

GESONDHEIDSRISIKOGEDRAG BY 'N GESELEKTEERDE GROEP ADOLESENTE DOGTERS

Eileen K. AFRICA, Karel J. VAN DEVENTER & Justhinus G. BARNARD

*Departement Sportwetenskap, Universiteit Stellenbosch, Stellenbosch,
Republiek van Suid-Afrika*

ABSTRACT

The continued integration of our global society has caused a shift in human social interaction and has redefined the contexts of adolescents' lives. Adolescents are inundated with a variety of choices at a stage of their lives where they are trying to create their own identity. This article focuses on the identification of reversible health risk behaviours by means of the Youth Risk Behaviour Survey (YRBS) that was slightly adapted for this study (NCCDPHP, 2004). The mentioned questionnaire focuses on behaviours such as violence, smoking, alcohol and drug use, sexual behaviours, dietary behaviours and physical inactivity that place adolescents at an increased risk of premature morbidity and mortality. A sample of 1 805 Coloured adolescent girls between the ages of 13 and 16 years took part in this research. The sample was selected from three previously disadvantaged high schools in the Western Cape. Due to restrictive school rules, the sample could not be randomly selected and therefore the research is based on a quasi-experimental approach. The results provide evidence that during the 30 days preceding the survey 6% carried a weapon, 60% smoked a cigarette, 65% consumed alcohol, 11% used dagga, 12% had sexual intercourse, 51% considered their weight to be normal, 54% participated in insufficient amounts of physical activity, 54% watched television more than one hour per day and 71% did not spend any time per day working on a computer. The results concur with other South African studies.

Key words: Reversible health risk behaviours; Adolescent girls; Adolescence; Previously disadvantaged community; South African Youth Risk Behaviour Survey.

INLEIDING

Adolesensie is 'n besondere fase in menslike ontwikkeling wat die oorgang tussen die kinderjare en volwassenheid verteenwoordig en staan soms as die storm-en-drang periode bekend (Steffoff, 1990). Tydens hierdie fase ondergaan adolessente 'n identiteitskrisis aangesien hulle aanvaarding in die grootmensewêreld nastreef en terselfdertyd aan hulself en hul tydenote probeer bewys dat hulle volwasse genoeg is om met onder andere alkohol, dwelms en seks te eksperimenteer (DoH, 1999). Dulmus en Rapp-Paglicci (2004:3) beweer die volgende:

Children and adolescents are being diagnosed earlier and more often with an array of serious and debilitating disorders ranging from mental illness to obesity to diabetes. Add to this teen pregnancy, substance abuse, and school violence and it becomes clear that our youth are at risk for numerous emotional, health and social problems.

Navorsing bewys dat gesondheidsrisikofaktore soos geweld, rook, alkohol- en dwelmgebruik, vroeë seksuele aktiwiteit, ongesonde eetgewoontes (eetsteurings) en fisieke onaktiwiteit al hoe meer toeneem (CDCP, 2004; Dulmus & Rapp-Paglicci, 2004; LeCroy & Mann, 2004; Reininger *et al.*, 2005; Wyatt & Peterson, 2005). Suid-Afrikaanse adolessente word deurentyd aan hierdie gesondheidsrisikofaktore blootgestel, omdat hierdie tipe gedrag juis gedurende adolessensie aangeleer word en dikwels tot in volwassenheid voortduur (DoH, 2003).

Adolessente loop die risiko om vroeg te sterf of om allerhande siektes en ander nadelige gesondheidsrisikofaktore, wat nie primêr biomedies van aard is nie, op te doen en hier speel leefstyl 'n oorweldigende rol (DiClemente *et al.*, 1996). In hierdie verband beweer DiClemente *et al.* (1996:3) dat: "As a society we are now faced with what can appropriately be referred to as an adolescent 'risk behavior epidemic'".

Dit blyk nou meer as ooit te vore dat daar 'n groot behoefte bestaan om adolessente dogters in die vestiging en behoud van 'n gesonde leefstyl te ondersteun.

Die artikel poog dus om die teenwoordigheid van verskeie gesondheidsrisikofaktore, wat vervolgens bespreek gaan word, te ondersoek en met die resultate van die eerste Suid-Afrikaanse *Youth Risk Behaviour Survey* (SAYRBS) van 2002, die Suid-Afrikaanse Demografiese Gesondheidsopname (SADGO) van 1998 asook verskeie ander Suid-Afrikaanse studies te vergelyk.

Vroeë seksuele aktiwiteit en inkonsekwente gebruik van voorbehoedmiddels word met seksueel oordraagbare infeksies (SOI), Menslike Immunitetsvirus/Verworwe Immunitetsgebreksindroom (MIV/VIGS), vroeë swangerskappe, misdaad, gedragsprobleme, depressie en swak gesinsverhoudings geassosieer. Onder adolessente neem SOI meer as by enige ander ouderdomsgroep toe (Berk, 1993; Brooks-Gunn & Paikoff, 1993; Crockett, 1997; Kaplan, 2000; Rostosky *et al.*, 2003). Die vlakke van MIV-infeksies wat heteroseksueel oorgedra word, is veral hoog in Suid-Afrika (SA) (MacPhail & Campbell, 2001). Volgens die Suid-Afrikaanse Departement van Gesondheid (DvG) het 'n aansienlike aantal jong Suid-Afrikaanse adolessente onbeskermd seksuele omgang. In Suid-Afrika is ten minste een uit drie adolessente dogters teen die ouderdom van 19 jaar swanger of het reeds 'n kind (DoH, 2003).

Eetsteurings kom geredelik by dogters wat bekommerd is oor hulle liggaamsbeeld voor. Anorexia Nervosa en Bulimia Nervosa is algemeen in kontemporêre samelewings (Emans, 2000). Die samelewing doen adolessente dogters 'n groot onreg aan deur gedurig die ideale liggaamsbeeld voor te hou. As gevolg hiervan streef jong meisies na 'n skraal liggaamsbou in 'n stadium wanneer voeding 'n belangrike rol in groei en ontwikkeling speel (Berk, 1993; Lola & Welsch, 2004). Alhoewel eetsteurings gewoonlik deur ontkenning en geheimhouding gekenmerk word, is ouers, onderwysers en gesondheidsdienste primêr verantwoordelik vir die gesondheid van die dogters in hulle sorg (Emans, 2000; Fairburn, 2003; Lola & Welsch, 2004).

In vergelyking met bogenoemde eetsteurings kom obesiteit baie meer voor (Emans, 2000). Oorgewig is besig om in 'n gesondheidsprobleem onder Suid-Afrikaanse adolessente te ontwikkel (DoH, 2003). As gevolg van sosio-ekonomiese status (SES), verstedeliking en 'n afname in fisieke aktiwiteit is die voorkoms van obesiteit besig om toe te neem (Walker *et al.*, 2001). Navorsing toon dat verskeie siektetoestande soos hipertensie, dislipidemia, verswakking in glukosetoleransie, hartsiektes, diabetes, slaapapnee, arteriosklerose en kanker by obese seuns en dogters ontwikkel (Bar-Or, 2000; Kaplan, 2000; Ball & McCargar, 2003;

Nash, 2003). Obesiteit veroorsaak ook 'n sosiale probleem, omdat die gemeenskap se siening van skoonheid en aantreklikheid met skraalheid geassosieer word (Kaplan, 2000).

Alkohol- en dwelmgebruik, rook en gewelddadige gedragspatrone onder adolessente neem kommerwekkend toe. Die moderne jeug leef in dwelm-afhanklike gemeenskappe. Hulle word blootgestel aan volwassenes wat kafeïen gebruik om in die oggend wakker te word, sigarette rook om daaglikse uitdagings te hanteer, 'n drankie in die aand drink om te kalmeer en verskillende middels gebruik vir streshantering, hoofpyne, depressie en allerhande siektes. Alhoewel dwelmgebruik by adolessente slegs hulle intense nuuskierigheid in volwasse gedrag reflekteer, moet dit egter nie ligtelik opgeneem word nie, want dwelmgebruik ontaard gewoonlik in dwelmmisbruik (Berk, 1993).

Alkohol is die dwelm wat die meeste gebruik word omdat dit geredelik bekombaar is (Scaffa, 1998; Kaplan, 2000). Die mees algemene dwelms wat vandag deur die jeug gebruik word, is Mandrax (*buttons*), Amfetamiene (*Ecstasy*) en die dwelm wat tot op datum geweldig veld wen, is Kristal Metamfetamiene (Tik). Naas kokaine is Tik die mees verslawende onwettige dwelm (*Worcester Standard*, 2004). Dit is baie belangrik dat voorkomingsprogramme so vroeg as in die laerskool geïnisieer word, aangesien statistiek toon dat baie jongmense in Graad 8 alreeds sigarette rook (Braverman, 2000).

'n Gebrek aan fisieke aktiwiteit is 'n groot risiko vir obesiteit en ander ernstige gesondheidsprobleme, asook misdaad en geweld (Berk, 1993; Kaplan, 2000; Manzo, 2000; DoH, 2003). Adolessensie is in die verlede as 'n aktiewe, gesonde lewensfase gekenmerk, maar onlangse feite toon die teendeel. Die meeste adolessente lei 'n sedentêre leefstyl. Hulle beskik oor minder spiertonus, swak spieruithou vermoë en 'n groter persentasie liggaamsvet as vorige generasies. Oor die algemeen neem deelname aan fisieke aktiwiteit af soos adolessente ouer word (Grimmett, 1998; Kaplan, 2000; *Drug Week*, 2003). Uit die literatuur blyk dit dat die moderne Suid-Afrikaanse jeug as gevolg van verskeie faktore aan fisieke dekadensie lei. Hulle kry ook onvoldoende blootstelling aan 'n bewegingskultuur in Suid-Afrikaanse skole (Africa, 2004). Sosiale-, omgewings- en tegnologiese veranderinge oor die laaste dekades het adolessente se fisieke aktiwiteitsvlakke beïnvloed. Hulle verkies meer binnenshuise aktiwiteite, soos televisie kyk en rekenaarspeletjies (Grimmett, 1998, Kaplan, 2000; Daley, 2002). Fisieke onaktiwiteit onder adolessente kan ook moontlik aan 'n gemeenskap van fisiek onaktiewe volwassenes toegeskryf word (Laventure, 2000).

Soos dit blyk uit die literatuur is gesondheidsrisikofaktore 'n groot bron van kommer.

PROBLEEMSTELLING

Die hoofprobleem fokus op die identifisering van omkeerbare gesondheidsrisikofaktore by 'n geselekteerde groep adolessente dogters in die Worcester-omgewing.

Die volgende sub-probleem is aangespreek:

- Om vas te stel of daar ooreenkomste in die patroon van gesondheidsrisikogedrag van die respondente in die huidige studie en dié van die eerste SAYRBS (DoH, 2003) en die SADGO (DoH, 1999) voorkom.

METODOLOGIE

Proefpersone

Proefpersone (N=1 805), dogters uit Graad 8 tot 10, tussen die ouderdomme van 13 en 16 jaar, is uit drie voormalige Kleurlinghoërskole in die Worcester-omgewing geselekteer. As gevolg van beperkende skoolreëls kon die steekproef nie ewekansig geselekteer word nie en daarom is die studie op 'n kwasi-eksperimentele navorsingsmetode gebaseer.

Die hoofdoel van navorsing is om inligting te versamel wat veralgemeen kan word tot 'n spesifieke populasie (Baumgartner *et al.*, 2002). Om hierdie rede het die proefpersone in die huidige studie spesifieke karakterskappe verteenwoordig. Slegs Afrikaanssprekende Kleurlingdogters was by die studie ingesluit.

Een Opvoedkundige Bestuur- en Ontwikkelingsentrum (OBOS) is met die goedkeuring van die Wes-Kaaplandse Onderwysdepartement (WKOD) vir die ondersoek geselekteer. 'n Geskrewe voorlegging met die doel en omvang van die studie, asook die name van die skole en 'n navorsingsvoorstel is aan die WKOD voorgelê. Nadat goedkeuring van die WKOD verkry is, is afsprake met die skoolhoofde en onderwysers van die betrokke grade by die onderskeie skole gemaak. Die skoolhoofde het goedgegunstig ingestem dat die leerders vir die ondersoek gebruik kon word.

Toestemming dat proefpersone aan die program mag deelneem, is deur middel van 'n vraelys en vrywaringsvorm aan die ouers ingewin. Die vraelys en vrywaringsvorm is aan die leerders gegee sodat die ouers dit tuis kon voltooi en moes binne 'n week by die betrokke klasonderwysers ingehandig word.

Vraelys

Inligting aangaande gesondheidsrisikofaktore by dogters in Graad 8, 9 en 10 is deur middel van die *Youth Risk Behaviour Survey* (YRBS) wat vir die onderhawige studie geringe aanpassings ondergaan het, ingewin (NCCDPHP, 2004). Die geldigheid en betroubaarheid van die YRBS is al in verskeie studies bevestig (Brenner *et al.*, 2003; Grunbaum *et al.*, 2002; Grunbaum *et al.*, 2004; Kann, 2001; Sussman *et al.*, 2002). Die inhoud van die vraelys is kortliks aan die dogters verduidelik. Dogters het self die vraelys ingevul, dus kan oorrapporing en onderrapporing van gedrag nie bepaal word nie. 'n Week voor die aanvang van die toetsing is 'n proefloop gedoen om seker te maak dat die kinders die vrae sal verstaan (inhoudsgeldigheid). Die proefloop is met 15 dogters, wat nie deel van die proefpersone was nie, gedoen. Die resultate van die proefloop is gebruik om enige onduidelikhede uit die weg te ruim. Daar is dus geringe aanpassings gemaak om te verseker dat daar geen verwarring voorkom nie.

Etiese kwessies

Die navorsers het alles in haar vermoë gedoen om te verseker dat elke stadium in die navorsingsproses eties uitgevoer is, sodat die resultate 'n eerlike refleksie van die bevindinge is. Geen deelnemer was gedwing om aan die navorsing deel te neem nie, alle proefpersone het vrywillig deelgeneem. Die navorsers het anonimiteit gewaarborg en verseker dat alle inligting streng vertroulik hanteer word. Geen inligting is van die deelnemers weerhou nie.

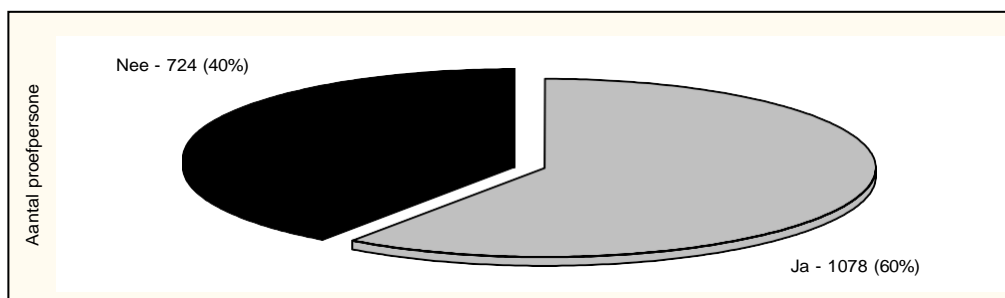
Statistiese verwerking

Die statistiese analise is deur die Sentrum vir Statistiese Konsultasie aan die Universiteit van Stellenbosch behartig. Inligting is in rekenaarformaat gekodeer en statisties verwerk. Die *Statistica* (data-analisesagtewaresisteesem), weergawe sewe, is vir die analise gebruik. Vir beskrywende doeleindes is van standaardfrekwensie-tabulering gebruik gemaak. Kategoriees data is volgens histogramme voorgestel.

BESPREKING VAN RESULTATE

Die resultate toon dat 6% van die respondente in besit van 'n wapen was gedurende die laaste 30 dae voor die opname. Sewe persent (7%) van die respondente was in die afgelope 12 maande voor die opname in 'n fisieke geveg betrokke, waarvan 5% een keer en 2% meer as een keer in 'n geveg betrokke was.

Sestig persent (60%) van die respondente het al probeer rook (Figuur 1), hetsy dit net een of twee skywe van 'n sigaret, pyp of sigaar was. Die grootste persentasie respondente (29%) het op die ouderdom tussen 11 en 14 jaar begin rook. Veertien persent (14%) van die leerders rook daagliks, waarvan 10% van hulle minder as een sigaret per dag en 16% van hulle tussen een en vyf sigarette per dag rook. Vyftien persent (15%) van die respondente koop self hul sigarette by die winkel en ongeveer 6% kry die sigarette by iemand anders. Agt persent (8%) van die leerders rook sigarette op die skoolterrein.



FIGUUR 1. AANTAL LEERDERS WAT AL OOIT PROBEER ROOK HET

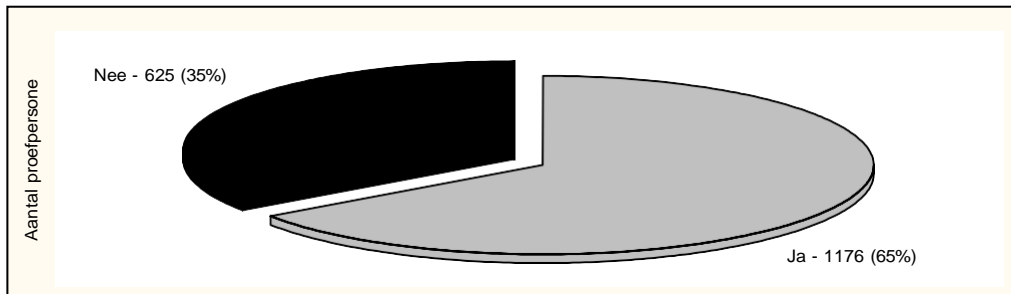
'n Kommerwekkende 65% van die respondente het al alkohol gebruik (Figuur 2). Een-en-vyftig persent (51%) van die respondente was tussen die ouderdomme van 11 en 14 jaar toe hulle hul eerste alkoholiese drankie geniet het. Tien persent (10%) van die leerders het in die week voor die opname minstens een alkoholiese drankie gedrink. Veertien persent (14%) van die respondente het in die 30 dae voor die opname ten minste een dag aan 'n fuifpartytjie² (*binge drinking*) deelgeneem. Slegs 1% van die respondente het al ten minste een drankie op die skoolterrein geniet.

Uit die resultate blyk dit dat 11% van die respondente al dagga gerook (Figuur 3) het waarvan 10% tussen die ouderdomme van 11 en 14 jaar was toe hulle vir die eerste keer dagga gerook het. Drie persent (3%) van die respondente het dagga in die afgelope 30 dae voor die opname

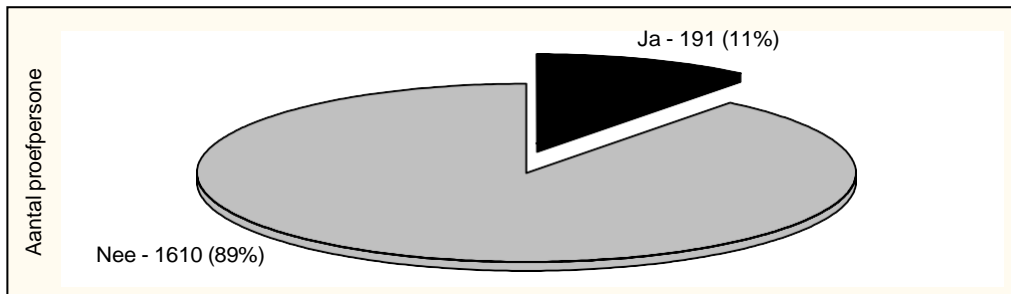
¹ Sprektaal van die Kleurlinggemeenskap, beteken een of twee trekke aan sigaret, pyp of sigaar.

² Vyf of meer drankies per geleentheid, op ten minste een dag in die laaste 30 dae.

gerook. Geen respondente (100%) het dagga op die skoolterrein gerook nie. Vier persent (4%) van die respondente het al 'n vorm van dwelms (Tik, Kokaïne, Heroïne, Mandrax, *Crack*, *Ecstasy*) gebruik. Van die respondente het 2% al gom gesnuif, die inhoud van lugverfrisserblikkies of enige verf of sproei ingeasem om op 'n "high" te kom. Nie een van die respondente het al 'n naald gebruik om onwettige dwelms in hulle liggame te spuit nie. Twee persent (2%) van die respondente het beweer dat iemand onwettige dwelms op die skoolterrein aan hulle probeer verkoop, aangebied of gegee het.



