Total Scores and Ethnicity (N=58).

| | Mean | SE | df | F | p |
|-----------------|-------|------|-------|------|-----|
| White (n=19) | 20.26 | 1.65 | | | |
| Black (n=20) | 24.10 | 1.56 | 2; 56 | 1.51 | .23 |
| Coloured (n=19) | 22.74 | 1.55 | | | |

The analysis of variance indicates that no significant differences between the respective ethnic groups were found with regard to scores on the CIS [$F = 1.51, p > 0.05$].

Table 2

Kruskal-Wallis Results of Family Background for Blacks (n=20).

| | Mean | SE | df | χ^2 | p |
|-------------------|-------|------|----|----------|-----|
| Traditional (n=7) | 22.43 | 2.62 | | | |
| Liberal (n=8) | 26.88 | 2.45 | 2 | 2.30 | .32 |
| Unsure (n=5) | 22.00 | 3.10 | | | |

No significant relationships could be established within the black sample with regards to type of family background and CIS score [$\chi^2 = 2.30, p > 0.05$].

Table 3*ANOVA Results for CIS Total Scores and Gender (N=58).*

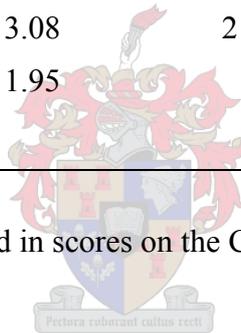
| | Mean | SE | df | F | P |
|---------------|-------|------|-------|------|-----|
| Female (n=31) | 21.52 | 1.27 | | | |
| Male (n=27) | 23.41 | 1.35 | 1; 57 | 1.04 | .31 |

No significant gender differences in scores on the CIS were found ($F= 1.04, p>0.05$).

Table 4*Kruska- Wallis Results for ethnicity and CIS Total Scores within the female sample(n=31).*

| | Mean | SE | df | χ^2 | P |
|-----------------|-------|------|----|----------|------|
| White (n=9) | 20.67 | 1.86 | | | |
| Black (n=8) | 22.50 | 3.08 | 2 | .194 | .907 |
| Coloured (n=14) | 21.50 | 1.95 | | | |

No significant differences were found in scores on the CIS between females of the different ethnic groups [$\chi^2=0,19, p>0.05$]

**Table 5***Kruska-Wallis Results for ethnicity and CIS Total Scores within the male sample (n=31).*

| | Mean | SE | df | χ^2 | P |
|----------------|-------|------|----|----------|------|
| White (n=10) | 19.90 | 2.74 | | | |
| Black (n=12) | 25.17 | 1.65 | 2 | 2.78 | .249 |
| Coloured (n=5) | 26.20 | 1.59 | | | |

No significant differences were found in scores on the CIS between males of the different ethnic groups [$\chi^2=2.78, p>0.05$].

DISCUSSION

This Section will probe into the implications of the results furnished in the previous section as well as provide a critical evaluation of this study. Lastly, recommendations for future directions pointed out by this research will be offered.

As demonstrated in Table 1, no statistically significant differences in scores on the CIS could be observed between the Black, Coloured and White samples. Although the differences in mean scores found between the samples rank the Black sample highest with a mean of 24.10, then the Coloured sample with a mean of 22.73 and the White sample with a mean of 20.26, the differences are not pronounced enough to conclude that levels of creative imagination as measured by the CIS will differ consistently between Black, Coloured and White students at the University of Stellenbosch. Tables 4 and 5 also show this effect to be consistent across gender, with both genders not demonstrating any significant relationship between ethnicity and scores on the CIS. This confirms Van Niekerk's (1999) finding of no statistically significant differences on CIS scores between Black and White samples of undergraduate Psychology students at the University of Stellenbosch. The means obtained by Van Niekerk were 19.75 for the Black, and 16.57 for the White sample. The means in this study are thus generally higher and the differences between them more pronounced.