FIGUUR 2. AANTAL LEERDERS WAT AL OOIT 'N ALKOHOLIESE DRANKIE IN HULLE LEWE GEDRINK HET

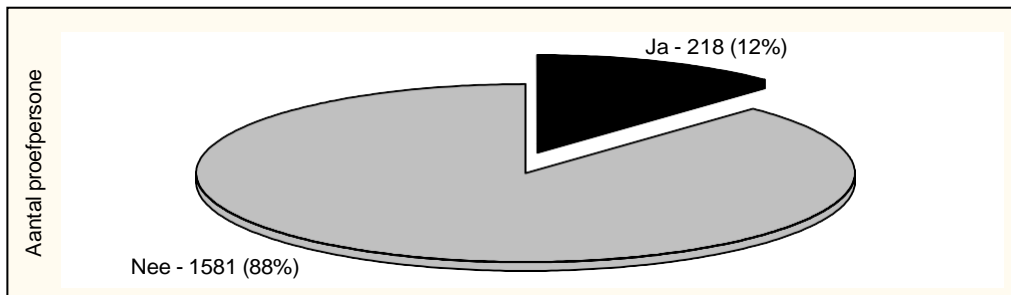


FIGUUR 3. PERSENTASIE LEERDERS WAT AL OOIT DAGGA GEROOK HET

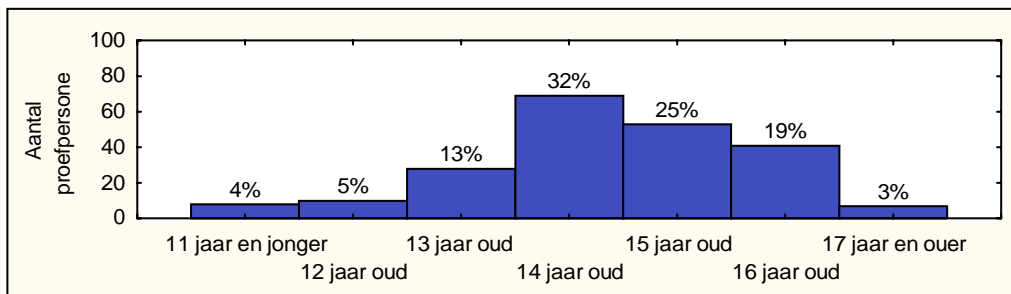
Twaalf persent (12%) van die respondente het al seksuele omgang gehad (Figuur 4). Die meeste van die seksueel aktiewe respondente (57%) was tussen 14 en 15 jaar oud toe hulle vir die eerste keer seksuele omgang gehad het (Figuur 5). Volgens die resultate het 73% van die seksueel aktiewe respondente in hulle leeftyd met een persoon seksuele omgang gehad. In die afgelope drie maande voor die opname het 55% van die seksueel aktiewe respondente met een persoon seksuele omgang gehad, 41% van die seksueel aktiewe respondente het geen seksuele omgang gehad nie en 4% met meer as een persoon. Drie-en-veertig persent (43%) van die seksueel aktiewe leerders het 'n kondoom gebruik tydens hul laaste seksuele ervaring teenoor 57% wat nie 'n kondoom gebruik het nie. Die metodes wat seksueel aktiewe respondente gebruik om swangerskap te vermy is soos volg: geen metode (42%); die pil (4%); kondome (33%); die inspuiting (4%); terugtrekking (1%); 'n ander metode (2%) en onseker (14%). Meer as die helfte van die respondente (57%) beweer dat hulle oor voldoende kennis ten

opsigte van MIV/VIGS beskik en tog stel 94% van hulle belang om meer van MIV/VIGS te leer.

Die data toon dat 51% van die respondente reken dat hulle min of meer die regte gewig is. Drie-en-dertig persent (33%) van die leerders beskou hulself as baie of effens ondergewig en 15% van die respondente beskou hulself as oorgewig of effens oorgewig. Respondente het oefeninge gedoen (30%), minder geëet (32%), sonder kos gebly (14%) of gebrak/lakseermiddels gebruik (8%) om gewig te verloor of om te voorkom dat hulle gewig optel.



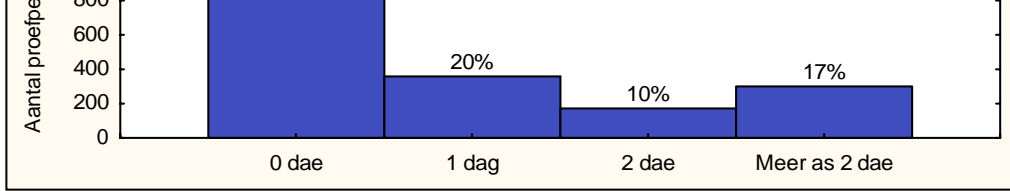
FIGUUR 4. PERSENTASIE LEERDERS WAT AL SEKSUELE OMGANG GEHAD HET



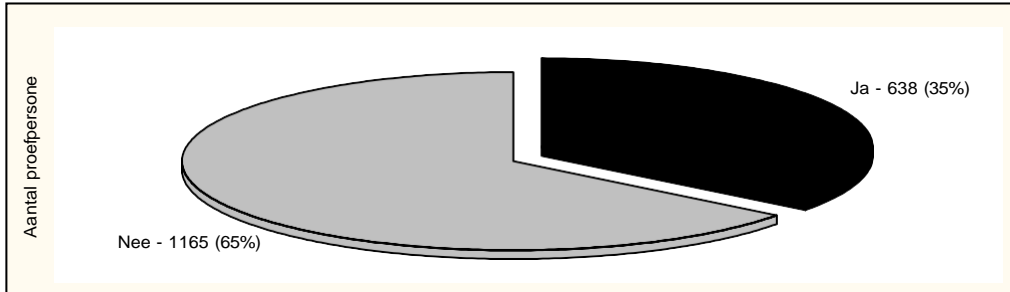
FIGUUR 5. OUDERDOM VAN LEERDERS TOE HULLE VIR DIE EERSTE KEER SEKSUELE OMGANG GEHAD HET

Uit die resultate blyk dit dat 54% van die respondente nie aan fisieke aktiwiteite vir ten minste 20 minute in die sewe dae voor die opname, deelgeneem het nie (Figuur 6). Drie-en-twintig persent (23%) van die respondente spandeer minder as een uur op 'n normale skooldag voor die televisie, terwyl 54% meer as een uur op 'n normale skooldag voor die televisie spandeer. Die resultate toon dat 71% van die leerders glad nie tyd voor die rekenaar op 'n normale skooldag spandeer nie.

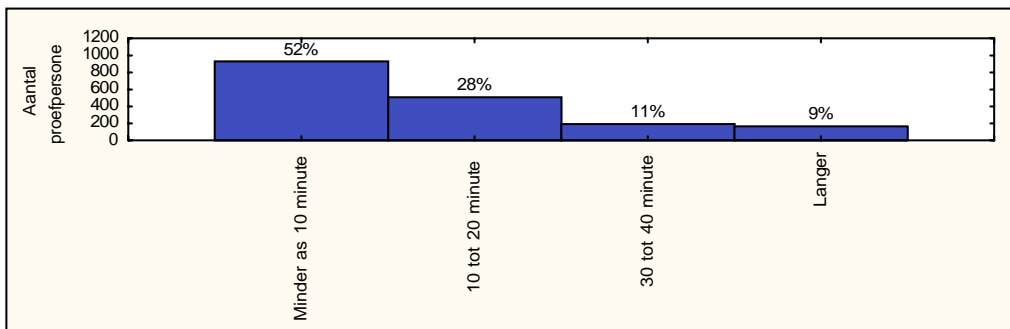
Die resultate dui verder aan dat 65% van die respondente beweer dat hulle nie Liggaamlike Opvoeding (LO)-klasse by hulle skool het nie (Figuur 7) en dat 24% van die respondente nie die vak as noodsaaklik beskou nie. Van die leerders wat wel LO op skool het ervaar 52% minder as 10 minute werklike oefening of die beoefening van sport tydens 'n LO klas (Figuur 8).



FIGUUR 6. DEELGENEEM AAN FISIEKE AKTIWITEIT VIR MINSTENS 20 MINUTE



FIGUUR 7. LIGGAAMLIKE OPVOEDINGSKLASSE BY DIE SKOOL



FIGUUR 8. MINUTE WAT LEERDERS WERKLIK AAN OEFENINGE EN DIE BEOEFENING VAN SPORT GEDURENDE 'N LIGGAAMLIKE OPVOEDINGSKLAS SPANDEER

BEVINDINGE

In die laaste dekade het gewelddadige gedragpatrone onder adolessente, veral dogters toegeneem (Molnar *et al.*, 2005), hoewel meer seuns as dogters waarskynlik wapens dra en fisieke bakleiery onder dogters minder algemeen is (Aspy *et al.*, 2004). Volgens die SAYRBS (N=10 699) het 7% van die Suid-Afrikaanse adolessente Kleurlingdogters wat aan genoemde opname deelgeneem het 'n wapen gedra (DoH, 2003). Die resultate van die huidige studie stem ooreen met hierdie nasionale resultate aangesien 6% van die Kleurling adolessente dogters in hierdie studie wapens gedra het.

Tabakgebruik word beskou as een van die hooforsake van voorkombare sterftes in die wêreld (Warren *et al.*, 2000; Swart *et al.*, 2001; Warren, 2002). Volgens die Suid-Afrikaanse Demografiese Gesondheidsopname (SADGO) wat in 1998 onderneem is, het 9% van die dogters tussen 15 en 19 jaar probeer rook. Ongeveer 6% van die dogters tussen 15 en 19 jaar wat aan hierdie opname deelgeneem het, was rokers (DoH, 1999). Die *Global Youth Tobacco Survey* (GYTS), 'n skool-verwante tabak-spesifieke opname wat op adolessente tussen 13 en

15 jaar fokus, het bewys dat tussen 10% en 33% van die jongmense wêreldwyd tabakprodukte gebruik (Warren *et al.*, 2000; Swart *et al.*, 2001). Die resultate van die SAYRBS het getoon dat 23% van die adolessente dogters wat aan die studie deelgeneem het al probeer rook het en 14.9% was gereelde rokers (DoH, 2003). 'n Kommerwekkende 60% van die dogters in die huidige studie het al probeer rook en 14% is rokers. Laasgenoemde persentasie stem ooreen met die resultate van die nasionale SAYRBS.

Deesdae speel alkohol 'n toenemende rol in adolessente se lewens, soveel so dat eksperimentering met alkohol as 'n normale deel van grootword beskou word (LeCroy & Mann, 2004). In Suid-Afrika het 43.5% van die adolessente dogters wat deel was van die SAYRBS ten minste een alkoholiese drankie in hulle leeftyd gedrink en 17.9% van hierdie dogters het aan fuifpartytjies deelgeneem (DoH, 2003). Wat kommer wek is dat 65% van die dogters wat aan die huidige studie deelgeneem het, al ten minste een alkoholiese drankie gedrink het. Veertien persent (14%) het al aan fuifpartytjies deelgeneem. Laasgenoemde persentasie is ietwat laer as dié in die SAYRBS van 2003. Alkoholgebruik is een van die mees algemene gesondheidsrisikofaktore by adolessente (Donovan, 2004) en die beskikbaarheid van goedkoper alkoholiese drankies neem ook toe (DoH, 1999; Jernigan, 2001; Parry *et al.*, 2004; *Alcohol Alert*, 2006). Dit kan 'n moontlik rede wees vir die hoë persentasie dogters in hierdie studie wat al 'n alkoholiese drankie gedrink het.

Dertien persent (13%) van die Kaapse Skiereiland se dogters het al dagga probeer rook (O'Connor, 1999). Die SAYRBS toon dat 15.5% van die adolessente Kleurlingdogters al dagga gerook het (DoH, 2003). Uit die resultate van die huidige studie blyk dit dat ietwat minder Kleurlingdogters (11%) in die Worcester-omgewing al ooit dagga gerook het.

Adolessente, wat ongeveer 1.2 biljoen van die wêreld se bevolking uitmaak, word al hoe meer vir die verspreiding van Menslike Immuniteitsvirus/Verworwe Immuniteitsgebreksindroom (MIV/VIGS) aanspreeklik gehou. Hulle staar die gevare van siektes, infeksies en onbeplande swangerskappe wat tot moontlike armoede kan lei, in die gesig (*Nation's Health*, 2003/2004). 'n Nasionale opname toon dat Suid-Afrika nie ver agter is nie. Dit blyk dat ten minste 50% van alle Suid-Afrikaanse adolessente voor hulle sestiende verjaarsdag seksueel aktief is. Van die adolessente Kleurlingdogters in Grade 8 tot 11 wat aan die SAYRBS deelgeneem het, het 30.9% al seksuele omgang gehad (DoH, 2003; Eaton *et al.* 2003; UNAIDS, 2004). Twaalf persent (12%) van die dogters in die huidige studie het seksuele omgang gerapporteer.

Die resultate van die SADGO toon dat 12% van die adolessente dogters in Suid-Afrika ondergewig is (DoH, 1999). Die SAYRBS toon dat 20.5% van die Kleurling adolessente hulself as ondergewig en 16.4% hulself as oorgewig beskryf (DoH, 2003). In die huidige studie beskou 33% van die dogters hulself as baie of effens ondergewig en 15% beskou hulself as oorgewig of effens oorgewig.

Fisieke aktiwiteit is 'n belangrike komponent van 'n mens se lewe (Amusa & Toriola, 2003; Frantz *et al.*, 2003). In die oertyd het mense (as jagters en voedselversamelaars) hoë vlakke van fisieke aktiwiteit gehandhaaf om aan die lewe te bly, terwyl die moderne mens, in sy stryd vir 'n langer lewe beswyk as gevolg van 'n gebrek aan fisieke oefening (Erikssen, 2001; Amusa & Toriola, 2003). Alhoewel adolessensie beskou word as die mees aktiewe tyd in 'n persoon se lewe, word dit deur onlangse feite weerspreek. Die meeste moderne adolessente lei sedentêre leefstyle (Grimmett, 1998; Kaplan, 2000) en deelname aan fisieke aktiwiteit neem wêreldwyd drasties af met 'n toename in ouderdom by beide seuns en dogters (Sallis, 2000; Kimm *et al.*, 2002; De Bourdeaudhuij *et al.*, 2005). Adolessente in Suid-Afrika neem nie aan genoegsame fisieke aktiwiteit deel om gesondheid te bevorder nie. Nasionaal neem 45.6% van Kleurling adolessente (beide seuns en dogters) nie aan genoegsame fisieke aktiwiteit deel nie

(DoH, 2003). Uit die resultate van die huidige studie blyk dit dat 54% van die dogters nie aan fisieke aktiwiteit deelneem nie.

Die aantal lesse wat aan Liggaamlike Opvoeding (LO) per week afgestaan word, het die afgelope 25 jaar oor die wêreld heen afgeneem en die vak neem 'n baie laer status, waarde en belangrikheid as ander skoolvakke aan, afgesien van die bewyse dat dit baie voordele inhou (Van Deventer, 2002; Doll-Tepper & Mailliet, 2003; Hardman, 2003). Die feit dat LO wêreldwyd in kompetisie is vir tyd in die skoolkurrikulum, dra grootliks by tot onaktiwiteit onder jongmense. Nege-en-twintig (29%) van die Suid-Afrikaanse leerders toon dat geen LO-klasse op hul rooster geskeduleer is nie (DoH, 2003; Doherty & Bailey, 2003; Doll-Tepper & Mailliet, 2003; Hardman, 2003; Klein, 2003). Die resultate van die huidige studie dui dat 65% van die leerders nie LO-klasse by die skool ontvang nie.

Jongmense stel dikwels hulle gesondheid in gevaar deur gedrag te openbaar wat ernstige kort- en langtermyngevolge inhou, soos sosiale probleme, siektetoestande en selfs sterftes. Hierdie tipe risikogedrag sluit geweld en misdaad, tabakgebruik, alkohol- en dwelmgebruik, seksuele wangedrag, ongesonde eetgewoontes asook onvoldoende fisieke aktiwiteit in. Deur hierdie gedrag te probeer voorkom, kan jongmense se gesondheid verbeter word (Collins *et al.*, 2002).

SUMMARY

Health risk behaviours amongst a selected group of adolescent girls

In a world where adolescents are continually bombarded with choices that promote an unhealthy lifestyle, society has a duty to ensure that this trend is reversed.

The objective of the research was to examine the prevalence of health risk behaviours amongst a selected group of adolescent girls. The main focus was the identification of behaviours such as violence, smoking, alcohol and drug use, sexual behaviours, dietary behaviours and physical inactivity that place adolescents at an increased risk of premature morbidity and mortality.

The sample population (N=1 805) was selected from three previously disadvantaged high schools in the Worcester region in the Western Cape. Adolescent girls between the ages of 13 and 16 in Grades 8 to 10 completed the *Youth Risk Behaviour Survey* (YRBS) which was adapted for this study. The latter focuses on behaviours such as violence, smoking, alcohol and drug use, sexual behaviours, dietary behaviours and physical inactivity.

The coding of the variable data was done in computer format, coded and statistically evaluated. The research has confirmed the assumption that adolescent girls are indeed at risk.

The main results of this study provide evidence that 60% of the adolescent girls smoked a cigarette or tried smoking one, 65% consumed alcohol, 11% used dagga and 12% had sexual intercourse and that 54% participated in insufficient amounts of physical activity.

Empirical research is only now linking adult health diseases to the behaviours developed in teenage years. As the negative effects of our growing economy are experienced in the degeneration of the family household, adolescents are forming their lives in an environment which has at times deprived them of continued positive adult guidance. This has led to adolescents making uninformed decisions regarding violence, cigarette smoking, alcohol and drug use, sexual habits, dietary preferences and physical inactivity which can all lead to serious short and long term health risks. Of particular concern is the prevalence of ill-advised promiscuity and unprotected sex which has led to a surge in HIV/AIDS infections and

unwanted pregnancies. Some other potential factors underpinning the increase in health risk behaviours are a shift in social norms, more sedentary lifestyles and a decrease in emotional maturity.

Society as a whole has a vested interest in ensuring that the challenges adolescents are facing are conquered or at the very least mitigated significantly. This responsibility does not solely rest with the Public Sector to initiate programmes to rectify the highlighted concerns. As adolescents are current and future consumers, they are a profitable target group for all industries, which must serve as an incentive for the Private Sector not only to provide healthier products today, but also to ensure healthy adults of tomorrow.

The challenges facing adolescents are immense and they should not be facing them alone. South Africa is faced with an amazing opportunity to raise healthy adults who can positively contribute to its prosperity. Any initiative which lessens a future drain on the social economic stability of South Africa should be grasped by all without hesitation.

ERKENNING

Hierdie artikel is gebaseer op navorsing wat deur die Mediese Navorsingsraad ondersteun is. Enige menings, bevindinge en gevolgtrekkings of aanbevelings in hierdie artikel is dié van die outeur(s) en weerspieël nie die beskouing van die Mediese Navorsingsraad nie.

BRONNE

- AFRICA, E.K. (2004). 'n Opname van die bewegingsontwikkelingskenmerke van grondslagfaseleerders in die Stellenbosch-omgewing. Ongepubliseerde M in Sportwetenskap-tesis. Stellenbosch: Universiteit Stellenbosch.
- ALCOHOL ALERT (2006). Underage drinking, 67: 1-7.
- AMUSA, L.O. & TORIOLA, A.L. (2003). Physical activity, leisure and recreation education in the 3rd millennium: concepts, positions and development. *Journal of Human Movement Studies*, 44: 241-247.
- ASPY, C.; OSMAN, R.; VESELY, S.; McLEROY, K.; RODINE, S. & MARSHALL, L. (2004). Adolescent violence: the protective effects of youth assets. *Journal of Counselling & Development*, 82: 268-276.
- BALL, G.D.C. & McCARGAR, L.J. (2003). Childhood obesity in Canada: A review of prevalence estimates and risk factors for cardiovascular diseases and type 2 diabetes. *Canadian Journal of Applied Physiology*, 28(1): 117-140.
- BAR-OR, M.D. (2000). Juvenile obesity, physical activity, and lifestyle changes. *The Physician and Sports Medicine*, 28(11): 51-52, 55-56, 58.
- BAUMGARTNER, T.; STRONG, C. & HENSLEY, L. (2002). *Conducting and reading research in health and human performance*. New York, NY: McGraw-Hill.
- BERK, L.E. (1993). *Infants, children and adolescents*. Boston, MA: Allyn & Bacon.
- BRAVERMAN, P. (2000). Middle school students' sources of acquiring cigarettes and requests for proof of age. *Clinical Paediatrics*, 39(6): 377.
- BRENER, N.D.; BILLY, J.O.G. & GRADY, W.R. (2003). Assessment of factors affecting the validity of self-reported health-risk behaviour among adolescents: evidence from scientific literature. *Journal of Adolescent Health*, 33: 436-457.
- BROOKS-GUNN, J. & PAIKOFF, R.L. (1993). "Sex is a gamble, kissing is a game": adolescent sexuality and health promotion. In S.G. Millstein; A.C. Petersen & E.O. Nightingale (Eds.), *Promoting the health of adolescents* (180-208). New York, NY: Oxford University Press.