As noted previously, Black Africans are not a homogeneous group. People find themselves on different places on a continuum between traditional African and Western culture, which directly implies a continuum between traditional African and Western conceptions of reality and frames of reference (Viljoen, 2003). The author hypothesizes that these differences in involvement in traditional culture and frame of reference amongst Africans are closely linked to a general preference for experiential mental sets over instrumental sets by people within a traditional African cultural context, leading to higher levels of creative imagination and hypnotic suggestibility for this group when compared with people in a Western cultural context, where a preference for instrumental mental sets is believed to be prevalent. In order to attempt to capture the essence of this continuum, the biographical questionnaire included three pertinent questions:

- I come from a: Traditional, conservative family background / Liberal family background / Unsure
- My culture and traditions are important to me: Yes/No

- I have lived most of my life in: A rural area, farm or small village / Modern town, suburb or city

As shown in Table 2, no statistically significant differences could be found related to the type of family background within the Black African sample. The same is also true for the two other components not listed, i.e. rural vs. urban origin and importance of culture and traditions. This points to the need to establish more accurate and sensitive measurements of people's involvement in traditional African worldviews in order to test the above hypothesis thoroughly.

It is also important to note for the tenability of the hypothesis that students at the University of Stellenbosch are atypical of the South African population at large. As a tertiary academic institution, the university environment exacts certain demands for specific mental competencies geared towards academic achievement from its students. As was pointed out by West's (2003) study exploring the relationship between academic achievement and hypnotic suggestibility, the mental skills required for academic success (understanding, synthesis, analysis and integration) require a predominantly critical orientation. Such an orientation does not favour passive, absorbed experiential mental sets associated with higher suggestibility (Jamieson & Sheehan, 2002). With a predominantly White student population, the social environment at the university of Stellenbosch is also rooted in the Western cultural paradigm, leading to further minimization over time of the differences in ontology between Black, Coloured and White students. Thus, it is extremely plausible that, within the whole South African population, a filtration process occurs whereby learners with stronger tendencies towards critical instrumental mental sets achieve better academic results at school and are absorbed more readily into tertiary institutions. There might thus be considerable differences in levels of creative imagination between Black African students and the general Black African population.

Taking the positive relationships between absorption, reduced critical thought and suggestibility into account (Brown, 2001), it is noteworthy for the explanatory framework of this intercultural study to consider that most people experience the phenomenon of absorption naturally, without any type of induction (Tellegen, 1981, cited in Jamieson & Sheehan, 2002). Daydreaming, where critical thought makes way for creative fantasy, and passively watching television are good examples. Frequency and intensity of naturally occurring absorption also differ within the general population and are possibly influenced by cultural factors, which encourage preferences for either instrumental (critical) or experiential (less critical or open) mental sets. Factors within traditional African culture, which possibly enhance levels of

absorption, include a non-linear perception of time, as well as a practical faith in the supernatural as an integral part of reality and regular interaction with it (Viljoen, 2003). Within the traditional African ontology, the collective consciousness also plays an immense role in shaping individuals' behaviours and experiences. This collective consciousness finds expression in a greater connectedness between people as well as interactions with the Ancestors and other spiritual beings. These agents are seen as significant influences on people's behaviours, shifting the locus of control or responsibility for action away from the individual (Viljoen, 2003). The author hypothesizes that this greater openness to external influences requires engaging with the world using a predominantly experiential mental set. Research to determine differences in intensity and frequency of naturally occurring absorption amongst Black, Coloured and White South Africans would be relevant in this regard, shedding light on the above hypothesis.

Debates on whether the correlation between absorption and suggestibility is moderated by the context effect (i.e. the fact that completing a test scale for one phenomenon may affect a participant's performance on another scale due to proximity in time and space) have been raging for some time. Nadon *et al.* (1991) found absorption to be both a major dimension of personality and a predictor of hypnotic responsiveness. Milling *et al.* (2000) found empirical evidence showing the relationship between absorption and suggestibility to be heavily moderated by the context effect, signifying that absorption might not be such a predominant personality trait of suggestibility as it was previously thought to be. Nevertheless, the reduction in critical thought brought about by absorption, the fact that it occurs naturally in day-to-day settings and the author's belief that cultural variables may play a role in its frequency warrants further research.

As mentioned previously, Jamieson and Gruzelier (2001) found high levels of suggestibility to correlate highly with a sub-set of schizotypy items related to cognitive and reality perception distortions on the Personality Syndrome Questionnaire. It is important to note that perceptual experiences that would be labelled as distorted and psychotic within the Western cultural paradigm are commonplace within traditional African cultures (Viljoen, 2003). It may therefore very well follow that the average traditional African would score higher on the above sub-set of schizotypy items than the average Westerner, pointing to higher levels of hypnotic suggestibility for traditional Africans.

This train of thought is strengthened by Hergovich's (2003) findings of a high correlation between belief in the paranormal, field dependence and high suggestibility. Although this correlation is of interest to this study, the context in which it was carried out, Europe, does

detract somewhat from its applicability to South Africa, since phenomena subsumed under the labels "paranormal" and "superstition" are context-bound, making it impossible and quite colonialist to apply the label to the same beliefs and experiences globally. So, the term "paranormal" can only be understood to denote beliefs in phenomena not acknowledged by the dominant culture within which a person functions. Traditional African culture embodies a closer and more pragmatic fit between Western conceptions of the material and the spiritual (Viljoen, 2003), making what Western thought would label as "paranormal" part of the epistemology and daily discourse of its members.

Hasegawa and Jamieson (2002) propose an approach to understanding hypnotic phenomena using different levels and domains of explanation. The author believes such an approach to be crucial to an understanding of how aspects such as suggestibility interact with an individual's cultural context. The constructs of ecosystemic theory, which states that an organism consists of a number of systems and subsystems functioning interdependently while itself forming part of larger interdependent ecological systems form a useful paradigm for understanding various levels of explanation. Whereas this organismic view will be useful in understanding the effects of larger systems on smaller ones (i.e. societal and cultural factors on the hypnotic suggestibility of individuals) and the effect of smaller subsystems on the organism (i.e. the influence of differences in neurological functioning on hypnotic suggestibility), the explanation for these varied mechanisms of influence necessitate different domains of explanation. Therefore, knowledge of the various theoretical paradigms within Psychology in which hypnotic phenomena can be understood as well as insight into traditional African ontology and epistemology will facilitate a grasp of the hypothesized linkages between some idiosyncratic traits of traditional African culture and increased levels of hypnotic suggestibility.

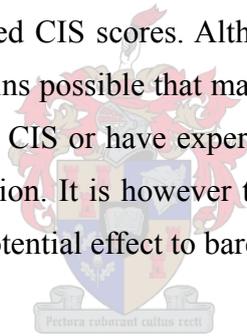
As shown in Table 3, scores on the CIS were not found to be mediated by gender. This confirms findings by Pitsch, Sapp and McNeely (2001), but contradicts Ordi and Miguel (1999) and Crossman (2001), who's studies both found gender to be a mediating factor in levels of suggestibility. The Inventory of Suggestibility used by Ordi and Miguel (1999) is however structured differently to the CIS and measures suggestibility differently, exploring dimensions other than creative imagination only. It is thus plausible that, should such an instrument have been applied to the sample in this study instead of the CIS, different results would have been obtained capturing the construct of suggestibility more accurately.

No relationship could be established between age and CIS scores either. Research in the differences in levels of creative imagination between students in various disciplines might

however provide some significant results, as the various disciplines require different modes of enquiry and interaction with the subject matter; e.g. art requires higher levels of creativity and emotive interaction (an experiential mental set) while finances exacts focused analytical thinking (an instrumental mental set).

The experimental component of this study was complicated by the difficulties inherent in gathering Black and Coloured volunteer participants at the University of Stellenbosch, due to their relatively small number. Consequently, the samples were small (Black N=20, Coloured N=19, White N=20). This fact may have impacted on the statistical analysis, making it harder to obtain significant differences in the relationship between CIS scores, ethnicity, gender and constructs measuring acculturation. It is thus recommended that future studies utilize larger samples as well as ensure ways of cancelling out differences in field of study as a confounding variable.

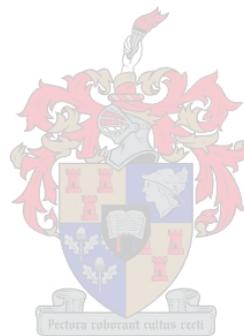
Since the author is blind and used a Braille script to administer the CIS, it is also possible that participants' reactions at the time of testing to the author's visual impairment and the novelty of the situation could have influenced CIS scores. Although efforts were made to minimize participants' discomfort, it still remains possible that many might have found it more difficult to attend to the verbal stimuli of the CIS or have experienced a greater sense of expectancy, both due to the novelty of the situation. It is however true that all participants were equally exposed to this factor, bringing its potential effect to bare equally on all samples.