- CDCP (CENTERS FOR DISEASE CONTROL AND PREVENTION) (2004). *Morbidity and Mortality Weekly Report*. Youth Risk Behavior Surveillance – United States 2003, vol. 53, no. SS-2.
- COLLINS, J.; ROBIN, L.; WOOLEY, S.; FENLEY, D.; HUNT, P.; TAYLOR, J.; HABER, D. & KOLBE, L. (2002). Programs-that-work: CDC'S guide to effective programs that reduce health-risk behavior of youth. *Journal of School Health*, 72(3): 93-99.
- CROCKETT, L.J. (1997). Cultural, historical, and subcultural contexts of adolescents: implications for health and development. In J. Schulenberg; J.L Maggs & K. Hurrelmann (Eds.), *Health risks and developmental transitions during adolescence* (23-53). Cambridge: Cambridge University Press.
- DALEY, A. (2002). School based physical activity in the United Kingdom: Can it create physically active adults? *Quest*, 54: 21-22.
- DE BOURDEAUDHUIJ, I.; PHILIPPAERTS, R.; CROMBEZ, G.; MATTON, L.; WIJNDAELE, K.; BALDUCK, A. & LEFERVRE, J. (2005). Stages of change for physical activity in a community sample of adolescents. *Health Education Research*, 20(3): 357-366.
- DICLEMENTE, R.J.; HANSEN, W.B. & PONTON, L.E. (1996). Adolescents at risk: a generation in jeopardy. In R.J. DiClemente; W.B. Hansen & L.E. Ponton (Eds.), *Handbook of adolescent health risk behavior* (1-4). New York, NY: Plenum Press.
- DoH (DEPARTMENT OF HEALTH) (1999). South Africa: demographic and health survey, 1998. Full report. [Pretoria]: Department of Health.
- DoH (DEPARTMENT OF HEALTH) (2003). The 1st South African National Youth Risk Behaviour Survey – 2002. Cape Town: South African Medical Research Council.
- DOHERTY, J. & BAILEY, R. (2003). *Supporting physical development and physical education in the early years*. Buckingham: Open University Press.
- DOLL-TEPPER, G. & MAILLIET, C. (2003). Physical education and sport and human development challenges in the educational environment. *International Council of Sport Science and Physical Education Bulletin*, (39): 26-31, September.
- DONOVAN, J. (2004). Adolescent alcohol initiation: a review of psychosocial risk factors. *Journal of Adolescent Health*, 35: 529.e7-529.e18.
- DRUG WEEK (2003). Girls fall behind in physical activity during high school, 12 September, p.123.
- DULMUS, C.N. & RAPP-PAGLICCI, L.A. (2004). Prevention and Resilience. In L.A. Rapp-Paglicci; C.N. Dulmus & J.S. Wodarski (Eds.), *Handbook of preventive interventions for children and adolescents* (3-11). Hoboken: John Wiley & Sons.
- EATON, L.; FLISHER, A.J. & AARO, L.E. (2003). Unsafe sexual behaviour in South African youth. *Social Science & Medicine*, 56: 149-165.
- EMANS, S. (2000). Eating disorders in adolescent girls. *Paediatrics International*, 42(1): 1-7.
- ERIKSSON, G. (2001). Physical fitness and changes in mortality survival of the fittest. *Sports Medicine*, 31(8): 571-576.
- FAIRBURN, C. (2003). Eating disorders. *Lancet*, 361(9355): 407-417.
- FRANTZ, J.; PHILLIPS, J. & AMUSON, S. (2003). Promotion of physically active lifestyle among South African youth. *African Journal for Physical, Health Education, Recreation and Dance*, 9(2): 200-207.
- GRIMMETT, D. (1998). Physical activity and fitness. In A. Henderson & S. Champlin (Eds.), *Promoting teen health* (22-27). Thousand Oaks, CA: SAGE.
- GRUNBAUM, J.; KANN, L.; KINCHEN, S.; LOWRY, K.; KOLBE, L.; WILLIAMS, B. & ROSS, J. (2002). Youth risk behaviour surveillance – US 2001. *Journal of School Health*, 72(8): 313-329.
- GRUNBAUM, J.; KANN, L.; KINCHEN, S.; ROSS, J.; HAWKINS, J.; LOWRY, K.; HARRIS, W.; McMANUS, T.; CHYEN, D. & COLLINS, J. (2004). Youth risk behaviour surveillance – US 2003. *Youth Risk*, 53(SS-1): 95.
- HARDMAN, K. (2003). The state of physical education in schools: foundation for deconstruction and reconstruction of physical education. In K. Hardman (Ed.), *Physical education: deconstruction and*

- reconstruction- issues and directions* (15-34). Schorndorf: Verlag Karl Hoffman.
- JERNIGAN, D. (2001). *Global status report: alcohol and young people*. Geneva: WHO.
- KANN, L. (2001). Commentary. *Journal of Drug Issues*, 31(3): 725-728.
- KAPLAN, P.S. (2000). *A child's odyssey*. Belmont, Australia: Wadsworth.
- KIMM, S.; GLYNN, N.; KRISKA, A.; BARTON, B.; KRONBERG, S.; DANIELS, S.; CRAWFORD, P.; SARBY, Z. & LIU, K. (2002). Decline in physical activity in Black girls and White girls during adolescence. *The New England Journal of Medicine*, 347(10): 709-715.
- KLEIN, G. (2003). A future for physical education within the international context: institutional fragility or collective adjustment. In K. Hardman (Ed.), *Physical education: deconstruction and reconstruction- issues and directions*. [International Council of Sport Science and Physical Education] (153-169). Schorndorf: Verlag Karl Hoffman.
- LAVENTURE, B. (2000). Physical Education and the challenge of public health. *The British Journal of Teaching Physical Education*, 31(1): 6-8.
- LECROY, C.W. & MANN, J.E. (2004). Substance abuse. In L.A. Rapp-Paglicci; C.N. Dulmus & J.S. Wodarski (Eds.), *Handbook of preventive interventions for children and adolescents* (198-226). Hoboken: John Wiley & Sons.
- LOLA, R. & WELSCH, G. (2004). The female triad. *American Fitness*, 22(3): 56-64.
- MACPHAIL, C. & CAMPBELL, C. (2001). "I think condoms are good but, aai, I hate those things": condom use among adolescents and young people in a South African township. *Social Science & Medicine*, 52: 1613-1627.
- MANZO, K.K. (2000). PE promoting active lifestyle among adolescents, study finds. *Education Week*, 19(40): 6-7.
- MOLNAR, B.; ROBERTS, A.; BROWNE, A.; GARDENER, H. & BUKA, S. (2005). What girls need: recommendations for preventing violence among urban girls in the US. *Social Science and Medicine*, 60: 2191-2204.
- NASH, J.M. (2003). Obesity goes global. *Time*, 54-55: 7 July.
- NATION'S HEALTH (2003/2004). World's largest-ever youth generation faces health risks, 33(10): 25.
- NCCDPHP (NATIONAL CENTER FOR CHRONIC DISEASE PREVENTION AND HEALTH PROMOTION) (2004). *Youth Risk Behaviour Surveillance: Adolescent health*, [<http://www.cdc.gov/nccdphp/dash/yrbs/2003/question-naire.htm>]. Afgelaai 4 Augustus 2004.
- O'CONNOR, S. (1999). A world full of difficult choices. *The Teacher*, June 1999: 11.
- PARRY, C.; MYERS, B.; MOREJELE, N.; FLISHER, A.; BHANA, D. & PLÜDDEMANN, A. (2004). Trends in adolescent alcohol and other drug use: findings from three sentinel sites in South Africa (1997-2001). *Journal of Adolescents*, 27: 429-440.
- REININGER, B.M.; EVANS, A.E.; GRIFFIN, S.F.; SANDERSON, M.; VINCENT, M.L.; VALOIS, R.F. & PARRA-MEDINA, D. (2005). Predicting adolescent risk behaviors based on an ecological framework and assets. *American Journal of Health Behaviour*, 29(2): 150-161.
- ROSTOSKY, S.; REGNERUS, M. & WRIGHT, M. (2003). Coital debut: the role of religiosity and sex attitudes in the add health survey. *The Journal of Sex Research*, 40(4): 358-367.
- SALLIS, J.F. (2000). Overcoming inactivity in young people. *The Physician and Sportmedicine*, 28(10): 31-32.
- SCAFFA, M.E. (1998). Adolescents and alcohol. In A. Henderson & S. Champlin (Eds.), *Promoting teen health* (78-99). Thousand Oaks, CA: SAGE.
- STEFFOFF, R. (1990). *The encyclopedia of health. The life cycle. Adolescence*. New York, NY: Chelsea House Publishers.
- SUSSMAN, M.; JONES, S.; WILSON, T. & KANN, L. (2002). The youth risk behaviour surveillance system. Updating policy & program applications. *Journal of School Health*, 72(1): 13-18.
- SWART, D.; REDDY, P.; PITT, B. & PANDAY, S. (2001). The prevalence & determinants of tobacco-use among Grade 8-10 learners in South Africa. Unpublished report. Cape Town: Medical

Research Council.

- UNAIDS (2004). *Report on the global aids epidemic (4th global report). Focus. HIV and young people: the threat for today's youth*. Geneva: UNAIDS.
- VAN DEVENTER, K.J. (2002). Quality physical education and the partnership concept. *South African Journal for Research in Sport, Physical Education and Recreation*, 24(2): 101-120.
- WALKER, A.; ADAM, F. & WALKER, B. (2001). World pandemic of obesity: the situation in Southern African populations. *Public Health*, 115: 368-372.
- WARREN, C.; RILEY, L.; ASMA, S.; ERICKSEN, M.; GREE, L.; BLANTON, C.; LOO, C.; BATCHELOR, S. & YACH, D. (2000). *Bulletin of World Health Organisation*, 78(7): 868-876.
- WARREN, C. (2002). Tobacco use among youth: a cross country comparison. *Tobacco Control* 2002, 11: 252–270.
- WORCESTER STANDARD (2004). Drugs increasingly affect youth: 19 Augustus 2004.
- WYATT, T.J. & PETERSON, F.L. (2005). Risky business: exploring adolescent risk-taking behavior. *Journal of School Health*, 75(6): 229-231.

Dr. Eileen K. Africa: Departement Sportwetenskap, Universiteit Stellenbosch, Privaatsak X1, Matieland 7602, Republiek van Suid-Afrika. Tel. +27 (0)21 808 4591, Faks. +27 (0)21 808 4817, E-pos: africa@sun.ac.za

(Vakredakteurs: Prof. A.E. Pienaar & prof. M.F. Coetsee)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 15-29.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 15-29.
ISSN: 0379-9069

FEMALE CONSUMERS' EVALUATIONS OF SPONSORSHIP AND THEIR RESPONSE TO SPONSORSHIP

Sema ALAY

Department of Sport Management, School of Physical Education and Sports, Gazi University, Ankara, Turkey

ABSTRACT

The purpose of this study was to examine the effects of female consumer attitudes towards a sports event, its sponsor, and their perception of the sponsor-event fit on their sponsorship response that includes factors interest, favor and the use of the sponsor's product. A total of 413 female undergraduate students aged between 18 and 26, participated in the study. Data were collected using a Sponsorship Evaluation Questionnaire (Alay, 2004). Multiple regression, zero-order and partial correlations were used to analyze the data. The results indicated that "sponsor-event fit", the "sincerity of the sponsor" and "interaction of sponsor-event fit with the status of the event" were key factors in generating three levels of sponsorship response; interest, favor and use of the sponsor's product. In addition, factors such as "the image of the sponsor" and "liking the event" were the significant determinants of the sponsor's product use by female consumers. It is suggested that sponsorship decision makers should take into consideration these factors when deciding on any sponsorship agreement.

Key words: Sport sponsorship; Marketing; Consumer response; Attitudes; Sponsorship evaluation.

INTRODUCTION

Sponsorship has become the lifeblood of funding sport, art and social events (Roy & Cornwell, 2003). It is the provision of resources (money, people, equipment) by an organization (the sponsor) directly to an individual, authority or body (the sponsee), to enable the latter to pursue some activity in return for benefits contemplated in terms of the sponsor's promotion strategy which can be expressed in terms of corporate objectives, marketing objectives or media objectives (Pope, 1998). These objectives have to be measured by the sponsors whether or not they are achieved. However, the issue of the evaluation of sponsorship effects is controversial and much debated. The reason is that there is a lack of universally accepted techniques by which sponsorship can be evaluated and the value and return on investment can be determined (Shanklin & Kuzma, 1992; Thwaites, 1994). According to Meenaghan (1983) the simultaneous use of ingredients within the communication and marketing mix, the carry over effect of earlier activities, synergy derived from marketing communication variables, creative management issues, the pursuit of multiple objectives, and the discretionary nature of media coverage make it difficult to evaluate sponsorship.

The literature shows that the most widely used evaluation techniques for the effects of sponsorship are media exposure monitoring, sponsor name awareness, and sponsor-sponsored

event association (Crimmins & Horn, 1996; Meenaghan, 1996; Easton & Mackie, 1998; Nicholls & Roslow, 1999). Despite their considerable corporate popularity, these techniques are the first line measurement of sponsorship impact and they do not serve to facilitate understanding of consumer engagement with the sponsorship (Meenaghan, 2001). Sponsorship arrangement has some objectives predefined by the corporations, and the main focus of sponsorship is people or society, so the effect of sponsorship should be measured with regard to consumers. However, research on consumer response to sponsorship is inadequate (Gardner & Shuman, 1987; Speed & Thompson, 2000; Meenaghan, 2001) and even less is known about the specifics of female consumer response to it.

Professional sports, in particular, are male-dominated, and females are given a disproportionately small amount of media coverage (Theberge, 1991; Hargreaves, 1994). Shaw and Amis (2001) state that the under-representation of females in sport is a factor in sponsorship decisions of the corporations. Similarly studies done by Meenaghan (1983) and Meenaghan (1991) and Copeland *et al.* (1996) cite that media exposure is also a determinant factor when managers decide whether or not a sponsorship investment is worthwhile. It is apparent that the under-representation of females in the media and the lack of media exposure make corporations capitalize on female sport less. Consequently, research examining sponsorship effects on female sponsorship response at women's sporting events is scarce.

Although Jeannet and Hennessey's (1988) study provides evidence of an increase in product sales related to sponsorship, how consumer perception of sponsorship and their response to the sponsorship play a role related to the increase in product sales has not been systematically studied before. Literature reviews on sponsorship emphasize the importance of the evaluation of consumer responses to sponsorship (Cornwell & Maignan, 1998; Walliser, 2003). These studies recommend that rigorously designed studies are needed to further understand consumer perceptions of, and reactions to sponsorship stimuli in order to continue sponsorship investment. Knowing the underlying factors that trigger people to buy a sponsor's product/services provides insight into how sponsorship affects consumers with regard to their response to sponsorship, and how to make decisions on sponsorship for the sponsors and

sports managers.

THEORETICAL FRAMEWORK OF THE STUDY

The theory behind the present study is based on the classical conditioning research in advertising (Mitchell & Olsen 1981; Shimp 1981; Stuart *et al.*, 1987; Shimp 1991; Mitchell *et al.*, 1995). Speed and Thompson (2000) developed a model based on the classical conditional research to predict consumer response to sponsorship, but was not designed to establish whether classical conditioning occurs in sponsorship (Speed & Thompson, 2000). Classical conditioning research in advertising suggests that the size of the conditioned response will depend on (1) the respondent's attitude towards the unconditioned stimulus (the advertisement or the endorser) (Mitchell & Olsen 1981; Shimp 1981), (2) the respondent's prior attitude toward the conditioned stimulus (the brand) (Stuart *et al.*, 1987), and (3) the respondent's perception of the congruence between the unconditioned and conditioned stimulus (the advertisement/endorser and the brand) (Shimp 1991; Mitchell *et al.*, 1995). Speed and Thompson (2000) applied this theory to sponsorship; the response to a sports sponsorship is affected by (1) attitudes toward the event, (2) attitudes toward the sponsor, and (3) perception of congruence between sponsor and event. The response to a sponsorship means consumer

interest and favor towards the sponsor, and their use of the sponsor's product (Speed & Thompson, 2000).

Attitudes towards the event include "perceived status" and "personal liking of the event" factors. In the literature, there are findings supporting the factors mentioned in Speed and Thompson's (2000) model. D'Astous and Bitz (1995) found that respondents who perceived the event to be attractive and interesting believed it would have a stronger impact on the sponsor's image. Crimmins and Horn (1996) also found that sponsors could benefit from the "gratitude" that arises among those fans with a strong liking for the event. Stipp and Schiavone (1996) suggest that a special, high status event, such as the Olympics, the Football World Cup and other World Cups create opportunities for sponsors because of the audience's high regard for these events.

Attitudes towards the sponsorship consist of "sponsor-event fit factor". Speed and Thompson (2000) described sponsor-event fit as the perception of the congruence between the sponsor and the event. Consumers who perceive a fit or relatedness between the sponsor and event generally have more positive responses to a sponsorship. This fit factor constitutes sponsor recognition (Johar & Pham, 1999; Pham & Johar, 2001), an image transfer from the event to the sponsor (Gwinner & Eaton, 1999), and favorability toward the sponsor (Speed & Thompson, 2000).

Factors to be considered in relation to the sponsor include "the sincerity of the sponsor", "the ubiquity of the sponsor", and "attitudes toward the sponsor". Javalgi *et al.* (1994) as well as Stipp & Schiavone (1996) emphasize the importance of attitudes toward the sponsors in the provision of an effective sponsorship. According to them, sponsors with a favorable image receive a more positive response from consumers than those without it. Meenaghan (2001) also indicates that people involved in a sponsored activity are more aware of and have more favor toward the sponsor. Furthermore, sponsors perceived to be sincere in their sponsorship and motivated by philanthropy will achieve a superior response to their sponsorship compared with sponsors who are seen as purely motivated by commercial considerations (Armstrong, 1987; D'Astous & Bitz, 1995). The ubiquity of a sponsor, which is the frequency and the

selectivity of a corporation for sponsorship, is also a determinant factor affecting sponsorship response. Speed and Thompson (2000) state that corporations who are unselective in their sponsorship get minimal response from consumers compared with those who sponsor only one or two selective events. Thus, sponsorship of selective events rather than too many different ones will benefit corporations in terms of consumer recall and consumer reaction to the sponsors/brands.

The theoretical model of Speed and Thompson (2000) grounded in Classical conditioning research in advertising was developed by Alay (2004) (see Figure 1). Two additional factors namely “image of the sponsor” and “attitude toward the event” were added to the model of Speed and Thompson (2000).

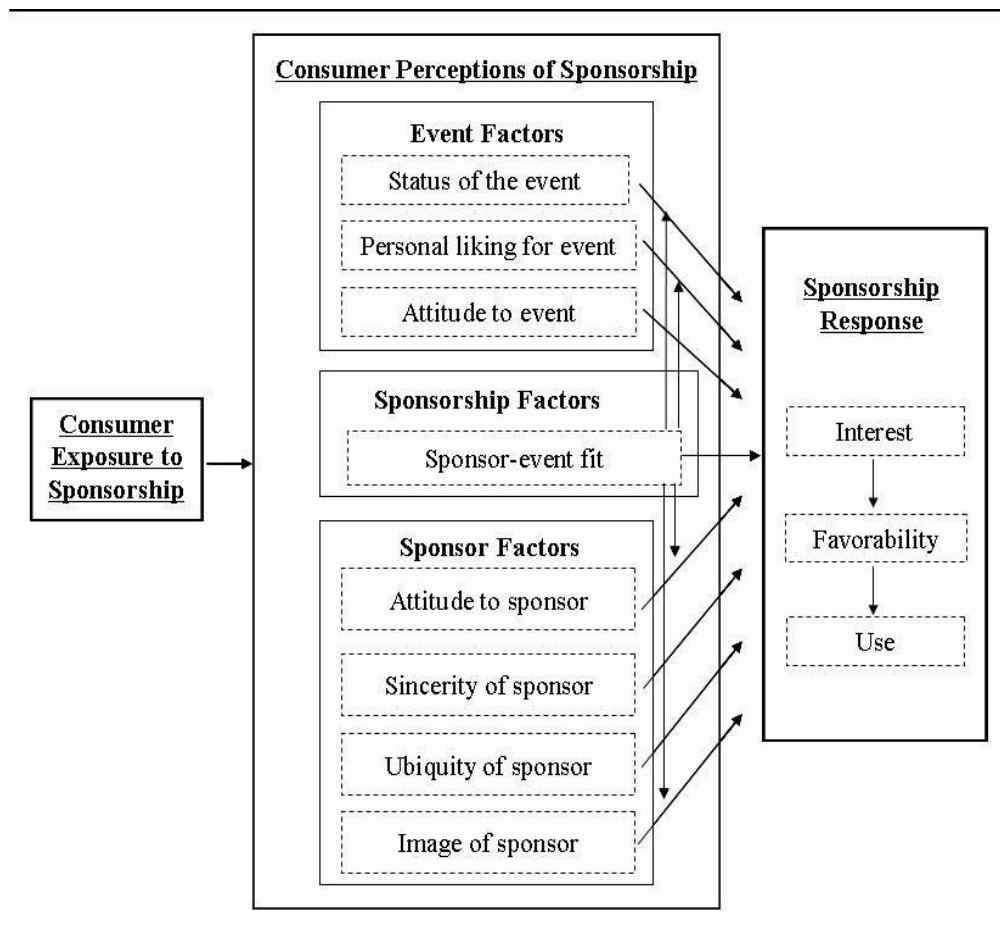


FIGURE 1. CONCEPTUAL FRAMEWORK FOR THE CURRENT STUDY

The image of a sponsor is an additional factor in consumer response to sponsorship (Laroche & Brisoux, 1989; Laroche *et al.*, 1996; Pope & Voges, 2000; Speed & Thompson, 2000). Image transfer changes according to the type of sponsorship. For example, Meenaghan and Shipley (1999) found that the transferred values from an event to a sponsor through sport sponsorship are healthy, young, energetic, fast, and vibrant. These are admirable, concerned

and caring for the sponsorship of social causes. Another study by Quester and Farrelly (1998) showed that when a strong congruence and belief is created between a sponsor and an event, the involvement of people at the event reflects on the sponsor's product as a brand or sponsor dependence. Similarly, Pope and Voges' (2000) study showed that there is a direct relationship between consumer purchase intentions and a company's image. Studies by Laroche and Brisoux (1989) and Laroche *et al.* (1996) support this finding. The more positive the image of a company is, the higher the purchase intention of consumers.

The theoretical framework illustrated in Figure 1 is utilized to examine the role of consumer attitudes toward a sponsorship in shaping their response to the sponsorship. The factors constituting the theoretical framework were investigated separately in previous studies, but they were examined within the context of the multidimensional measure of sponsorship response in this paper (see Figure 1). Knowing the role of consumer attitudes toward the sponsorship in shaping their response to a sponsorship can provide marketing departments with valuable information to assist them in the planning and execution of their marketing activities in a flexible manner in an uncertain and competitive business world. Evans (1991) states, in relation to this, that a flexibility in their response to environmental change provides corporations with a variety of options to choose from, and thus enables them to take the most appropriate and effective course of action. Thus, from this approach this publication may provide marketers with opportunities to consider their roles in relation to their attitudes and response toward a sponsorship, and see it as a flexible communication tool.

RESEARCH DESIGN AND METHODOLOGY

The purpose of this study was to examine the effects of female consumer attitudes towards a sports event, its sponsor, and their perception of the sponsor-event fit on their sponsorship response that includes factors interest, favor and the use of the sponsor's product. Based on the Sponsorship Model illustrated in Figure 1, the research questions of this study were outlined as follows:

1. How well do the event factors, the sponsor factors, and the sponsorship factor predict the three levels of sponsorship response (the respondents' interest and favor towards the product of the sponsor, and their use of the sponsor's product)?

Speed and Thompson (2000) found that the higher the level of fit between the sponsor and the sponsored event, the stronger the association between the sponsorship response and "personal liking of the event", "perceived status of the event", and "attitudes toward the sponsor". The interaction of each of these factors with the fit creates sponsorship response on consumers. Thus, the second research question is:

2. How well do the interaction of fit with "personal liking the event", "perceived status of the event", "attitudes toward the sponsor", and "image of the sponsor" predict the three levels of sponsorship response?

Participants

The sample consisted of 413 female undergraduate students from one of the largest universities in Turkey, the Middle East Technical University, located in Ankara. Their ages ranged from 18 to 26 years with an average age of 22. The participants of this study were randomly selected. Those participants who were aware of the event and the sponsor of the event participated in the study. They were from a wide range of departments from humanities

to engineering; all were enrolled in elective courses that were open to all faculties and departments.

The sponsored sports event was the European Volleyball Championship Turkish Women's Team matches and the sponsor of the event was a sanitary towel product, Orkid, a Procter &

Gamble product. Since the sponsor sponsoring this event focused on the young female market during the sponsorship period, female students were specifically chosen as the subjects for this study.

Measures

Data was collected by using The Sponsorship Evaluation Questionnaire (SEQ) developed by Alay (2004) to examine the effects of consumer attitudes regarding a sports event, the sponsor and their perceptions of the sponsor-event fit on their sponsorship response such as interest, favor and use of the sponsor's product/brand.

The introductory part of the questionnaire consists of the demographics of the respondents, and their participation level at the sports event. The participation level of the respondents is measured by putting a check mark on only one of the statements that best describes their involvement in the sponsored event.

The main part of the questionnaire has two sections and measures "consumer perception of sponsorship", and "consumer sponsorship response". The consumer perception of sponsorship section includes "event factors", "sponsorship factor", and "sponsor factors". The sponsorship response section includes three levels of sponsorship response namely consumers' interest and favor towards the product of the sponsor, and their use of sponsor's product. Cronbach alpha was .93 for "consumer perception of sponsorship", and .97 for "sponsorship response". Each section of the questionnaire consists of 55 items. The SEQ measures respondent agreement with each of the items on a scale ranging from 1 (indicating strongly disagree) to 7 (indicating strongly agree).

Procedure

The SEQ was administered to the respondents after the three months of the sponsored event. In the literature, there is no study of when the sponsorship effects on consumers should be measured. Usually it is possible to see the pre-event and post-event measurement of the sponsorship effects on consumers in the literature (McDonald, 1991), but it is not clear that when the post-event measurements should be done after the sponsored event. Parker (1991) pointed out that the connection of consumers to a corporate image or a brand with an event takes time. Therefore, in this study as the actual consumption attitudes of the respondents were measured, it was presumed that the respondents exposed to the sponsorship messages needed time to connect the product of the sponsor and buy the sponsor's product which is directly related to females.

As the main purpose of the SEQ is to determine the respondent agreement on their perceptions of the sponsorship and their sponsorship response, only subjects who were aware of the sponsor and sponsored event were accepted in data collection. The researcher collected the data from the respondents during their regular class hours. Four hundred and seventy one (471) respondents participated in the data collection. Table 1 shows the distribution of the respondent participation levels in the sponsored event.

TABLE 1. PARTICIPATION LEVELS OF THE RESPONDENTS TO THE SPONSORED EVENT

	f	%
I have attended this event more than once as a spectator	20	4.2
I have attended this event once before as a spectator	15	3.2
I watched this event on TV consistently the last time it was held	133	28.2
I watched this event on TV occasionally the last time it was held	140	29.7
I watched this event on TV, but I did not follow all of the matches	105	22.3
I didn't pay this event any attention	25	5.3
I know nothing about this event	33	7.0
Total	471	100.0

Those respondents who did not pay the event any attention, and knew nothing about the event were eliminated from the study. A total of 413 valid questionnaires were included in this study. To analyze the data, multiple regression, zero-order and partial correlations were performed.

RESULTS

The participation levels of the respondents to the sponsored event are presented in Table 2. 8.5% of those respondents had participated in the sponsored event as spectators and 91.5% of them "attended" it as television viewers.

TABLE 2. PARTICIPATION LEVELS OF THE RESPONDENTS TO THE SPONSORED EVENT

	f	%
I have attended this event more than once as a spectator	20	4.8
I have attended this event once before as a spectator	15	3.6
I watched this event on TV consistently the last time it was held	133	32.2
I watched this event on TV occasionally the last time it was held	140	33.9
I watched this event on TV, but I did not follow all of the matches	105	25.4
Total	413	100.0

Their participation level shows that they consumed the sponsored event as spectators and television viewers, and thereby respondent sponsorship exposure was determined as the sponsorship exposure is important in evaluating the sponsorship effect (Speed & Thompson, 2000).

Table 3 reveals multiple regression, zero-order and partial correlation of results across all independent variables in terms of the three levels of sponsorship response (respondents' interest and favor towards the sponsor's product, and their use of the sponsor's product).

.027	.502	.616	.245	.025	.109	2.356	.019	.337	.116	.058	1.246	.213	.263	.062
-.099	-2.185	.029	.027	-.108	-.003	-.073	.942	.106	-.004	-.062	-1.568	.118	.054	-.078
.209	3.840	.000*	.407	.188	.032	.678	.498	.410	.034	.148	3.094	.002*	.438	.152
-.090	-1.696	.091	.154	-.084	-.100	-2.162	.031	.179	-.107	-.183	-3.922	.000*	.087	-.192
.573	1.406	.160	.396	.069	1.254	3.419	.001*	.550	.167	1.026	2.736	.006*	.509	.134
-.156	-.344	.731	.490	-.017	1.692	4.132	.000*	.609	.200	2.661	6.671	.000*	.614	.313
.144	.499	.618	.399	.025	1.247	4.880	.000*	.531	.235	1.021	3.904	.000*	.463	.190
1.433	3.811	.000*	.460	.185	1.977	5.877	.000*	.561	.279	2.331	6.926	.000*	.529	.324
.222	3.840	.000*	.447	.188	.347	6.871	.000*	.600	.323	.344	6.748	.000*	.585	.318
.168	3.008	.003*	.447	.148	.289	5.944	.000*	.579	.284	.280	5.703	.000*	.560	.314
.134	2.548	.011	.242	.126	.062	1.362	.174	.228	.068	.056	1.212	.226	.174	.060
.077	1.554	.121	.331	.077	.117	2.711	.011	.437	.134	.080	1.823	.069	.408	.090

Note: SEF*SE= interaction between sponsor-event fit and status of the event, SEF*LE= interaction between sponsor-event fit and liking the event, SEF*ATS= interaction between sponsor-event fit and attitude to sponsor, and SEF*IS= interaction between sponsor-event fit and image of the sponsor

The zero and partial correlation results for the European Volleyball Championship Turkish Women's Team matches and the main sponsor of the team in terms of interest, favor and use of sponsor product for undergraduate females is shown in Table 3. SEF ($r_{\text{interest, favor, use}}=.447, .579, .560$), SS ($r_{\text{interest, favor, use}}=.447, .600, .585$), SEF*SE ($r_{\text{interest, favor, use}}=.460, .561, .529$) and SEF*IS ($r_{\text{interest, favor, use}}=.490, .609, .614$) were all positively correlated with interest, favor and use. However, when the other independent variables were controlled, SS ($r_{\text{interest, favor, use}}=.188, .323, .318$), SEF*SE ($r_{\text{interest, favor, use}}=.185, .279, .324$) and SEF ($r_{\text{interest, favor, use}}=.148, .284, .314$) were the most important variables correlating with interest, favor and use of sponsor's product by the respondents. Furthermore, IS ($r=.188$) positively relates with interest, SEF*LE ($r=.235$) with favor and SEF*IS ($r=.313$) with use.

DISCUSSION

The purpose of this study was to examine the effects of the consumers' attitudes regarding a sport event, a sponsor and their perceptions of the sponsor-event fit on their sponsorship response such as interest, favor and use of the sponsor's product. The sponsored sport event was the European Volleyball Championship, the Turkish Women's Team matches, and the sponsor of the event was a sanitary towel product-Orkid produced by Procter & Gamble.

The findings of the study indicate that the sponsor-event fit (expressed as the fit), sincerity of the sponsor, and the interaction of the fit with the status of the sponsored event affect females'

sponsorship responses toward sport sponsorship in terms of their interest and favor toward the sponsor's product and use of the sponsor's product. Besides the interaction of the fit with the personal liking for the event, the interaction of the fit with attitude toward the sponsor, and the interaction of the fit with image of the sponsor also affect females' responses to sport sponsorship, concerning their interest in and favor towards the product of the sponsor. In addition, the image of the sponsor is important for both respondent interest and use of the sponsor's product, and a personal liking for the sport event plays an important role in usage of the sponsor's product.

Three levels of sponsorship response means that the respondents' interest and favor towards the product of the sponsor, and their use of the sponsor's product, is stronger when women consumers perceive a fit between the sponsor and the sponsored event which is consistent with the sponsorship research of Speed and Thompson (2000) as well as Crimmins and Horn (1996). It could be stated that when the sponsor-event fit is perceived well, that the response of the consumers is high. This finding correlates with prior research on sponsorship which reported that if the consumers perceive sponsor-event fit high, their sponsorship response are high (Mitchell *et al.*, 1995; Speed & Thompson, 2000; Pham & Johar, 2001, Simmons & Becker-Olsen, 2006).

The sincerity of the sponsor was another significant predictor in terms of the three levels of sponsorship response. It can be stated that when consumers perceive a true sincerity in the sponsor, this is reflected in their interest, favor and use of the sponsor's product. Stipp and Schiavone (1996) as well as Speed and Thompson's (2000) findings support this finding.

Meenaghan (2001) also advocate that people that are involved in the sponsored activity is aware of the sponsorship, and therefore more aware of the sponsorship and have a more favor towards the sponsor. Besides, sponsors perceived to be sincere in their sponsorship and

motivated by philanthropy will achieve a superior response to their sponsorship compared to sponsors that are seen as purely motivated by commercial considerations (Armstrong, 1987; D'Astous & Bitz, 1995; Cornwell & Coote, 2005).

The status of the event was not perceived as a significant predictor of the three levels of sponsorship response by the respondents. Stipp and Schiavone (1996) suggest that a high status event, such as the Olympics, the Football World Cup and other World Cups, create opportunities for sponsors because of the audience's high regard for these events. In this study, the status of the event did not significantly contribute to the prediction of the respondents' interest and favor toward the sponsor's product and their product usage. However, the interaction of the fit with the status of the event was perceived as a significant predictor for three levels of sponsorship response. It can be said that if the interaction of the fit and status of the event was perceived to be high, female consumer response will be high on the three levels of sponsorship response. This finding is also consistent with Speed and Thompson's (2000) study.

Although the attitude to the sponsor, liking the event, and the image of the sponsor did not create any effect on the respondents in terms of the three levels of sponsorship response, the interaction of the sponsor-event fit with each of these created two levels of sponsorship response, namely favor and use. This means that the sponsor-event fit plays a significant role in these factors. The interaction of the sponsor-event fit with attitudes towards the sponsor, liking the event and the image of the sponsor created favor towards and use of the sponsor's

product. For example, findings show that liking the event was the negative significant predictor of product use. This finding contradicted the previous findings of Speed and Thompson's (2000) study. Findings of this study revealed that even when consumers didn't like the event, a stronger link was created between the event and the sponsor. The interaction of this link and liking of the event affect consumers positively in their favor towards and use of the sponsor's product.

The image of the sponsor was also a determinant factor for two of the three levels of sponsorship response, namely interest in and use of sponsor's product. Although the real consumption attitudes of consumers were tested in this study, the findings of Pope and Voges (2000) partially support this finding. It shows that there is a direct relation between purchase intention and the sponsor's image. Other studies also support this finding (Laroche & Brisoux, 1989; Laroche *et al.*, 1996) namely the higher the positive image of a corporate sponsor the higher the purchase intentions of consumers.

RECOMMENDATIONS AND CONCLUSIONS

Although in general all the event, sponsorship and sponsor factors affect the respondents' sponsorship response in terms of interest, favor and the use of the event sponsor's product, the sincerity of sponsor, the sponsor-event fit, the interaction of sponsor-event fit with the status of the event should be taken into consideration by potential sponsors when planning for sponsorship allocation, and by sports managers when preparing sponsorship proposals for potential sponsors. Although sponsorship increases product sales, knowing which underlying factors triggers people to buy the sponsors' products or services provides corporations and sport managers with insights into the functioning of sponsorships. Well known sponsorship evaluation techniques such as media exposure monitoring and sponsor name awareness, are

first line measurements, but do not serve to facilitate the understanding of consumer engagement with sponsorships (Meenaghan, 2001). In that sense, the present study is related to consumer engagement in sponsorship evaluation in a perceptual and attitudinal manner. It can be concluded from the findings of the present study that the sponsor and the event to be sponsored should be suitably selected, the sponsor should exhibit a sincere approach to this sponsorship, and lastly, high status events should be selected for sponsorship purposes.

Due to the fact that sponsorship is an important tool in marketing, and has the ability to contribute to a wide range of objectives at both a corporate and brand level (Thwaites, 1995), the findings of this study should be utilized strategically in marketing activities. As marketing thought has moved from a product orientation to a market orientation (Stotlar, 2001), sponsorship offers flexibility as a communication vehicle (Quester & Thompson, 2001). Flexibility is the capability to pro-act or respond instantly to changing competitive conditions and thereby develop and/or maintain a competitive advantage (Hitt *et al.*, 1998). As customization and personalization of products and services are of fundamental importance for competitiveness (Özer, 2002), sponsorship can be an effective medium or tool for strategic marketing purposes. During sponsorship, sports spectators are exposed to promotional messages under favorable conditions such as the enthusiasm, excitement and enjoyment under which customers tend to be relaxed and receptive to the corporate messages (Nicholls & Roslow, 1999). Therefore, it can be also concluded that sport sponsorship is an effective way of transmitting messages with different marketing aims and different market segments with the help of the special and unique characteristics of each sports event.

LIMITATIONS OF THE STUDY

The present study had a number of limitations that should be noted. Firstly, all variables were measured by self-report, and the response biases may have influenced participants' scores. For example, some students may have wanted to describe themselves as being interested in or as using the sponsor's product. However, students were assured that their responses would be confidential, and details regarding their confidentiality were stressed, so there is little reason to suspect that students were motivated to provide socially desirable responses. In addition, subject responses could not be compared with the sponsor company's product sales increase in numbers because of the sponsor firm's secrecy. A second limitation, although the sponsor of the event focused on young females during this sponsorship, the sample of this study was comprised of only young female undergraduates. Lastly, the findings can not be generalized to cover the whole population, but this is the one of the leading studies of the sponsorship-consumer and female sponsorship response triangle in terms of perceptual and attitudinal perspectives.

REFERENCES

- ALAY, S. (2004). Determinants of sport sponsorship response and effects of sport sponsorship on consumers. Unpublished PhD dissertation. Ankara: Gazi University.
- ARMSTRONG, C. (1987). Sports sponsorship: a case study approach to measuring its effectiveness. *European Research*, 16(2): 97-103.
- COPELAND, R.; FRISBY, W. & MCCARVILLE, R. (1996). Understanding the sponsorship process from a corporate perspective. *Journal of Sport Management*, 10(1): 32-48.
- CORNWELL T.B. & COOTE, L.V. (2005). Corporate sponsorship of a cause: the role of identification in purchase intent. *Journal of Business Research*, 58(3): 268-276.
- CORNWELL, T.B. & MAIGNAN, I. (1998). An international review of sponsorship research. *Journal of Advertising*, 27(1): 1-22.
- CRIMMINS, J. & HORN, M. (1996). Sponsorship: from managerial ego trip to marketing success. *Journal of Advertising Research*, 36(4): 11-21.
- D'ASTOUS, A. & BITZ, P. (1995). Consumer evaluations of sponsorship programs. *European Journal of Marketing*, 29(12): 6-22.
- EASTON, S. & MACKIE, P. (1998). When football came home: a case history of the sponsorship activity at the Euro '96. *International Journal of Advertising*, 17(1): 99-114.
- EVANS, J.S. (1991). Strategic flexibility for high technology maneuvers: a conceptual framework. *Journal of Management Studies*, 28(1): 69-89.
- GARDNER, M.P. & SHUMAN, P.J. (1987). Sponsorship; an important component of promotions mix. *Journal of Advertising Research*, 16(1): 11-17.
- GWINNER, K. & EATON, J. (1999). Building brand image through event sponsorship: the role of image transfer. *Journal of Advertising*, 28(Winter): 47-57.
- HARGREAVES, J.A. (1994). *Sporting females: critical issues in the history and sociology of women's sports*. London: Routledge.
- HITT, M.E.; KEATS, B.W. & DEMARIE, S.M. (1998). Navigating in the new competitive landscape: building strategic flexibility and competitive advantage in the 21st century. *An Academy of Management Executive*, 12(4): 22-42.
- JAVALGI, R.G.; TRAYLOR, M.B.; GROSS, A.C. & LAMPMAN, E. (1994). Awareness of sponsorship and corporate image: an empirical investigation. *Journal of Advertising*, 23(4): 47-58.
- JEANNET, J.P. & HENNESSEY, H.D. (1988). *International Marketing Management*. Boston, MA: Houghton Mifflin.
- JOHAR, G.V. & PHAM, M.T. (1999). Relatedness, prominence, and constructive sponsor identification. *Journal of Marketing Research*, 36(3): 299-312.