RECOMMENDATIONS

- (a) Although some differences in CIS scores could be demonstrated between the three racial groupings, these were not statistically significant, possibly due to small sample size. It is thus recommended that a similar study amongst university students be undertaken with larger samples to minimize the effect of outliers and provide more reliable results.
- (b) It is very plausible that the CIS scores of African university students are on average lower than these of the general African population due to a greater degree of westernisation. Comparative studies between various elements of the African population taking levels of westernisation and hypnotic suggestibility into account would serve to shed light on the existence of this relationship. Such information would then be valuable when norming instruments such as the CIS for the South African population.

- (c) The academic filtration model discussed above, where it is hypothesized that learners with a preference for experiential mental sets (which are possibly encouraged by certain characteristics of traditional African culture) are less likely to reach the level of tertiary education is cause for concern. If proven to exist, this academic filtration process due to culture-influenced preferences for one mental set over another demonstrates both the ill fit between Western models of education and traditional African culture and the need for policy makers to formulate suitable remedial actions to ensure equitable opportunities for African learners. It is therefore strongly recommended that studies to evaluate the correlation between preference for experiential vs. instrumental mental sets and the degree of westernisation of Africans be undertaken, as well as studies examining the relationship between preferences for one mental set over the other and academic success.



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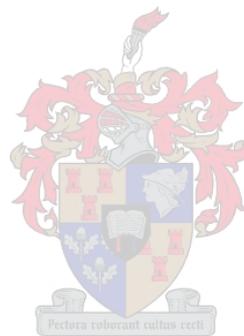
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APPENDIX A

CREATIVE IMAGINATION SCALE, ADMINISTRATION SCRIPT

Wilson and Barber (1978)

1. Arm Heaviness

"By letting your thoughts go along with these instructions you can make your hand and arm feel heavy. Please close your eyes and place your left arm straight out in front of you at shoulder height with the palm facing up."

(Begin timing.)

"Now imagine that a very heavy dictionary is being placed on the palm of your left hand. Let yourself feel the heaviness. Your thoughts make it feel as if there is a heavy dictionary on your hand. You create the feeling of heaviness in your hand by thinking of a large heavy dictionary. Now think of a second large heavy dictionary being placed on top of the first heavy dictionary. Feel how very heavy your arm begins to feel as you push up on the dictionaries. Push up on the heavy dictionaries as you imagine the weight; notice how your arm feels heavier as you push up on them. Now tell yourself that a third big heavy dictionary is being piled on top of the other two heavy dictionaries in your hand and your arm is very, very heavy. Let yourself feel as if there are three heavy dictionaries on the palm of your hand and your arm is getting heavier and heavier and heavier. Feel your arm getting heavier and heavier and heavier, very, very, very heavy, getting heavier and heavier and heavier ... very heavy"

(Approximately 1:20 since beginning of timing).

"Now tell yourself that your hand and arm feel perfectly normal again and just let your hand and arm come back down and relax."

2. Hand Levitation

"By directing your thoughts you can make your hand feel as if it is rising easily, without effort. Keep your eyes closed and place your right arm straight out in front of you at shoulder height with the palm facing down."

(Begin timing.)

"Now picture a garden hose with a strong stream of water pushing against the palm of your right hand, pushing up against the palm of your hand. Think of a strong stream of water pushing your hand up. Let yourself feel the strong stream of water pushing up against the palm of your hand, pushing it up. Feel the force of the water, pushing your hand up. Feel it pushing against the palm of your hand. Tell yourself that the force of the water is very strong and, as you think about it, feel your hand begin to rise. Feel your hand rising as you imagine a strong stream of water pushing it up, and up, and up, higher and higher. Tell yourself that a strong stream of water is pushing your hand up and up, raising your arm and hand higher and higher as the strong stream of water just pushes it up, just rises and pushes and just pushes it up, higher and higher."

(End of timing: about 1'10").

"Now tell yourself its all in your own mind and just feel your hand and arm come back down and relax."

3. Finger Anaesthesia

"By focusing your thinking you can make your fingers feel numb. Please place your left hand in your lap with the palm facing up. Keep your eyes closed so you can focus fully on all the sensations in the fingers of your left hand."

(Begin timing.)