- LANCE, C.E. (1988). Residual centering, exploratory and confirmatory moderator analysis, and decomposition in path models containing interactions. *Applied Psychological Measurement*, 12(2): 163-175.
- LAROCHE, M. & BRISOUX, J.E. (1989). Incorporating competition into consumer behavior models: the case of the attitude-intention relationship. *Journal of Economic Psychology*, 10(3): 343-362.
- LAROCHE, M.; KİM, C. & ZHOU, L. (1996). Brand familiarity and confidence as a determinant of purchase intention: an empirical test in a multiple brand context. *Journal of Business Research*, 37(2): 115-120.
- MCDONALD, C. (1991). Sponsorship and the image of the sponsor. *European Journal of Marketing*, 25(11): 31-38.
- MEENAGHAN, J.A. (1983). Commercial sponsorship. *European Journal of Marketing*, 17(7): 5-73.
- MEENAGHAN, T. (1991). The role of sponsorship in the marketing communications mix. *International Journal of Advertising*, 10(1): 35-47.
- MEENAGHAN, J.A. (1996). Ambush marketing - a treat to corporate sponsorship. *Sloan Management Review*, 38(1): 103-113.
- MEENAGHAN, T. & SHIPLEY, D. (1999). Media effect in commercial sponsorship. *European Journal of Marketing*, 33(3/4): 328-347.
- MEENAGHAN, T. (2001). Understanding sponsorship effects. *Psychology and Marketing*, 18(2): 95-122.
- MITCHELL, A.A. & OLSEN, J.C. (1981). Are product attribute beliefs the only mediator of advertising effects on brand attitude? *Journal of Marketing Research*, 18(3): 318-332.
- MITCHELL, D.J.; KAHN, B.E. & KNASKO, S.C. (1995). There's something in the air: effects of congruent or incongruent ambient odor on consumer decision making. *Journal of Consumer Research*, 22(2): 229-238.
- NICHOLLS, J.A.F. & ROSLOW, S. (1999). Brand recall and brand preference at sponsored golf and tennis tournaments. *European Journal of Marketing*, 33(3/4): 365-386.
- ÖZER, M. (2002). The role of flexibility in online business. *Business Horizons*, 45(1): 61-69.
- PARKER, K. (1991). Sponsorship: the research contribution. *European Journal of Marketing*, 25(11): 25-30.
- PHAM, M.T. & JOHAR, G.V. (2001). Market prominence biases in sponsor identification: processes and consequentiality. *Psychology and Marketing*, 18(2): 123-143.
- POPE, N. (1998). Overview of current sponsorship thought. *The Cyber-Journal of Sport Marketing*, 2(1): 1-7.
- POPE, N.K. & VOGES, K.E. (2000). The impact of sport sponsorship activities, corporate image, and prior use on consumer purchase intention. *Sports Marketing Quarterly*, 9(2): 96-101.
- QUESTER, P. & FARRELLY, F. (1998). Brand association and memory decay effects of sponsorship: the case of the Australian formula one grand prix. *Journal of Product and Brand Management*, 7(6): 539-556.
- QUESTER, P.G. & THOMPSON, B. (2001). Advertising and promotion leverage on arts sponsorship effectiveness. *Journal of Advertising Research*, 41(1): 33-47.
- ROY, D.P. & CORNWELL, T.B. (2003). Brand equity's influence on responses to event sponsorship. *Journal of Product and Brand Management*, 12(6): 337-393.
- SHANKLIN, W.L. & KUZMA, J.R. (1992). Buying that sporting image. *Marketing Management*, 1(2): 59-67.
- SHAW, S. & AMIS, J. (2001). Image and investment: sponsorship and women's sports. *Journal of Sport Management*, 15(3): 219-246.
- SHIMP, T.A. (1981). Attitude toward the ad as a mediator of consumer brand choice. *Journal of Advertising*, 10(2): 9-15.
- SHIMP, T.A. (1991). "Neo-Pavlovian conditioning and its implications for consumer theory and

- research.” In T.S. Robertson & H.H. Kassarian (Eds.). *Handbook of consumer behaviour* (162-187). Englewood Cliffs, NJ: Prentice Hall.
- SIMMONS, C.J. & BECKER-OLSEN, K.L. (2006). Achieving marketing objectives through social sponsorships. *Journal of Marketing*, 70(October): 154-169.
- SPEED, R. & THOMPSON, P. (2000). Determinants of sports sponsorship response. *Journal of the Academy of Marketing Science*, 28(2): 226-238.
- STIPP, H. & SCHIAVONE, N.P. (1996). Modeling the impact of Olympic sponsorship on corporate image. *Journal of Advertising Research*, 36(4): 22-28.
- STOTLAR, D.K. (2001). *Developing successful sport sponsorship plans*. Morgantown, WV: Fitness Information Technologies.
- STUART, E.W.; SHIMP, T.A. & ENGLE, R.W. (1987). Classical conditioning of consumer attitudes: four experiments in an advertising context. *Journal of Consumer Research*, 14(3): 334-349.
- THEBERGE, N. (1991). A content analysis of print media coverage of gender, women and physical activity. *Journal of Applied Sport Psychology*, 3(1): 36-48.
- THWAITES, D. (1994). Corporate sponsorship by the financial services industry. *Journal of Marketing Management*, 10(8): 743-763.
- THWAITES, D. (1995). Professional football sponsorship-profitable or profligate? *International Journal of Advertising*, 14(2): 149-164.
- WALLISER, B. (2003). An international review of sponsorship research: extension and update. *International Journal of Advertising*, 22(1): 5-40.

Dr. S. Alay: Department of Sport Management, School of Physical Education and Sports, Gazi University, Abant Sok., No:12, 06330 Gazi Mah./ Ankara, Turkiye. Tel.: +90 312 202 35 87 (work), Fax.: +90 312 212 22 74, E-mail: salay@gazi.edu.tr / alaysema@yahoo.com

(Subject editor: Prof. W. Hollander)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 31-38.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 31-38.
ISSN: 0379-9069

ACUTE GH AND IGF-I RESPONSES TO SHORT VS. LONG REST PERIOD BETWEEN SETS DURING FORCED REPETITIONS RESISTANCE TRAINING SYSTEM

Saeed Sadeqi BOROUJERDI & Rahman RAHIMI

Department of Physical Education and Sport Science, University of Kurdistan, Sanandaj, Iran

ABSTRACT

In order to examine the effects of different rest intervals between the sets on acute growth hormone (GH) and insulin-like growth factor-1 (IGF-I) responses, ten recreationally resistance trained men served as subjects (Mean \pm SD, age=22 \pm 2 years, body mass= 84 \pm 8 kg). Subjects performed two heavy-resistance training protocols that were similar with regard to the total volume of work (sets \times reps \times loads), but differed with regard the length of rest between sets (1vs.3-minutes). Both protocols included 5 sets of 10 RM bench press and squat that performed on two randomized separate sessions. Blood samples were collected before, immediately after and 1-hour after the protocols for determination GH, IGF-I and blood lactate concentration. Postexercise values for lactate and GH were significantly ($P \leq 0.05$) elevated above preexercise, but did not for IGF-1 concentrations. However, IGF-1 serum concentrations were significantly ($P \leq 0.05$) increased during 1-hour post-exercise. Postexercise serum GH and blood lactate concentrations were significantly ($P \leq 0.05$) higher in SR than LR protocol, but IGF-1 did not change. These data suggest that the duration of the rest interval between sets of dynamic resistance exercise influence GH serum concentration, it must be noted that short rest period between sets induced greater acute GH responses than the long rest period. Given that GH concentration is an anabolic hormone, this finding may have implications regarding hypertrophy in resistance training.

Key words: Growth hormone; Insulin-like growth factor-1; Resistance training; Rest between sets.

INTRODUCTION

Resistance training (RT) is a powerful stimulus for acute increase in the concentration of anabolic hormone in young men. These responses are highly dependent on the resistance training variables such as number of set and repetition per set, rest interval between sets, training intensity and muscle mass involved (Hakkinen & Pakarinen 1993; Banes *et al.* 1995).

In order to overload the muscle progressively, the training intensity should be increased periodically. In RT program the intensity can be modified by training variables and training systems. There are many training systems such as forced repetition system that defined by Fleck and Kraemer (1997). Forced repetitions are special RT systems, which strength athletes, especially bodybuilders, use to increase training intensity.

It means that, after a set has been performed to exhaustion, training partners will assist by lifting or pushing the load just enough to allow the trainee to complete three to four additional

repetitions. This system forces the muscle to continue to produce force when it is extremely fatigued. It is necessary to achieve the failure (momentary muscle fatigue) during resistance training sets to gain maximally muscle mass and strength (Baechle & Earle, 1994). In addition, length of rest between sets is another factor that can be modified to change intensity.

It has been well known that the stress of heavy-resistance exercise has a potent effect for both strength development and muscle fiber hypertrophy. This may be due, at least in part, to exercise induced acute increase in serum anabolic hormone (Kraemer *et al.*, 1999). According to the previous study by Ahtiainen *et al.* (2003) the acute growth hormone and cortisol response in heavy-resistance exercise was greater in forced repetitions system compared with maximum repetition system. In addition, Kraemer *et al.* (1999) found that the acute endocrine response to heavy RT was greater in 10RM sets with shorter compared with longer rest periods between sets (1 vs. 3-minute).

In addition, some of the effects of growth hormone are mediated through small polypeptide called insulin-like growth factor-1 (IGF-1) or somatomedins. IGF-I is a 70-amino acid polypeptide that plays an important role in tissue anabolism by causing cell hypertrophy (Banes *et al.*, 1995; Abrahamsson, 1997). IGF-I response to either acute or chronic physical activity remains unclear (Kraemer & Ratamess, 2005). Based on several studies done in healthy young adults, there is an increase in circulating IGF-I in response to different types of exercise, either aerobic, resistance or heavy ergometer cycling (Cappon, 1994; Kraemer *et al.*, 1991 & 2004; Rubin *et al.*, 2005). However, most studies dealing with the acute response of IGF-I to resistance exercise have shown no change in serum IGF-I level (Chandler *et al.*, 1994, Kraemer *et al.*, 1995).

The discrepancies between these studies may in part result from differences in the volume and intensity of training, dependent variable selection, the pretraining physical fitness status, and muscle groups tested. Resistance training is characterized by exposing subjects to a very high degree of sudden strenuous all-out exercise. Little data are available on changes in the levels of IGF-I and GH following heavy RT in healthy young subjects. Furthermore, the effect of rest between sets on these responses has not been studied yet. We hypothesized that shorter rest would manifest greater alterations in serum IGF-I and GH levels following the forced repetitions RT system, than the longer rest intervals between sets. In addition, the majority of studies only evaluate GH as acute hormonal response to RT programs without considered IGF-I response. Therefore, the purpose of this study was to assess IGF-I and GH responses to different rest intervals between sets during resistance training in male athletes.

METHOD

The experimental approach to the problem

The acute hormonal responses of two resistance training protocols differing by rest periods between the sets (1 vs. 3-minutes) were studied with 10 recreationally strength-trained men. Both loading protocols were performed in forced repetitions system and expected to lead to large acute hormonal responses. According to the previous studies (Ahtiainen *et al.*, 2003:5), we hypothesized that when using short rest periods between the sets in forced repetitions system, the endocrine response should be larger along with a greater metabolic stress (i.e., lactic acid) than that of long rest periods between the sets.

Subjects

Ten recreationally strength-trained men (Mean \pm SD, age=22 \pm 2 years, body mass=84 \pm 8 kg) volunteered as subjects. Each subject had at least two years recreational experience with resistance training but none were competitive strength athletes. No medication was taken by the subjects, which would have been expected to affect physical performance. Complete advice about possible risks and discomfort was given to the subjects, and all of them give their written informed consent to participate. The study was approved by the Ethics Committee for human experiments, department of physical education and sport science, University of Kurdistan.

Strength testing

Lower and upper body maximal strength was assessed by using 10RM actions. Warm-up consisted of a set of five repetitions at the loads of 40-50 % of the perceived maximum. In the half squat (10 RM^{HS}), the shoulders were in contact with a bar, and the starting knee angle was 90°. On command, the subject performed a concentric extension (as fast as possible) of the leg muscles starting from the flexed position to reach the full extension of 180° against the resistance. The trunk was kept as straight as possible. A security belt was used by all subjects. All of the tests were performed in a squatting apparatus in which the barbell was attached to both ends, with linear bearings on two vertical bars allowing only vertical movements. During the bench press test, the subject was instructed to perform from the starting position a purely concentric action maintaining the shoulders in a 90° abducted position to ensure consistency of the shoulder and elbow joints throughout the testing movement. During 10RM tests, if fewer than nine repetitions or more than 11 repetitions were completed, a second trial was performed with the load adjusted accordingly. 10RM was determined to serve as reference point in setting the load used in both protocols.

Experimental Design

Familiarization session. The subjects were familiarized with the experimental testing procedures during a control day about one week before the actual measurements. Resistance-load verification for the experimental bench press and half squat exercises were also determined. During the control day, three blood samples were obtained from each subject. One blood sample was drawn in the morning after 12 hours of fasting and approximately eight hours of sleep for determination of basal serum hormone concentration. Two blood samples were also drawn within ½ hour without exercise at the same time of day that each subject would later under tack his heavy-resistance loading protocols of normal diurnal variation of serum hormone concentration. The experimental design comprised two forced repetitions resistance protocols within one week, (a) forced repetitions protocol with short rest (SR) period (1-minutes) and (b) forced repetitions protocol with long rest (LR) period (3-min) (randomly assigned). SR protocol included 4 sets of 10RM bench press and squat with a 1-min recovery between the sets and 4-min recovery between the exercises. LR protocol was the same as in SR, but the rest period between the sets was 3-min. training load in both protocols was set approximately 15% higher than 10 repetition maximum so that the subjects could not

perform 10 repetitions without assistance and would require assistance during the last three to four repetitions. The assistant was the same person in both protocols.

Blood collection and analysis

During the loading session, blood samples were obtained via venipuncture from an antecubital vein by using a 20-gauge needle and Vacutainers for the determination of serum GH, IGF-I and blood lactate concentrations before, immediately after (post), and 1-hour after (1-h post) the training protocols. Concentrations of GH were measured using radioimmunoassay kits from Pharmacia Diagnostics (Uppsala, Sweden). The sensitivity of the GH assay was 0.2 µg/L.

Serum IGF-I was measured by enzyme-linked immunosorbent assay kit (Diagnostic Systems Laboratories, Inc., Webster, TX) according to the manufacturer's procedures. All samples were assayed in duplicate and were decoded only after analyses were completed (i.e., blinded analysis procedure). The sensitivity of the IGF-I assay was 0.0013 nmol/l. Intra-assay coefficients of variation for GH and IGF-I were 5% and 6%, respectively. A total two blood samples (before and after the protocols) were drawn and placed into a YSI lactate Analyzer (Yellow Springs, OH).

Statistical analyses

Data are expressed as Mean ± SD. Statistical evaluation was performed with SPSS 12.0 for windows and two ways analysis of variance (ANOVA) with Bonferroni's post hoc test were used to compare blood samples for the different programs. Statistical analysis compared the blood samples for each sequence against resting. The P ≤ 0.05 criterion was used for establishing statistical significance.

RESULTS

Significant differences (P ≤ 0.05) were observed in mean blood lactate from pre- to post-exercise within and between each protocols (Table 1). No significant changes were observed in serum concentrations between the two control blood samples drawn within ½ hour without exercise during the control day. Serum GH concentrations increased after the SR and LR protocols from 0.98 ± 0.44 µg/L up to 26.52 ± 2.01 µg/L (P ≤ 0.001) and from 1.06 ± 0.44 µg/L up to 22.91 ± 1.64 µg/L (P ≤ 0.001), respectively (Table 1). Also, the relative changes in GH concentrations were greater (P ≤ 0.01) in SR than LR protocol. No significant changes in serum IGF-I concentrations were observed from pre- to post-exercise. However, significant increases (P ≤ 0.05) were observed in serum IGF-1 concentrations from pre- to 1-hour post-exercise within each group but not between protocols (Table 1).

TABLE 1. HORMONAL CONCENTRATIONS (MEAN ± SD) IN PRE-, POST-, AND 1-HOUR POST-EXERCISE PROTOCOLS

	Group	PRE	POST	1H- POST
IGF-I (nmol/l)	SR	25.12 ± 1.88	30.75 ± 3.91	48.25 ± 3.61*
	LR	25.75 ± 3.77	32.00 ± 3.45	42.37 ± 15.72*
GH (µg/l)	SR	0.98 ± 0.44	26.52 ± 2.01**†	3.60 ± 0.12*

	LR	1.06 ± 0.44	22.91 ± 1.64 ^{*†}	2.15 ± 0.58 [*]
Lactate (mmol/l)	SR	1.24 ± 0.34	14.5 ± 1.25 ^{*†}	
	LR	1.32 ± 0.5	9.70 ± 0.85 ^{*†}	

(SR: Short rest period between the set protocol, LR: Long rest period between the set protocol)

* Significant differences to Pre-test

† Significant differences between Post-exercise in Short- and Long-rest protocol

DISCUSSION

Exercise in humans is a well-known provocative stimulus for GH release, which is well known for its anabolic activity, and many researches (Ahtiainen *et al.*, 2003: 5; Hakkinen & Pakarinen, 1993; Kraemer *et al.*, 1987) have been shown that heavy RT-induced increased secretion of GH, which may be important for the process of training-induced muscle hypertrophy (Kraemer *et al.*, 1999). The present study was, to our knowledge, the first one to examine the exercise and recovery profiles on acute GH and IGF-I responses when the exercise regimen included different rest intervals between the sets in forced repetitions method of RT. *Forced repetitions* are a special RT system, which is used to increase the intensity of training; as well as rest intervals between sets is another factor that can be modified to change intensity of training (Ahtiainen *et al.*, 2003: 5; Kraemer *et al.*, 1999).

Although the actual effects of circulating GH on muscular adaptation are poorly understood, McCall *et al.* (1999) and Hakkinen *et al.* (2001) have reported that acute changes in GH are positively correlated with the muscle fiber cross sectional area and muscular strength after a prolonged training. These studies suggest that exercise induce-increase in blood GH concentration plays, in part, a role in muscular adaptation to resistance exercise. Although several studies (Ahtiainen *et al.*, 2003; Hakkinen & Pakarinen, 1993; Kraemer *et al.*, 1999) have defined reasonably well the relationship between intensity and or type of exercise and the concentrations of GH in circulation, relatively little is known about the effects of different rest intervals between the sets in forced repetitions resistance training system on GH and IGF-I.

According to the Kraemer *et al.* (1995), protocols using three sets of 10RM resistance with 1-minute recovery between sets significantly enhanced GH secretion and blood lactate concentrations. Our result showed that the GH and blood lactate were increased by both protocols, which was consistent with results of Kraemer *et al.* (1995).

In the present study, the concentration of GH was significantly increased by short rest (SR) protocol to long rest (LR) protocol. This suggest that short rest period between sets (1-minute) during forced repetitions resistance training system was practically important for enhancement

GH secretion, which was consistent with the results of Kraemer *et al.* (1990: 1), regimens using moderate exercise intensity, moderate repetitions and short rest periods between the sets (1-min) considerably enhanced GH secretion, whereas those using higher intensity, lower repetitions (5RM) and longer rest periods between the sets (3-min) do not. The reason for this was unclear, but this may be related to greater acidity that produced by SR protocol (1-min rest). Increasing muscle acidity stimulates mechanoreceptors and sends afferent feedback to the central nervous system and hypothalamus leading to an increased secretion of GH (Gosselink, 1998). This is supported by the present study showing that serum GH concentration correlated with blood lactate concentrations in both training protocols, which is

in agreements with the findings of Ahtianin *et al.* (2003).

Growth factors, including IGF-I are known to be mediators of satellite cell activation, increased protein synthesis, decreased protein degradation, hyperplasia, and myofibril hypertrophy during muscle growth and development (Jennische, 1987). The response of IGF-I to acute RT is less clear. In the present study, although postexercise values of IGF-1 during two protocols increased but IGF-1 concentration changes immediately after protocols were not significant ($P \geq 0.05$), which was consistent with the results of Kraemer *et al.* (1995).

However, IGF-1 concentrations increased significantly during 1-hour postexercise, but did not significantly differ between trails of different rest interval duration. Thus, these data demonstrated that a higher-intensity bout of heavy-resistance exercise that increases circulating GH appeared to affect IGF-1 concentrations over recovery period (1-hour post exercise) in recreationally strength-trained and healthy young men.

There are few limitations of this study that warrant discussion. First, these findings are related to few numbers of anabolic hormones. Further investigations are necessary to determine more anabolic hormones. Additionally, our findings are specific to healthy strength trained men. Further investigations are necessary to determine if these findings are generalizable to other populations.

In conclusion, our data suggest that the duration of the rest interval between sets of dynamic resistance exercise influence GH serum concentration, it must be noted that short rest period between sets induced greater acute GH responses than the long rest period. Given that GH concentration is an anabolic hormone, this finding may have implications regarding hypertrophy in resistance training.

ACKNOWLEDGMENT

This study was supported in part by a grant from the Department of Physical Education and Sport Science, University of Kurdistan, Iran.

REFERENCES

- ABRAHAMSSON, S.O. (1997). Similar effects of recombinant human insulin-like growth factor-I and II on cellular activities in flexor tendons of young rabbits: experimental studies in vitro. *Journal Orthopedic Research*, 15: 256-262.
- AHTIAINEN, J.P.; PAKARINEN, A.; ALEN, M.; KRAEMER, W.J. & HAKKINEN, K. (2003). Acute hormonal and neuromuscular responses and recovery to forced vs. maximum repetitions multiple resistance exercises. *International Journal Sports Medicine*, 24: 410-418.
- AHTIAINEN, J.P.; PAKARINEN, A.; ALEN, M.; KRAEMER, W.J. & HAKKINEN, K. (2005). Short vs. long rest period between the sets in hypertrophic resistance training: Influence on muscle strength, size, and hormonal adaptations in trained men. *Journal of Strength and Conditioning Research*, 19(3): 572-582.
- BAECHLE, T.R. & EARLE, R. (1994). *Essentials of strength training and conditioning* (2nd ed.). Champaign, IL: Human Kinetics.
- BANES, A.J.; TSUZAKI, M.; HU, P.; BRIGMAN, B.; BROWN, T.; ALMEKINDER, L.; LAWRENCE, W.T. & FISHER, T. (1995). PDGF-BB, IGF-I and mechanical load stimulate DNA synthesis in avian tendon fibroblast in vitro. *Journal of Biogeochemistry*, 28: 1505-1513.
- CAPPON, J.; BRASEL, J.A.; MOHAN, S. & COOPER, D.M. (1994). Effect of brief exercise on circulating insulin-like growth factor-I. *Journal of Applied Physiology*, 76: 1418-1422.

- CHANDLER, R.M.; BYRNE, H.K.; PATTERSON, J.G. & IVY, J.L. (1994). Dietary supplements affect the anabolic hormones after weight-training exercise. *Journal Applied Physiology*, 76: 839-845.
- FLECK, S.J. & KRAEMER, W.J. (1997). *Designing resistance training programs* (2nd ed.). Champaign, IL: Human Kinetics.
- GOSELINK, K.L.; GRINDELAND, R.E.; ROY, R.R.; ZHONG, H.; BIGBEE, A.J. & GROSSMAN, E.J. (1998). Growth hormone in the rat pituitary. *Journal of Applied Physiology* 84: 1425-1430.
- HAKKINEN, K. & PAKARINEN, A. (1993). Acute hormonal responses to two different fatiguing heavy-resistance protocols in male athletes. *Journal Applied Physiology*, 74: 882-887.
- HAKKINEN, K.; PAKARINEN, A.; KRAEMER, W.J.; HAKKINEN, A.; VALKEINEN, H. & ALEN, M. (2001). Selective muscle hypertrophy, changes in EMG and force, and serum hormones during strength training in older women. *Journal of Applied Physiology*, 91: 569-580.
- JENNISCHE, E. & HANSSON, H.A. (1987). Regenerating skeletal muscle cells express insulin-like growth factor I. *Acta Physiology Scandinavia*, 130: 327-332.
- KRAEMER, W.J.; NOBLE, B.J.; CLARK, M.J. & CULVER, B.W. (1987). Physiologic responses to heavy-resistance exercise with very short rest periods. *International Journal of Sports Medicine*, 8: 247-252.
- KRAEMER, W.J.; GORDON, S.E.; FLECK, S.J.; MARCHITELLI, L.J.; MELLO, R.; DZIADOS, J.E.; FRIEDL, K.; HARMAN, E.; MARESH, C. & FRY, A.C. (1991). Endogenous anabolic hormonal and growth factor responses to heavy resistance exercise in males and females. *International Journal of Sports Medicine*, 112: 228-235.
- KRAEMER, W.J.; AGUILERA, B.A.; TERADA, M.; NEWTON, R.U.; LYNCH, J.M.; ROSENDAAL, G.; McBRIDE, J.M.; GORDON, S.E. & HAKKINEN, K. (1995). Responses of IGF-I to endogenous increases in growth hormone after heavy-resistance exercise. *Journal of Applied Physiology*, 79: 1310-1311.
- KRAEMER, W.J.; HAKKINEN, K.; NEWTON, R.U.; NINDL, B.C.; VOLEK, J.S.; McCORMICK, M.; GOTSHALK, L.A.; GORDON, S.E.; FLECK, S.J.; CAMPBELL, W.W.; PUTUKIAN, M. & EVANS, W.J. (1999). Effects of heavy-resistance training on hormonal response patterns in younger vs. older men. *Journal of Applied Physiology*, 87: 982-992.
- KRAEMER, R.R.; DURAND, R.J.; ACEVEDO, E.O.; JOHNSON, L.G.; KRAEMER, G.R.; HEBERT, E.P. & CASTRACANE, V.D. (2004). Rigorous running increases growth hormone and insulin-like growth factor-I without altering ghrelin. *Experimental Biology and Medicine*, 229: 240-246.
- KRAEMER, W.J. & RATAMESS, N.A. (2005). Hormonal responses and adaptations to resistance exercise and training. *Sports Medicine*, 335: 339-361.
- McCALL, G.E.; BYRNES, W.C.; FLECK, S.J.; DICKINSON, A. & KRAEMER, W.J. (1999). Acute and chronic hormonal responses to resistance training designed to promote muscle hypertrophy. *Canadian Journal of Applied Physiology*, 24: 96-107.
- RUBIN, M.R.; KRAEMER, W.J.; MARESH, C.M.; VOLEK, J.S.; RATAMESS, N.A.; VANHEEST, J.L.; SILVESTRE, R.; FRENCH, D.N.; SHARMAN, M.J.; JUDELSON, D.A.; GOMEZ, A.L.; VESCOVI, J.D. & HYMER, W.C. (2005). High-affinity growth hormone binding protein and acute heavy resistance exercise. *Medicine Science in Sports and Exercise*, 337: 395-403.

Dr. Saeed Sadeghi Boroujerdi: Department of Physical Education and Sport Science, Kurdistan University, Sanandaj, Iran. Tel: + 98 918 371 40 15, E-mail: sboroujerdi@yahoo.com

(Subject editor: Dr. C. Smith)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 39-51.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 39-51.
ISSN: 0379-9069

THE MOTOR DEVELOPMENT OF 2 TO 6-YEAR OLD CHILDREN INFECTED WITH HIV

Jo-Anne E. BOTHA & Anita E. PIENAAR

*School of Biokinetics, Recreation and Sport Science, North-West University, Potchefstroom,
Republic of South Africa*

ABSTRACT

The aim of the study was to determine the motor development of 2 to 6-year old children (53.74 months, sd 12.49) who were infected (Group 1, n = 17) with HIV and to compare their development with an affected (Group 2, n = 13) and unaffected group (Group 3, n = 12). The motor development of the group was determined by the Peabody Developmental Motor Scales (PDMS-2). Variance of analysis (ANOVA) revealed that the developmental level of the HIV-infected group varied between 45 and 51 months, compared to their mean chronological age of 57 months, and that they performed the poorest of the groups in all the variables regarding gross motor, fine motor and total motor ability. Their total motor ability differed significantly from that of the healthy group, while their gross motor skills showed larger deficits

compared to their fine motor development. A forward discriminant analysis further indicated that loco-motor skills contributed most to the discrimination between the groups. It is concluded that the infected group exhibits serious motor deficiencies in contrast to healthy children of the same chronological age. These results highlight the necessity of motor intervention for HIV-infected children, focussing on gross motor skills to improve their motor development and quality of life.

Key words: HIV; AIDS; Children; Pediatrics; Development; Motor development; Intervention.

INTRODUCTION

Statistics indicate that worldwide an estimated 38.6 million (33.4 million – 46 million) people were living with the Human Immunodeficiency Virus (HIV) in 2005 (UNAIDS, 2006), an estimated 4.1 million (3.2 million – 6.4 million) became newly infected and 2.8 million (2.4 million – 3.3 million) lost their lives to the Acquired Immune Deficiency Syndrome (AIDS) (UNAIDS, 2006). In South Africa 5 511 751 people are HIV positive according to statistics (Health Systems Trust, 2007) and the estimated HIV prevalence for the total population is 11.4%. In women (age group 20-24 and 25-29) the prevalence increased from 2002 to 2005 respectively from 29.1 – 30.6% and from 34.5 – 39.5% (Department of Health, 2006). This increase in HIV prevalence in woman (child-bearing age) indicates difficulties for the children of South Africa (Wolters *et al.*, 1995; Thorne & Newell, 2000; Loening-Voysey, 2002). Statistics regarding children indicate that 2.1 million children under the age of 15 are infected with HIV worldwide (UNAIDS, 2004; Children on the Brink, 2004). By 2003, 510 000 children younger than 15 years had already died as a result of AIDS (UNAIDS, 2004). This growing HIV/AIDS epidemic has far reaching consequences for children who are affected by it (Children on the Brink, 2004). In South Africa, more than 1 201 675 children under the age of 18 are maternal orphans due to this disease (Health Systems Trust, 2007). The number of

orphans in Sub-Saharan Africa has increased from 1 million in 1990 to 12 million in 2003, while the projection for 2010 is that this number will increase to 18 million children (Children on the Brink, 2004).

The AIDS-pandemic in Sub-Saharan Africa is the most solemn risk for children's survival and health to date (Bicego *et al.*, 2003). In children, HIV is characterised by a variety of developmental deficiencies. Researchers indicate that children with HIV exhibit neuro-developmental, cognitive, motor and nutritional deficiencies (Wolters *et al.*, 1995; Msellati *et al.*, 1993; Davis-McFarland, 2000; Blanchette *et al.*, 2001; Wachsler-Felder & Golden, 2002) as well as changes in their immune and central nervous system (Lindsey *et al.*, 2000). The incidence of neurological deficiencies in HIV children is estimated to be between 30–90% (Bode & Rudin, 1995). HIV is also associated with encephalopathy, a condition characterized by a decline in brain growth, resulting in poorer cognitive, neuro and motor development (Epstein, 1986; Mitchell, 2001; Rosenfeldt *et al.*, 2000). Research reports that motor deficiencies are already apparent during the first three months of an infected baby's life (Gay *et al.*, 1995). This loss of motor developmental milestones is evident in progressive motor deficiencies, which in time worsen, as the children are required to perform increasingly more complex and integrated tasks (Blanchette *et al.*, 2001; Gay *et al.*, 1995). This can result in deficiencies regarding balance, gait, perceptual-motor skills and muscle functioning (Brouwers *et al.*, 1994; Jay & Dalakas, 1994). In this regard research confirms statistically significant differences pertaining to cognitive and motor development of children infected with HIV compared to those of healthy children (Blanchette *et al.*, 2001).

The central nervous system of HIV children is influenced to a larger extent than the peripheral nervous system, which is influenced more in adults (Davis-McFarland, 2000). This causes the virus to be more prominent in the developing nervous system of a child, which, in turn, results in the deficiencies in developmental milestones (Davis-McFarland, 2000; Blanchette *et al.*, 2001; Wachslar-Felder & Golden, 2002). Motor developmental deficiencies are mainly the result of gross motor deficiencies rather than of fine motor deficiencies (Msellati *et al.*, 1993; Parks & Danoff, 1999). This conclusion is attributed to the fact that gross motor skills require the use of large-muscle groups and physical effort, whereas fine motor skills require less strength (Parks & Danoff, 1999). HIV is associated with exhaustion and a decline in physical functioning, which restrict the person in performing life-sustaining activities (Crystal *et al.*, 2000; Keyser *et al.*, 2000; Cade *et al.*, 2004; Storm *et al.*, 2005). Research reveals that 50% of HIV infected children's physical functioning is restricted and that 58% have one or more restriction concerning school activities (Storm *et al.*, 2005). A loss of muscle mass contributing to a decrease in strength and functionality is also reported (Grinspoon & Mulligan, 2003).

Although South Africa is one of the countries in the world with the highest HIV/AIDS prevalence, access to antiretroviral treatment is limited (Abdool, 2004). Research is therefore essential for the development of alternative intervention methods to enhance the quality of life of children with HIV. The aim of this study was firstly to determine the level of gross motor and fine motor development of 2 to 6-year old children affected by and infected with HIV, and to compare it with children not affected by this disease. Secondly the researchers wanted to determine which of the variables (stationary, loco-motor skills, object manipulation skills, grasping and visual motor integration) contribute most to the overall motor development

profile of the child as this can be valuable information when compiling motor intervention programmes for such children.

METHODOLOGY

Research design

A three-group cross-sectional research design was used to analyse the results of a convenient sample of 42 children classified as infected with HIV, affected and unaffected by HIV.

Participants

The HIV-infected group (Group 1) and HIV-affected group (Group 2) were selected at a Hospice day care centre for HIV-infected and affected children in Potchefstroom (South Africa) according to availability. Children are only allowed entrance to this day care centre if proof of their HIV status can be furnished, while medical clinics also refer HIV positive children to this day care facility. The affected children (HIV negative status, Group 2), are allowed access to the day care centre solely on the proviso that a death certificate of one of or both the parents is provided which states that the death was as a result of an AIDS-related disease such as tuberculosis, pneumonia and cardiac failure. A control group (Group 3) of children who were not infected with or affected by HIV was compiled from the Klerksdorp area near Potchefstroom. The control groups (Groups 2 and 3) were also selected on the basis of their age, sex, race and socio-economic status being similar to those of the experimental group. The HIV-status of the children was determined using the FIRST RESPONSE HIV CARD TEST 1-2.O. The test is an immunochromatographic (rapid) test for the qualitative

detection of all isotypes (IgG, IgM, IgA) specific to HIV-1 including subtype O and HIV-1 in human serum, plasma or whole blood. In a comparison of the FIRST RESPONSE HIV CARD TEST 1-2.O test versus a leading commercial anti-HIV1&2 ELISA and Rapid test, results gave a sensitivity of 100% (120/120), a specificity of 99.18% (121/122) and a total agreement of 99.59% (241/242). Due to only three laboratories processing PCR testing in South Africa, 22% of the total capacity required, rapid tests are used (Meyers *et al.*, 2006). The total group consisted of 42 children with a mean age of 53.74 months (sd 12.49). The HIV-infected group (Group 1) consisted of 17 children with a mean age of 57.41 months (sd 10.57), of which 12 were boys (60.58 months, sd 9.05) and five were girls (49.80 months, sd 10.89). The affected group (Group 2) consisted of 13 children with a mean age of 49.39 months (sd 12.96), of which eight were boys (51 months; sd 13.71) and five were girls (46.80 months; sd 12.70). The children from both these groups were transported to and from the school with a bus belonging to the school on a daily basis. The socio-economic circumstances of the group was considered low, because their living conditions were characterised by poor sanitary conditions and housing. Although a dietician did not compile the diet, they were part of a feeding scheme. This consisted of maize porridge, morvite or soya porridge for breakfast and a fruit for a snack during the course of the morning. Cooked lunches consisted of meat, rice and vegetables with a peanut butter or jam sandwich and at 15:00 and a cold drink before going home. The children were also supplied with morvite over the weekends when the school is closed. The unaffected (Group 3) consisted of 12 children with a mean age of 53.25 (sd 13.86) of which six were boys (59 months; sd 13.73) and six were girls (47.50; sd 12.44). This group consisted of children from similar socio-economic circumstances who were not infected with or affected by HIV. These children were all enrolled in a day care centre, although no feeding

scheme was available at the centre. The method of pairing was used to even the groups regarding age, sex and race.

Measuring instruments

Peabody Developmental Motor Scales - second edition (PDMS-2)

The PDMS-2 (Folio & Fewell, 2000) consists of six subtests, which measure interdependent abilities during early motor development. It was developed to measure gross and fine motor skills in children from birth to 71 months of age. The subtests consist of reflexes, stationary, loco-motor skills, object manipulation skills, grasping and visual motor integration. The totals of the subtests are presented in a raw score, a percentile, age equivalents, as well as a standard score. The test developers (Folio & Fewell, 2000) contend that the standard score gives the best indication of an individual's progress in the subtests, and suggest that this score be used to compare the subtests with one another. These subtests contribute to a gross motor total [reflex (only 0-12 months), stationary, loco-motor skills and object manipulation skills], a fine motor total (grasping and visual motor integration) and an overall motor total. The gross motor total, the fine motor total as well as the motor total are expressed in percentiles as well as quotients. The quotients are seen as the most reliable values for the PDMS-2 (Folio & Fewell, 2000), because they integrate the various subtests, are not reliant on a single subtest and display the child's abilities with regard to gross motor, fine motor as well as total motor abilities. The grading of motor development is represented as follows: (1) Very poor; (2) Poor; (3) Below average; (4) Average; (5) Above average; (6) Excellent; (7) Superior. The PDMS-2 has been tested as a reliable and valid measuring instrument (Folio & Fewell, 2000). The test-retest-reliability coefficient is >0.90, while the internal validity varies between 0.90 and 0.96. The content validity of the PDMS-2 is determined by the skills, which are measured and is corroborated by knowledge of motor development, which is already available. Folio and

Fewell (2000) indicated that the test battery is suitable for use with any race, sex or ethnicity.

Procedure

The North-West University provided ethical approval for conducting the study (nr. 06M02). The director of the Hospice Day Care Centre gave permission and the parents/guardians had to complete informed consent forms before the child was included in the study. The HIV status of each child was determined by the clinics responsible for their health. The research was done at the day care centres during school hours. Trained translators were used to ensure that the children understood the instructions.

Statistical procedure

The data was analysed using Statistica for Windows (Statsoft, 2006) as well as SAS software (SAS, 2000-2003). Descriptive statistics were used to determine means (M), standard deviations (sd) and maximum and minimum values. A One-way variance of analysis was used to analyse the differences between the groups. A statistical equation [$n=(1.96)^2(6.52)^2/(3.75)^2$] (Steyn *et al.*, 1998), based on relevant results (Ernst, 2004), determined that each of the groups should consist of at least 11.6 ($n=12$) children in order for the results to have statistical power. Practical significance of differences (ES) between groups was calculated by dividing the mean difference (M) by the largest standard deviation (sd) (Cohen, 1988; Steyn, 1999). The following guidelines for interpreting the practical significance were set, namely ES=0.2

(small effect), ES=0.5 (medium effect) and ES=0.8 (large effect) (Cohen, 1988). Due to the number of subjects for this study, it was considered practically significant if the effect size indicated a medium or large effect. A histogram analysis was done to analyse the normality distribution of the different groups. A forward stepwise discriminant analysis was performed by way of SAS to determine which variables (subtests) could best discriminate between the groups, and a classification matrix was compiled from the same data to evaluate the accuracy of the prediction. Subsequently the SAS programme was used to analyse the cross validity of the discriminant function by making use of the Jack-knife method. The striking rate of the discriminant analysis was also analysed (Huberty, 1994), according to which the practical significance of the method was calculated, and a value of 0.2 indicated a large practical effect.

RESULTS

Table 1 displays a comparison between the mean chronological and developmental ages of the three groups, while Table 2 provides descriptive information of the groups with regard to their mean values of the PDMS-2. Table 3 represents significant intergroup differences regarding the PDMS-2 variables.

TABLE 1. THE CHRONOLOGICAL AGE OF THE GROUPS IN RELATION TO THEIR DEVELOPMENTAL AGE IN VARIOUS SUBTESTS

	Group 1 (n=17)			Group 2 (n=13)			Group 3 (n=12)		
	ChronA	DevA	Diff	ChronA	DevA	Diff	ChronA	DevA	Diff
Gross motor	M	M		M	M		M	M	
Stationary	57	45	-12	49	45	-4	53	56	+3
Loco-motor	57	46	-11	49	46	-3	53	56	+3
Object manipulation	57	51	-6	49	49	0	53	58	+5

Fine motor									
Grasping	57	48	-9	49	53	+4	53	53	0
Visual motor integration	57	50	-7	49	43	-6	53	55	+2

ChronA = Chronological age; DevA = Developmental age, Diff = Difference between chronological and developmental age; M= mean; n = number of subjects

Table 1 indicates that the infected group (Group 1) had the highest mean chronological age (57 months) of the three groups, although the age differences between the groups were not statistically significant. They exhibited the lowest developmental level (45-51 months) of the three groups in the various subtests. It is apparent that Group 1 fared the worse of the three groups in all the subtests compared to their chronological age [stationary (12 months), grasping (9 months) and loco-motor skills (11 months)]. Table 1 further indicates that the chronological age of Group 2 (49 months) is lower than their developmental age in three of the five subtests, one was similar and one was higher. Visual motor integration is the lowest in the group (6 months), although they fared better than their chronological age in grasping. Object manipulation was at the same level as their chronological age. Table 1 also reveals that the developmental age of Group 3 exceeds their chronological age (53 months) in all the subtests (0-5 months).