"Now, try to imagine and feel as if Novocain has just been injected into the side of your left hand next to the little finger so that your little finger will begin to feel like it does when it "falls asleep." Focus on the little finger. Become aware of every sensation and the slight little changes as you think of the Novocain slowly beginning to move into your little finger, just slowly moving in. Notice the slight little changes as the little finger begins to get just a little numb and a little dull. The little finger is becoming numb as you think of the Novocain moving in slowly."

"Now think of the Novocain moving into the second finger next to the little finger. Tell yourself that the second finger is getting duller and duller, more and more numb as you think of how the Novocain is beginning to take effect." "Tell yourself that these two fingers are beginning to feel kind of rubbery and are losing feelings and sensations. As you think of the Novocain moving in faster, the fingers feel duller and duller...more and more numb...dull, numb and insensitive. As you think of the Novocain taking effect, the two fingers feel duller

and duller. more and more numb, more and more insensitive... dull, numb, rubbery and insensitive."

(End of timing: about 1:50).

"Now tell yourself its all in your own mind and you're going to bring the feeling back; bring the feeling back into the two fingers."

4. Water "Hallucination."

"Keep your eyes closed. By using your imagination constructively you can experience the feeling of drinking cool, refreshing water."

(Begin timing.)

"First, imagine you've been out in the hot sun for hours and you're very, very thirsty and your lips are dry and you're so thirsty. Now, picture yourself on a mountain where the snow is melting, forming a stream of cool clear water. Imagine yourself dipping a cup into this mountain stream so you can have a cool, refreshing drink of water. As you think of sipping the water tell yourself it's absolutely delicious as you feel it going down your throat...cold and beautiful and delicious. Feel the coolness and beauty of the water as you take a sip. Now, think of taking another sip of water and feel it going over your lips and tongue, going down your throat, down into your stomach. Feel how cool, refreshing, delicious and beautiful it is as you take another sip... so cool... cold... sweet... beautiful... delicious and refreshing.

Think of taking another sip now and feel the cool water going into your mouth, around your tongue, down your throat and down into your stomach... so beautiful and cool and wonderful... absolutely delicious... absolute pleasure."

(End of timing: about 1:30).

5. Olfactory-Gustatory" Hallucination."

Keep your eyes closed. By using your imagination creatively, you can experience the smell and taste of an orange."

(Begin timing.)

"Picture yourself picking up an orange and imagine that you're peeling it. As you create the image of the orange, feel yourself peeling it and let yourself see and feel the orange skin on the outside and the soft white pulp on the inside of the skin. As you continue peeling the orange, notice how beautiful and luscious it is and let yourself smell it and touch it and feel the juiciness of it. Now think of pulling out one or two of the orange sections with your

fingers. Pull out part of the orange and bite into it. Experience how juicy, luscious and flavourful it is as you imagine taking a deep, deep bite. Let yourself smell and taste the orange and notice that it's absolutely delicious. Let yourself feel how delicious, beautiful, and luscious it is. Just the most beautiful, juicy orange... absolutely juicy and wonderful. Let yourself taste and smell the juicy orange clearly now as you think of taking another large bite of the delicious, juicy orange."

(End of timing: about

1:30).

6. Music "Hallucination"

"Keep your eyes closed."

(Begin timing.)

"Now think back to a time when you heard some wonderful, vibrant music; it could have been anywhere, and by thinking back you can hear it even more exquisitely in your own mind. You make it yourself and you can experience it as intensely as real music. The music can be absolutely powerful... strong... exquisite... vibrating through every pore of your body... going deep into every pore... penetrating through every fiber of your being. The most beautiful, complete, exquisite, overwhelming music you ever heard. Listen to it now as you create it in your own mind."

(End of timing; about 0:45).



(15 second pause)

"You may stop thinking of the music now."

7. Temperature "Hallucination."

"Keep your eyes closed and place your hands in your lap with the palms facing down and resting comfortably on your lap. By focusing your thinking you can make your right hand feel hot."

(Begin timing.)