TABLE 2. DESCRIPTIVE STATISTICS OF THE MOTOR AND PHYSICAL DEVELOPMENT OF THE GROUPS

Variables	Group 1				Group 2				Group 3			
	n	M	sd	Min Max	n	M	sd	Min Max	n	M	sd	Min Max
Age	17	57.41	10.57	35 71	13	49.38	12.96	32 68	12	53.25	13.86	33 69
Gross motor												
Stationary SC	17	7.76	2.82	3 15	13	9.23	2.35	5 14	12	10.75	1.86	8 15
Stationary percentile	17	27.53	24.02	1 95	13	41.31	25.30	5 91	12	58.08	20.04	25 95
Stationary grading	17	3.47	1.18	1 6	13	3.92	0.76	2 5	12	4.17	0.58	4 6
Loco-motor SC	17	7.41	2.69	3 11	13	9.08	2.69	6 16	12	11.25	1.96	8 14
Loco-motor percentile	17	26.47	24.90	1 63	13	38.38	25.59	9 98	12	63.67	22.33	25 91
Loco-motor grading	17	3.12	0.93	1 4	13	3.92	0.76	3 6	12	4.42	0.51	4 5
Object manipulation SC	17	8.76	1.95	6 12	13	10.08	1.75	8 13	12	11.08	1.31	9 13
Object manipulation percentile	17	36.41	22.16	9 75	13	50.38	21.05	25 84	12	63.00	15.57	37 84
Object manipulation grading	17	3.65	0.49	3 4	13	4.23	0.44	4 5	12	4.17	0.39	4 5
Fine motor												
Grasping SC	17	8.59	2.74	1 13	13	11.00	2.42	6 15	12	10.25	2.83	6 16
Grasping percentile	17	43.53	25.34	5 102	13	61.00	25.31	9 95	12	51.67	29.03	9 98
Grasping grading	17	3.71	0.99	1 5	13	4.31	0.75	3 6	12	4.42	0.67	4 6
Visual motor SC	17	8.47	3.02	5 13	13	8.08	2.56	5 13	12	11.83	3.10	8 17
Visual motor percentile	17	35.59	31.57	5 84	13	30.77	26.39	5 84	12	65.50	29.55	25 99
Visual motor-grading	17	3.47	1.01	2 5	13	3.46	0.88	2 5	12	4.83	1.03	4 7
Gross motor percentile	17	25.06	22.43	1 84	13	41.77	21.32	10 84	12	65.33	18.99	23 90
Gross motor quotient	17	86.94	12.87	1 84	13	96.54	9.18	81 115	12	106.58	8.24	89 119
Gross motor grading	17	3.18	1.07	1 5	13	3.85	0.55	3 5	12	4.25	0.62	3 5
Fine motor percentile	17	42.29	31.44	8 102	13	44.23	28.66	5 95	12	60.83	31.86	16 97
Fine motor quotient	17	91.18	13.35	61 112	13	97.23	13.66	76 124	12	106.25	15.59	85 127
Fine motor grading	17	3.41	1.06	1 5	13	3.77	1.01	2 6	12	4.58	1.08	3 6

Total motor percentile	17 27.94 25.54	2 84	13 42.23 23.97	6 91	12 64.83 19.99	35 93
Total motor quotient	17 87.47 12.92	70 115	13 96.46 11.14	77 120	12 106.83 9.45	94 122
Total motor grading	17 3.23 1.03	2 5	13 3.69 0.75	2 5	12 4.50 0.79	4 6

n = subjects; M = mean; sd = standard deviation; Min = minimum value, Max = maximum value SC= standard score

An analysis of the standard scores obtained by Group 1 for all the subtests in the PDMS-2, as displayed in Table 2, indicates that the skills affected most in this group are stationary and loco-motor skills. The table further indicates that the norm percentiles of all the subtests of the group vary between 26 and 37.58. Gross motor, fine motor and total motor development falls respectively on the 25th, 36th and 27th percentile. The grading in the various subtests, as well as the gross motor, fine motor and total motor development indicates a below average development according to the chronological age of the group. The fine motor quotient grading indicates an average development (between 90 and 110 standard score), while the gross motor and total motor quotient indicate a below average (between 80 and 89) development.

Group 2 fared poorest in the visual motor integration, loco-motor and stationary skills when comparing the various groups. This group tested below average in the above-mentioned skills, while grasping and object manipulation tested average. Percentiles varied between 30 and 61 for the various subtests; while gross motor skills were on the 41st percentile, fine motor on the 44th percentile and the total motor development on the 42nd percentile. The grading of the motor quotient indicate that the development of this group was average (between 90 and 110) in gross motor, fine motor and total motor skills.

Table 2 indicates that Group 3 scored an average in the various subtests with percentiles ranging between 51 and 65 for the various subtests. They obtained almost the same standard scores in all the subtests (10.25-11.83) and as a result, fared average in all subtests. Gross motor skills of the group were on the 65th percentile, fine motor skills on the 60th percentile and total motor skills on the 64th percentile. The grading of the group for the various skills was average. This group exhibited average development (between 90 and 110) with regard to gross motor, fine motor as well as total motor quotient grading.

Table 3 displays significant intergroup differences in the different variables that were assessed. Statistically significant differences are indicated in the standard scores ($p < 0.05$) for stationary, loco-motor skills as well as object manipulation between Groups 1 and 3. These differences are also of high practical significance (ES of 1.06; 1.06 and 1.19 respectively). Similar statistically and practically significant differences were also found in the percentiles of the various subtests.

In the visual motor standard score, the differences between Groups 1 and 3 as well as 2 and 3 are statistically significant ($p < 0.05$), and the ES of both indicate a large practical significance. The visual motor standard score of Group 2 was the poorest of the three groups. Statistically significant differences are indicated between the gross motor percentile of Groups 1 and 3 as well as Groups 2 and 3. The ES between Groups 1 and 3 (1.80) indicates the largest practical significant difference in all the subtests. There is also a statistically significant difference in the total motor percentile between Groups 1 and 3 and it indicates a large practical significance (ES=1.44). A statistically significant difference also occurred between the gross motor and total motor quotients of Groups 1 and 3 ($p < 0.05$), while, likewise, a significant difference ($p < 0.01$) was found in the fine motor quotient.

A stepwise discriminant analysis was performed on the standard scores of the five subtests to determine which exhibited the largest discriminatory value between the three groups. A summary of this analysis is reported in Table 4, while Table 5 shows the classification matrix, which indicates whether the subjects are classified into the correct groups on the basis of the variables (subtests), which discriminate between the groups.

TABLE 3. SIGNIFICANT INTERGROUP DIFFERENCES WITH REGARD TO PDMS-2 VARIABLES

	Group 1	Group 2	Group 3	Group 1 and 2	ES	Group 1 and 3	ES	Group 2 and 3	ES
Gross motor	<i>M</i>	<i>M</i>	<i>M</i>	P		P		P	
Stationary SC	7.76	9.23	10.75	-	-	0.0128*	1.06	-	-
Stationary percentile	27.53	41.31	58.08	-	-	0.0076*	1.27	-	-
Loco-motor SC	7.41	9.08	11.25	-	-	0.0017*	1.42	-	-
Loco-motor percentile	26.47	38.39	63.67	-	-	0.0018*	1.49	0.0399*	0.99
Object manipulation SC	8.76	10.08	11.08	-	-	0.0062*	1.19	-	-
Object manipulation percentile	36.41	50.39	63			0.007*	1.2	-	-
Fine motor									
Grasping SC	8.59	11	10.25	0.05*	0.87	-	-	-	-
Grasping percentile	43.53	61	51.67	0.04*	0.68	-	-	-	-
Visual motor SC	8.47	8.08	11.83	-	-	0.0198*	1.08	0.0085*	1.21
Visual motor percentile	35.59	30.77	65.5	-	-	0.0448*	0.95	0.0171*	1.18
Gross motor percentile	25.06	41.77	65.33	-	-	0.0022*	1.80	0.0254*	1.11
Gross motor quotient	86.94	96.54	106.58	-	-	0.0003*	1.52	-	-
Fine motor percentile	42.29	44.23	60.83	-	-	-	-	-	-
Fine motor quotient	91.18	97.23	106.25	-	-	0.033*	0.97	-	-
Total motor percentile	27.94	42.23	64.83	-	-	0.0014*	1.44	-	-
Total motor quotient	87.47	96.46	106.83	-	-	0.0006*	1.48	-	-

*p<0.05; M = mean; ES = effect size; SC= standard score

According to Table 4, three subtests entered into the model, of which loco-motor skills discriminated most between the groups and was also the only subtest making a statistically significant (p<0.05) contribution. Visual motor integration and grasping also contributed to the discrimination between the groups, while stationary and object manipulation was omitted from the model.

TABLE 4. FORWARD STEPWISE DISCRIMINANT ANALYSIS

Variable	F-value	Wilks' Lambda
Loco-motor standard score	8.24	0.7029
Visual motor standard score	2.81	0.6125
Grasping standard score	4.26	0.4977

Table 5 indicates the number of children who are correctly placed in their group after the reclassification on the grounds of the discriminant analysis. This percentage varies between 50% and 79%, and Group 1 was reclassified best. The prior probabilities, which were chosen

as the proportion of the groups due to the groups not being of equal size, were (Group 1: $17/42 = 0.4048$; Group 2: $13/42 = 0.3095$; Group 3: $12/42 = 0.2857$) respectively.

TABLE 5. RECLASSIFICATION OF SUBJECTS IN THE VARIOUS GROUPS

Group	1 (N = 17)	2 (N = 13)	3 (N = 12)
1	12 (70.59%)	3	2
2	2	9 (69.23%)	2
3	4	2	6 (50%)
Total	18	14	10

Table 6 represents the results of the cross validity which was determined by reclassifying the groups.

TABLE 6. SUMMARY OF THE CROSS VALIDITY OF THE JACK-KNIFE METHOD

	Group 1	Group 2	Group 3	Total
Group 1	10	3	4	17
Percentage correct	58.82	17.65	23.53	100
Group 2	4	6	3	14
Percentage correct	30.77	46.15	23.08	100
Group 3	4	2	6	12
Percentage correct	33.33	16.67	50.00	100
Total	18	11	13	42
Percentage correct	42.86	26.19	30.95	100

The results of the cross validity of the discriminant analysis, which were determined by way of the Jack-knife method, are displayed in Table 6. According to this, the percentage of correct classifications of the different groups varies between 58.82, 46.15 and 50.0%. The better-than-chance index is also calculated, because the cross validity exhibited low values and the practical significance of the discriminant analysis therefore also needed to be analysed. The following formula which was used [$I = (Ho - He)/(1 - He)$, where Ho is the observed hitrate $(10+6+6)/42 = 0.524$) and He is the expected hitrate $(0.4048)(17)+(0.3095)(13)+(0.2857)(12) = 0.341$ thus $I = (0.524-0.341)/(1-0.341)$] exhibited a practical significance of 0.28, which is an indication of large practical validity (Huberty & Lowman, 2000).

DISCUSSION

The results of the study regarding the percentiles obtained for total motor skills of the infected group (28th percentile), the affected group (42nd percentile) and the unaffected group (65th percentile), showed that the infected group differed significantly from the unaffected group. A comparison with the findings of a study on 5 to 6 year old (66.1 months) South African children from poor socio-economic circumstances indicated that the HIV-infected children's loco-motor skills were much poorer (26th percentile compared to 48th percentile), while their total motor quotient was also lower (87.47) compared to 90.84 in the low SES group (Pienaar

et al., 2007). This clearly indicates that the infected group already exhibits serious motor

deficits compared to other children of the same chronological age, especially the unaffected children. According to the grading scale of the PDMS-2, their development is already below average in comparison to the other two groups, who exhibited average development. Researchers point out that such deficiencies are already noticeable in the first three months of an infected baby's life (Blanchette *et al.*, 2001), while these results are also confirmed by researchers who studied 28 infected and 98 uninfected children (Gay *et al.*, 1995). These researchers also found that motor deficiencies were already evident during the first three months of the baby's life and that it deteriorates in time.

The gross, fine and total motor quotients indicated that the infected group performed below average with regard to the gross motor and total motor skills, while their performance was average in the fine motor skills. Groups 2 and 3 fared average in the gross motor, fine motor and total motor quotients. Furthermore, the infected group performed worst with regard to their gross motor skills (25th percentile), against the 41st and 65th percentiles of Group 2 and 3. A reasonable difference was also recorded between the fine motor and gross motor skills development of Group 1 in comparison to the other two groups that obtained more or less the same percentile values for fine motor and gross motor development. These differences between the groups exhibited the largest practical significance ($EG=1.80$). It can be concluded that the gross motor skill development of the HIV infected group is influenced to a greater degree than their fine motor skills development, although their total development was also below average. These results are in agreement with other literature findings, indicating that the gross motor skills of infected children are affected most by the virus (Msellati *et al.*, 1993; Parks & Danoff, 1999).

The discriminant analysis indicated that loco-motor skills can best distinguish the groups from one another ($p<0.05$). This can possibly be attributed to the fact that large muscle groups underlie the performance of gross motor skills and require physical exertion, whereas fine motor skills require less strength (Parks & Danoff, 1999). This result therefore confirms also that gross motor development of infected children is affected most. The discriminant analysis also provides valuable information regarding the content when compiling motor intervention programmes for such children.

CONCLUSION

A clear tendency of poorer motor development is apparent in young children infected by HIV. The necessity of motor intervention for children with HIV to promote their development and quality of life is therefore emphasized. Literature has also confirmed that additional intervention strategies, improved nutrition and exercise programmes can improve the life expectancy and quality of life of children with HIV (Brady, 1994; Stein *et al.*, 1995). In this regard, a researcher alleges that when handicaps are identified at an early stage and intervention is applied timeously, a significant difference in the growth and development of a child can occur (Lerner, 1993). The results confirm that the emphasis of motor intervention programmes for young children with HIV must be on gross motor skills, especially on loco-motor skills.

These results of the study should be evaluated against the fact that the study had limitations. The progression of the children's HIV status could not be determined due to ethical constraints, and could possibly have played a role in the performance of motor skills, where

exhaustion would be apparent earlier in children who have advanced HIV. Further shortcomings are the small research group and the fact that the study was based on an availability sample that made it difficult to generalize the findings to larger populations.

ACKNOWLEDGEMENTS

The National Research Foundation of South Africa is thanked for the financial support of this project as well as the Focus Area of the Faculty of Health Sciences (North-West University) and the personnel of the day care centre for their co-operation during this study.

REFERENCES

- ABDOOL, K.Q. (2004). HIV treatment in South Africa: overcoming impediments to get started. *The Lancet*; 363: 1394, April 24.
- BICEGO, G.; RUTSTEIN, S. & JOHNSON, K. (2003). Dimensions of the emerging orphan crisis in Sub-Saharan Africa. *Social Science and Medicine*, 56: 1235-1247.
- BLANCHETTE, N.; SMITH, M.L.; FERNANDES-PENNEY, A.; KING, S. & READ, S. (2001). Cognitive and motor development in children with vertically transmitted HIV infection. *Brain and Cognition*, 46(1-2): 50-53, June-July.
- BODE, H. & RUDIN, C. (1995). Calcifying arteriopathy in the basal ganglia in human immunodeficiency virus infection. *Pediatric Radiology*, 25: 72-73.
- BRADY, M. (1994). Treatment of human immunodeficiency virus infection and its associated complications in children. *Journal of Clinical Pharmacology*, 34: 17-29.
- BROUWERS, P.; BELMAN, A. & EPSTEIN, L. (1994). Organ-specific complications: Central nervous system involvement: Manifestations, evaluation and pathogenesis. In P.A. Pizzo & C.M. Wilfert (Eds.), *Pediatric AIDS: the challenge of HIV infection in infants, children, and adolescents* (433-455). Philadelphia, PA: Williams & Wilkens.
- CADE, W.T.; PERALTA, L. & KEYSER, R.E. (2004). Aerobic exercise dysfunction in human immunodeficiency virus: a potential link to disability, *Physical Therapy*; 84(7): 655-664.
- CHILDREN ON THE BRINK (2004). "A joint report of new orphan estimates and framework for action". Hyperlink [http://www.unicef.org/publications/index_22212.html]. Retrieved 19 February 2005.
- COHEN, J. (1988). *Statistical power analysis for the behavioral science*. New York, NY: Erlbaim.
- CRYSTAL, S.; FLEISHMAN, J.A.; HAYS, R.D.; SHAPIRO, M.F. & BOZZETTE, S.A. (2000). Physical and role functioning among persons with HIV: results from a nationally representative survey. *Medical Care*, 38: 1210-1223.
- DAVIS-McFARLAND, E. (2000). Language and oral-motor development and disorders in infants and young toddlers with human immunodeficiency virus. *Seminars in Speech and Language*, 21(1): 19-34.
- DEPARTMENT OF HEALTH (2006). *National HIV and syphilis antenatal sero-prevalence survey in South Africa: 2002-2005*. [Pretoria: Department of Health].
- EPSTEIN, L.G.; SHARER, L.R.; OLESKE, J.M.; CONNOR, E.M.; GOUDSMIT, J.; BAGDON, L.; ROBERT-GUROFF, M. & KOENINGSBERGER, M.R. (1986). Neurological manifestations of human immunodeficiency virus infection in children. *Pediatrics*, 78: 678-687.
- ERNST, J.E. (2004). The influence of an intervention programme on 9-12 year old farmworker children with developmental coordination disorder, based on an integrated approach. Unpublished Master's thesis. Potchefstroom: North-West University.

- FOLIO, M.R. & FEWELL, R.R. (2000). *Peabody Developmental Motor Scales (2nd ed.)*. Austin, TX: PRO-ED.
- GAY, C.L.; ARMSTRONG, D.; COHEN, D.; LAI, S.; HARDY, M.D.; SWALES, T.P.; MORROW, C.J. & SCOTT, G.B. (1995). The effects of HIV on cognitive and motor development in children born to HIV-seropositive woman with no reported drug use: birth to 24 months. *Pediatrics*, 96(6): 1078-1082.
- GRINSPOON, S. & MULLIGAN, K. (2003). Weight loss and wasting in patients infected with human immunodeficiency virus. *Clinical Infectious Diseases*, 36(suppl 2): S69-78.
- HEALTH SYSTEMS TRUST. (2007). "Health Statistics". Hyperlink [<http://www.hst.org.za/healthstats>]. Retrieved 11 June 2007.
- HUBERTY, C.J. (1994). *Applied discriminant analysis*. New York, NY: John Wiley & Sons.
- HUBERTY, C.J. & LOWMAN, L.L. (2000). Group overlap as a basis for effect size. *Educational and Psychological Measurement*, 60: 543-563.
- JAY, C. & DALAKAS, C. (1994). Myopathies and neuropathies in HIV-infected adults and children. In P.A. Pizzo & C.M. Wilfert (Eds.), *Pediatric AIDS: the challenge of HIV infection in infants, children, and adolescents* (433-455). Philadelphia, PA: Williams & Wilkens.
- KEYSER, R.E.; PERALTA, L.; CADE, W.T.; MILLER, S. & ANIXT, J. (2000). Functional aerobic impairment in adolescents seropositive for HIV: a quasiexperimental analysis. *Archive of Physical and Medical Rehabilitation*, 81: 1479-1484, November.
- LERNER, J. (1993). *Learning disabilities: theories, diagnosis & teaching strategies* (6th ed.) Boston, MA: Houghton Mifflin.
- LINDSEY, J.C.; HUGHES, M.D.; MCKINNEY, R.E.; COWLES, M.K.; ENGLUND, J.A.; BAKER, C.J.; BURCHETT, S.K.; KLINE, M.W.; KOVACS, A. & MOYE, J. (2000). Treatment-mediated changes in human immunodeficiency virus (HIV) Type 1 RNA and CD4 cell counts as predictors of weight growth failure, cognitive decline, and survival in HIV-infected children. *The Journal of Infectious Disease*, 182: 1385-1393.
- LOENING-VOYSEY, H. (2002). HIV/AIDS in South Africa: caring for vulnerable children. *African Journal of AIDS Research*, 1: 103-110.
- MEYERS, T.; MOULTRIE, H.; SHERMAN, G.; COTTON, M. & ELEY, B. (2006). Management of HIV-infected children. In P. Ijumba & A. Padarath (Eds.), *South African Health Review*, 14: 235-256.
- MITCHELL, W. (2001). Neurological and developmental effects of HIV and AIDS in children and adolescents. *Mental Retardation and Developmental Disabilities Research Reviews*, 7: 211-216.
- MSELLATI, P.; LEPAGE, P.; HITIMANA, D.; VAN GOETHEM, C.; VAN DE PERRE, P. & DABIS, F. (1993). Neurodevelopmental testing of children born to human immunodeficiency virus type 1 seropositive and seronegative mothers: a prospective cohort study in Kigali, Rwanda. *Pediatrics*, 92(6): 843-848.
- PARKS, R.A. & DANOFF, J.V. (1999). Motor performance changes in children testing positive for HIV over 2 years. *American Journal of Occupational Therapy*, 53: 524-528.
- PIENAAR, A.E.; LABUSCHAGNE, G.M. & PEENS, A. (2007). Motor and sensory development of 5-6 year old children in poor socio-economic circumstances: Thusano-study. *African Journal for Physical, Health Education, Recreation and Dance*, Special Edition: 304-320, September (Supplement).
- ROSENFELDT, V.; VALERIUS, N.H. & PAERREGAARD, A. (2000). Regression of HIV-associated progressive encephalopathy of childhood during HAART. *Scandinavian Journal of Infectious Diseases*, 32: 571-574.
- SAS INSTITUTE INC. (2002-2003). *The SAS System for Windows*. Release 9.1 TS Level 1MO. Cary, NC: SAS Institute.
- STATSOFT (2006). *Statistica for Windows*. Release 5.5: general conversions and statistics. Tulsa, OK: StatSoft.