"Picture the sun shining on your right hand and let yourself feel the heat. As you think. of the sun shining brightly, let yourself feel the heat increasing. Feel the sun getting hotter and feel the heat penetrating your skin and going deep into your hand. Think of it getting really hot now... getting very hot. Feel the heat increasing. Think of the sun getting very, very hot as it penetrates into your body--getting very hot. Tell yourself, 'The rays are increasing... the heat

is increasing..' getting hotter and hotter." Feel the heat penetrating through your skin. Feel the heat going deeper into your skin as you think of the rays of the sun increasing and becoming more and more concentrated.. "getting hotter and hotter. Feel your hand getting hot from the heat of the sun. Its a good feeling of heat as it penetrates deep into your body--hot, pleasantly hot, penetrating your hand now. It's a pleasantly hot feeling, pleasantly hot."

(End of timing: about 1:15).

"Now tell yourself its all in your own mind and make your hand feel perfectly normal again."

8. Time Distortion

"Keep your eyes close. By controlling your thinking you can make time seem to slow down."

(The following is to be read progressively more and more slowly, with each word drawn out and with long, i.e., 2-6 second, pauses between statements.)

(Begin timing.)

"Tell yourself that there's lots of time... more and more time between each second. Time is stretching far, far out... stretching out more and more--lots of time. There's so much time--lots of time. Every second is stretching out. There's lots of time between each second--lots of time. You do it yourself, you slow time down."

(End of timing: about 1'40").

(The following is to be read at a normal rate.)

"And now tell yourself that time is speeding back up to its normal rate again as you bring time back to normal."

9. Age regression

"Keep your eyes closed. By directing your thinking you can bring back the feelings that you experienced when you were in elementary school - in first, second, third, fourth, or fifth grade."

(Begin timing.)

"Think of time going back, going back to elementary school and feel yourself becoming smaller and smaller. Let yourself feel your hands, small and tiny, and your legs and your body, small and tiny. As you go back in time feel yourself sitting in a big desk. You may feel some marks on the desk top, or maybe it's a smooth, cool surface. There may be a pencil slot and perhaps a large yellow pencil. Feel the under side of the desk and you may feel some chewing gum. Observe the other children around you, and the teacher, the bulletin board, the

chalkboard, the cloak room, and the windows. Smell the eraser dust or the paste. You may hear the children and the teacher speaking. Now just observe and see what happens around you."

(End of timing: about 1:20).

(15 seconds pause)

"Now tell yourself its all in your own mind and bring yourself back to the present. "

10. Mind-Body Relaxation

"Keep your eyes closed. By letting your thoughts go along with these instructions you can make your mind and body feel very relaxed."

(The following is to be read slowly.)

(Begin timing.)

"Picture yourself on a beautiful, warm summer day lying under the sun on a beach of an ocean or lake. Feel yourself lying on the soft, soft sand or on a beach towel that is soft and comfortable. Let yourself feel the sun pleasantly warm and feel the gentle breeze touching your neck and face. Picture the beautiful clear blue sky with fluffy little white clouds drifting lazily by. Let yourself feel the soothing, penetrating warmth of the sun and tell yourself that your mind and body feel completely relaxed and perfectly at ease... peaceful, relaxed, comfortable, calm, so at ease, at peace with the universe... completely relaxed... relaxed, peaceful, lazy, tranquil... calm... comfortable. Your mind and body are completely relaxed... completely relaxed... calm, peaceful, tranquil, flowing with the universe."

(End of timing: about 2:05).

"Now as you open your eyes let yourself continue to feel relaxed and yet perfectly alert... peaceful, alert and normal again. Open your eyes."

APPENDIX B

BIOGRAPHICAL AND CIS QUESTIONNAIRES

BIOGRAPHICAL QUESTIONNAIRE

Please fill in this form by writing your answers clearly or checking the appropriate options.

Age:

Gender:

| | |
|------|--------|
| Male | Female |
|------|--------|

Course of study:

Year of study:

Ethnicity:

| | |
|----------|--|
| Black | |
| Coloured | |
| White | |

I come from a ...

| | |
|----------------------------------|--|
| Traditional, conservative family | |
| Liberal family background | |
| Unsure | |

My culture and traditions are important to me:

| | |
|-----|----|
| Yes | No |
|-----|----|

I have lived most of my life in:

| | |
|-------------------------------------|--|
| A rural area, farm or small village | |
| Modern town, suburb or city | |

SELF-SCORING FORM FOR THE CREATIVE IMAGINATION SCALE

Please answer each item as honestly as possible. There are no right or wrong answers. Read the statements below describing the possible responses for each item. Then, circle the number (0, 1, 2, 3, or 4) which closely corresponds to the statement matching your experience.

1. In the first test you were asked to imagine that one, two, and then three dictionaries were being piled on the palm of your hand. Compared to what you would have experienced if three dictionaries were actually on your hand, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

2. In the second test you were asked to think of a strong stream of water from a garden hose pushing up against the palm of your hand. Compared to what you would have experienced if a strong stream of water were actually pushing up against your palm, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

3. In the third test you were asked to imagine that Novocain had been injected into your hand and it made two fingers feel numb. Compared to what you would have experienced if Novocain had actually made the two fingers feel numb, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

4. In the fourth test you were asked to think of drinking a cup of cool mountain water. Compared to what you would have experienced if you were actually drinking cool mountain water, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

5. In the fifth test you were asked to imagine smelling and tasting an orange. Compared to what you would have experienced if you were actually smelling and tasting an orange, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

6. In the sixth test you were asked to think back to a time when you heard some wonderful music and to re-experience hearing it. Compared to what you would have experienced if you were actually hearing the music, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

7. In the seventh test you were asked to picture the sun shining on your hand making it feel hot. Compared to what you would have experienced if the sun were actually shining on your hand, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

8. In the eighth test you were asked to imagine time slowing down. Compared to what you have experienced if time actually slowed down, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

9. In the ninth test you were asked to think back to a time when you were in elementary school. Compared to the feelings you would have experienced if you were actually in elementary school, the feelings you experienced were:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

10. In the tenth test you were asked to picture yourself lying under the sun on a beach and becoming very relaxed. Compared to what you would have experienced if you were actually relaxing on a beach, what you experienced was:

| | | | | |
|---------------------|-------------------|------------------------------------|---------------|-------------------------|
| 0 | 1 | 2 | 3 | 4 |
| 0% | 25% | 50% | 75% | 90+% |
| Not at all the same | A little the same | Between a little and much the same | Much the same | Almost exactly the same |

APPENDIX C

INVITATION LETTER

Invitation To Participate In A Research Project On Intercultural Differences In Levels Of Creative Imagination.

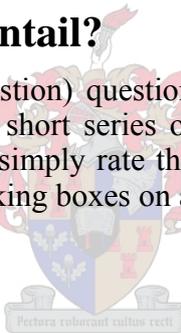
My name is Laurent de Fontenay and I am currently doing my Masters Thesis in Counseling Psychology. My research topic is "an intercultural study of differences in levels of creative imagination". "Creative imagination" can be defined as the ability to create visual images, bodily sensations, tastes, smells and emotions, for yourself in response to verbal suggestions. The aim of the study is to establish whether there is a general difference in levels of creative imagination between three of the predominant population groups in South Africa, namely black mother tongue speakers of indigenous African languages, brown (or black) mother tongue speakers of Afrikaans or English, and white mother tongue speakers of Afrikaans and English.

To the best of my knowledge, the area has never been researched before and I would like to invite you to be part of this new and certainly interesting study.

What would participation entail?

The study consists of a short (10-question) questionnaire, which can be administered in a group or individually. I will read ten short series of instructions stimulating your creative imagination to you and you will then simply rate the degree to which the experiences were real to you on a five-point scale, by ticking boxes on a form. The whole session should last no more than half an hour.

Ethical Considerations



Please note the following important points:

- I shall not be testing your intelligence. Creative imagination is only one of many characteristics that make you the person you are.
- I will not be hypnotizing you. I will only be asking you to imagine experiencing various scenes and sensations while still at your normal level of alertness.
- Your participation in this study is strictly confidential. The data I obtain from you will be used for statistical analysis only. Only biographical information will be asked of you, not your name.

I would very much appreciate your participation in this research project. As mentioned before, the questionnaire can be administered to a group or an individual, so you could make an appointment with me for a group of people or for yourself only. Appointments can generally be made for any time of the day or evening, even during the exams or holidays. Administration of the questionnaire will take place in the Arts Faculty building. For groups smaller than five persons, the alternative exists to change the location to Huis de Villiers, or your place of residence, should that be more convenient.

Please feel free to contact me on e-mail 12925683@sun.ac.za or cell 082-2168839.

Yours sincerely

Laurent Cadet de Fontenay