- STEIN, Z.A.; TSAI, R.T.; SINGH, T.; TSAI, W.Y.; KUHN, L. & WILLIAMS, R. (1995). Changes over time in survival of children after AIDS diagnosis in New York City. *American Journal of Preventative Medicine*, 11(3): 30-33 Supplement.
- STEYN, S.; SMIT, C.; DU TOIT, J. & STRASHARM, C. (1998). *Moderne statistiek in praktyk*. Pretoria: Strasharm.
- STEYN, H.S. (1999). *Praktiese beduidendheid. Die gebruik van effekgroottes. Wetenskaplike Bydraes, Reeks B: Natuurwetenskappe nr. 117*. Potchefstroom: PU vir CHO, Publikasiebeheer-komitee.
- STORM, D.S.; BOLAND, M.G.; GORTMAKER, S.L.; HE, Y.; SKURNICK, J.; HOWLAND, L. & OLESKE, J.M. (2005). Protease inhibitor combination therapy, severity of illness and quality of life among children with perinatally acquired HIV-1 infection. *Pediatrics*, 115(2): e173-e182.
- THORNE, C. & NEWELL, M. (2000). Epidemiology of HIV infection in the newborn. *Early Human Development*; 58: 1-16.
- UNAIDS. (2004). "AIDS epidemic update." Hyperlink [http://www.unaids.org/wad2004/EPI_1204_pdf_en/EpiUpdate04_en.pdf]. Retrieved 19 February 2005.
- UNAIDS. (2006). "Overview of the global AIDS epidemic". Hyperlink [http://data.unaids.org/pub/GlobalReport/2006/2006_GR_CH02_en.pdf]. Retrieved 20 June 2007.
- WACHSLER-FELDER, J.L. & GOLDEN, C.J. (2002). Neuropsychological consequences of HIV in children: a review of current literature. *Clinical Psychology Review*, 22: 441-462.
- WOLTERS P.L.; BROUWERS, P. & MOSS, H.A. (1995). Pediatric HIV disease: effects on cognition, learning and behavior. *School Psychology Quarterly*, 10:305-328.

Prof. Anita Pienaar: School of Biokinetics, Recreation and Sport Science, North-West University (Potchefstroom Campus), Private Bag X6001, Internal Box 616, Potchefstroom 2520, Republic of South Africa. Tel.: +27 (0)18 299 1796, Fax.: +27 (0)18 299 1796, E-mail: anitapienaar@nwu.ac.za

(Subject editor: Dr. G.K. Longhurst)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 53-69.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 53-69.
 ISSN: 0379-9069

DIE VERSKIL TUSSEN 'N WILDERNISEKSPEDISIE EN 'N SENTRUMGEBASSEERDE SPANBOUPROGRAM TEN OPSIGTE VAN

PERSOONLIKE EFFEKTIWITEIT

Gustav GREFFRATH, Charlé du P. MEYER & Andries MONYEKI
*Skool vir Biokinetika, Rekreasie en Sportwetenskap, Noordwes-Universiteit, Potchefstroom,
Republiek van Suid-Afrika*

ABSTRACT

Outdoor team building programmes are becoming more popular in the corporate world in order to enhance organisational effectiveness. However, together with this growing popularity there is a certain amount of scepticism that exists around the effectiveness of these programmes. The purpose of this study is to determine the differences between a wilderness expedition and the better known centre-based team building programmes with regard to personal effectiveness. Studied were 35 students (n=17 men and n=18 women), aged 18-22 from the North-West University (Potchefstroomcampus). The research instrument used (ROPELOC) is a questionnaire developed and piloted by Richards et al. (2002). This questionnaire measures personal effectiveness through seven major components and was administered in the form of a quantitative pre- and post-tests to all three groups (two experimental groups and control group). Results showed that only one practical significant ($d \geq 0.8$) difference occurred between the two experimental groups. Based on the amount of pre- and post-test scores this study recommends a centre-based team building program in order to improve personal effectiveness. However, very valuable information was found in the descriptive results. These include feelings of awe and wonder for the natural environment, solitude and privacy.

Key words: Outdoor management development; Outdoor experiential education; Wilderness expedition; Personal effectiveness; Team building.

INLEIDING

Persoonlike effektiwiteit verwys na die vertroue in ons vermoë om beheer uit te oefen oor ons eie vlak van funksionering en die gebeurtenisse wat ons lewens affekteer (Bandura, 1997; Klint, 1999; Martin, 1999; Paxton & McAvoy, 2000). Oortuigings rakende persoonlike effektiwiteit beïnvloed, volgens Bandura (1993), die wyse waarop mense dink, hulself motiveer, optree en voel. Dit is belangrik om persoonlik effektief te wees, aangesien dit die mate van vertroue wat 'n persoon in homself het, beïnvloed om ten einde effektief te wees in verskeie hooftake van die lewe (Neill, in Sibthorp & Arthur-Banning, 2004). Vir Paxton en McAvoy (2000) is persoonlike effektiwiteit noodsaaklik, aangesien dit 'n belangrike bydrae lewer tot 'n persoon se algehele verstandelike gesondheid. Gecas en Burke (1995) noem dat navorsing deurgaans toon dat 'n hoë mate van persoonlike effektiwiteit noodsaaklik is vir die verkryging van 'n gesonde vlak van persoonlike welstand.

Veranderlikes wat gerig is op die individu (bv. selfvertroue, selfgevoel en selfkonsep) is volgens Sibthorp en Arthur-Banning (2004) al 'n geruime tyd 'n vername fokuspunt van buiteluggesentreerde spanbou. Buiteluggesentreerde spanbou bestaan hoofsaaklik uit sentrumgebaseerde spanbouprogramme¹ en wildernisgebaseerde spanbouprogramme (Wagner et al., 1991). Die konsep buiteluggesentreerde spanbou impliseer 'n stel opeenvolgende ervaringsleeraktiwiteite wat hoofsaaklik in die buitelug begelei word met die doel om die

gedrag van die deelnemer op 'n positiewe wyse te beïnvloed (McEvoy & Buller, 1997). Resultate uit studies deur Kaplan (1974) en Paxton en McAvoy (2000) toon dat buitelluggesentreerde spanbou 'n positiewe effek het op individuele aspekte in dié sin dat deelnemers 'n groter sin van besorgdheid teenoor hulself en ander ontwikkel, 'n meer realistiese uitkyk op een se sterk- en swakpunte het, tyd en talente word beter aangewend en daar is 'n verhoogde mate van persoonlike beheer.

Verskeie navorsers (Buller *et al.*, 1991; Irvine & Wilson, 1994; Wagner & Campbell, 1994; DuFrene *et al.*, 1999; Ingram & Desombre, 1999; Salas *et al.*, 1999; Williams *et al.*, 2003) toon aan dat daar tans in die korporatiewe wêreld 'n tendens is om van SGS gebruik te maak om organisatoriese effektiwiteit te verhoog. Volgens Buller *et al.* (in Salas *et al.*, 1999) is daar geen oortuigende bewyse dat SGS 'n beduidende effek op die prestasie van groepe/spanne het nie. Studies deur Buller *et al.* (1991), Dainty en Lucas (1992), Donnison (1995), Mazany *et al.* (1995), Badger *et al.* (1997), asook Burke en Collins (2004) wys daarop dat daar min wetenskaplike bewyse is wat die effektiwiteit van SGS regverdig. Die bewyse wat wel verkry is uit programevaluasie berus hoofsaaklik op die persoonlike opinies en waarnemings van deelnemers (Wagner *et al.*, 1991; Jones & Oswick, 1993; Irvine & Wilson, 1994).

Volgens Borrie en Roggenbuck (2001) word van die mees innoverende en omvangryke resultate van die dinamiese aard van buitelluggesentreerde spanbouprogramme verkry in die wildernis of 'n tipe wildernisomgewing. Die konsep wildernis word gesien as “ 'n area waar die aarde en sy bewoners onbederf bly van menslike indringing, en waar die mens self slegs 'n besoeker is” (Amerikaanse Kongres, in Boyden & Harris, 1978). Wildernisomgewings bied die geleentheid vir uitdaging, groei en ontwikkeling van die individu én die groep (Goldenberg, 2001). Volgens Pettygrew (in Dainty & Lucas, 1992) vind die mees betekenisvolle groei in dramatiese, spontane en intense situasies plaas, waar mense hul voorveronderstellings waarlik begin toets en hul verstandelike siening van die wêreld begin verander (Klein, 1997). Tydens wildernisprogramme word deelnemers betrek by inspannende aktiwiteite wat beskik oor 'n hoë mate van waargenome risiko en uitdaging. Hierdie aktiwiteite sluit onder andere in bergklim, oriëntering, kampering, witwaterroei, seil en kajakvaart (Buller *et al.*, 1991; Wagner *et al.*, 1991).

Wetenskaplike navrae het ook begin steun bied aan avontuur, wat daartoe gelei het dat wildernisomgewings gesien word as “natuurlike laboratoriums” waarheen “wetenskaplike ekspedisies” georganiseer is (Ewert & Hollenhorst, 1990). Ekspedisies vind plaas in omgewings wat deelnemers nie beheer nie (Goldenberg, 2001) en het volgens Cederquist (1997) die potensiaal om kragtige, lewensveranderende ervaringe te wees. Cederquist (1997) definieer ekspedisies as uittogte waar meer tyd in die buitelug bestee word, langer afstande

¹ Vir die doeleindes van hierdie studie sal die term sentrumgebaseerde spanbouprogram(me) (SGS) deurgaans gebruik word.

afgelê word en die ekspedisiegangers selfonderhoudend is ten opsigte van toerusting, reddingshulp, voorrade en besluitnemingsverantwoordelikhede.

Aan die hand van die bogenoemde literatuur word met hierdie studie beoog om te bepaal of daar 'n verskil is tussen 'n wildernisexpedisie en 'n SGS ten opsigte van persoonlike effektiwiteit met verwysing na die volgende komponente: persoonlike vermoëns en oortuigings, sosiale vermoëns, organisatoriese vermoëns, aktiewe betrokkenheid, 'n maatstaf

van oorhoofse effektiwiteit in alle aspekte van die alledaagse lewe en lokus van kontrole. Antwoorde hierop sal meehelp om 'n in dieptebegrip te ontwikkel van die impak wat 'n SGS en 'n wildernisekspedisie onderskeidelik het op deelnemers se persoonlike effektiwiteit. Sodoende sal dit 'n wetenskaplik gegronde bydrae kan lewer tot die ontwikkeling van doelgerigte avontuurgerigte spanbouprogramme, wat meer betekenisvolle uitkomst in terme van persoonlike effektiwiteit sal bied.

METODE VAN ONDERSOEK

Navorsingsontwerp en prosedures

Vir die doeleindes van hierdie studie is van die kwantitatiewe voortoets-natoets-ontwerp gebruik gemaak (Thomas & Nelson, 2001). Die proefpersone is geïdentifiseer deur middel van 'n beskikbaarheidsteekproef en is vooraf ewekansig toegedeel aan 'n kontrolegroep, sowel as die twee afsonderlike eksperimentele groepe, wat in hierdie geval deelgeneem het aan die SGS (Venterskroon, Vredefort-koepel) en die wildernisekspedisie (Sentrale Drakensberg). Die afhanklike veranderlike, naamlik persoonlike effektiwiteit, is voor en na afloop van die eksperimentele ingreep gemeet. Alle toetsgeleenthede het plaasgevind onder toesig en beheer van die navorser self.

Etiese goedkeuring vir die uitvoering van hierdie studie is verleen deur die etiekkomitee van die Noordwes-Universiteit (Potchefstroomkampus) en die deelnemers se ouers is in kennis gestel van die navorsingsprojek deur middel van 'n inliggende brief. Tesame hiermee is 'n toestemmings-, mediese en vrywaringsvorm deur die deelnemers se ouers voltooi.

Ondersoekpopulasie

Vir die doeleindes van hierdie studie het die totale ondersoekpopulasie bestaan uit 35 studente (17 mans en 18 dames) aan die Noordwes-Universiteit (Potchefstroomkampus) tussen die ouderdom van 18-22 jaar, wat nie voorheen blootgestel is aan wildernisekspedisies of SGS nie. Dié groep is verder verdeel in twee eksperimentele groepe naamlik SGS (n=11) en wildernisekspedisie (n=12), en een kontrolegroep (n=12). Die deelname aan hierdie twee programme het op 'n vrywillige basis geskied.

Meetinstrumente

Vir die meting van persoonlike effektiwiteit is gebruik gemaak van die "Review of Personal Effectiveness and Locus of Control (ROPELOC)" (Richards *et al.*, 2002). Dié instrument fokus op psigologiese en gedragsaspekte wat sleutelkomponente van persoonlike effektiwiteit is. Die ROPELOC beskik oor 'n betroubaarheidskoëffisiënt van tussen 0.79 en 0.93 (Cronbach Alpha-waarde) en 'n gemiddelde interne betroubaarheid van 0.85 (Richards *et al.*, 2002). Volgens Nunnally en Bernstein (1994) word 'n betroubaarheidskoëffisiënt van 0.7

gereken as betroubaar vir groepe. Die ROPELOC bevat 45 vrae en bestaan uit sewe hoofkomponente waarvan drie oor verskeie onderlinge subkomponente beskik. Vir die doeleindes van hierdie studie word ses hoofkomponente gebruik. Die sewende hoofkomponent bestaan uit gekontroleerde veranderlikes van die meetinstrument wat nie hier van toepassing is nie. Dié ses hoofkomponente staan bekend as persoonlike vermoëns en oortuigings: (selfvertroue (SC), selfwaarde (SF), streshantering (SM), ope denke (OT); sosiale vermoëns: (sosiale effektiwiteit (SE), koöperatiewe samewerking (CT), leierskapvermoëns (LA); organisatoriese vermoëns: (tydsbestuur (TE), soeke na kwaliteit (QS), hantering van

verandering (CH); aktiewe betrokkenheid (AI), 'n maatstaf van oorhoofse effektiwiteit in alle aspekte van die alledaagse lewe (OE) en twee skale van lokus van kontrole: (interne lokus van kontrole (IL), eksterne lokus van kontrole (EL). Aangesien die twee skale van lokus van kontrole 'n hoofkomponent van die ROPELOC is, word hierdie komponent vir die doeleindes van hierdie studie hanteer as twee afsonderlike subkomponente (interne lokus van kontrole en eksterne lokus van kontrole), omdat die betekenis hiervan teenstrydig is. In al die gevalle waar statistiese betekenisvolheid verkry is, is effekgroottes bereken (Ellis & Steyn, 2003).

Dataverwerking

Die data is statisties ontleed met behulp van die Statistiese Konsultasiediens van die Noordwes-Universiteit (Potchefstroomkampus). Die data wat deur die ROPELOC ingesamel is, is ge-analiseer deur middel van die SAS Institute Inc. (2005) rekenaarprogram. 'n Eenrigtinganalise van variansie is gedoen om vas te stel of die drie groepe (SGS, kontrolegroep en wildernisekspedisie) op voortoetsvlak verskil. Gepaarde t-toetse is gebruik om vas te stel of enige betekenisvolle binnegroepverskille plaasgevind het. By die binnegroepverskille word daar slegs getoets vir positiewe veranderinge en daarom is hierdie t-toetse een-kantig. 'n Eenrigting-kovariansie-analise, wat korreger vir voortoetstellings, is gebruik om te toets of daar 'n verskil is tussen die twee programme (SGS en wildernisekspedisie).

RESULTATE

Aangesien dit die doel van hierdie studie is om te bepaal of daar 'n verskil is tussen 'n wildernisekspedisie en 'n SGS ten opsigte van persoonlike effektiwiteit, is dit noodsaaklik om enige veranderinge wat tydens die eksperimentele ingrepe (SGS en wildernisekspedisie) plaasgevind het te vergelyk met die kontrolegroep wat geen intervensie ontvang het nie. Die gepaarde t-toetse wat bepaal of daar enige betekenisvolle binnegroepveranderinge plaasgevind het ($p < 0.05$) tussen voormeting en nameting, word geïllustreer deur Tabela 1, 2 en 3. Tabel 1 dui op die inligting wat ingesamel is gedurende die SGS (Groep 1); Tabel 2 (Groep 2) dui op die inligting wat ingesamel is deur die kontrolegroep wat geen intervensie ontvang het nie en Tabel 3 (Groep 3) dui op die inligting wat ingesamel is gedurende die wildernisekspedisie. Die resultate van die kovariansie-analise wat gebruik is om te bepaal of daar 'n verskil is tussen die wildernisekspedisie en die SGS word geïllustreer deur Tabel 4.

Verder is 'n tweerigting-variensie-analise gedoen op alle komponente om te bepaal of daar enige interaksie tussen mans en dames binne groepe (geslag) plaasgevind het. Die ontleding het aangedui dat daar in geen van die komponente 'n beduidende verskil was nie. Dit beteken dus dat die geslag van die respondent nie 'n invloed op die uitslag van enige bevindinge het nie.

TABEL 1: GEPAARDE T-TOETS VIR BETEKENISVOLLE BINNEGROEPVERSKILLE (EEN-KANTIG) VAN SGS (ROPELOC HOOFKOMPONENTE EN SUBKOMPONENTE)

Hoofkomponent	N V	n	\bar{x}	SD	Groep	p-waarde	d-waarde
Persoonlike vermoëns en oortuigings	N V	11 11	76.55 73.00	13.16 13.78	SGS	0.04*	0.26

Sosiale vermoëns	N V	11 11	55.36 57.09	14.7 9.92	SGS	0.29	-
Organisatoriese vermoëns	N V	11 11	55.00 49.77	9.23 1.81	SGS	0.02*	0.57 ⁺
Aktiewe betrokkenheid	N V	11 11	20.55 21.45	3.83 2.46	SGS	0.21	-
Algehele effektiwiteit	N V	11 11	20.00 18.45	2.65 3.50	SGS	0.006*	0.44
Subkomponent	N V	n	\bar{x}	SD	Groep	p-waarde	d-waarde
Selfvertroue	N V	11 11	20.82 20.64	2.32 3.26	SGS	0.4	-
Selfwaarde	N V	11 11	18.45 16.82	4.20 3.92	SGS	0.02*	0.39
Streshantering	N V	11 11	17.09 15.91	7.08 5.86	SGS	0.07	-
Ope denke	N V	11 11	20.18 19.64	2.60 4.03	SGS	0.3	-
Sosiale effektiwiteit	N V	11 11	19.91 21.00	4.74 2.53	SGS	0.2	-
Koöperatiewe samewerking	N V	11 11	18.45 18.82	4.76 3.87	SGS	0.3	-
Leierskapvermoëns	N V	11 11	17.00 17.27	7.2 6.57	SGS	0.4	-
Tydsbestuur	N V	11 11	16.36 13.36	3.93 6.02	SGS	0.03*	0.5 ⁺
Soeke na kwaliteit	N V	11 11	20.55 20.45	2.34 2.98	SGS	0.4	-
Hantering van verandering	N V	11 11	18.09 15.73	5.56 5.71	SGS	0.02*	0.41
Interne lokus van kontrole	N V	11 11	20.91 21.55	2.12 2.66	SGS	0.2	-

Eksterne lokus van kontrole	N V	11 11	9.82 10.73	5.34 4.86	SGS	0.3	-
<p>* p<0.05 Statisties betekenisvol op 'n 5% peil ⁺ Medium effek: d=0.5 N = Natoets V = Voortoets</p>							

TABEL 2: GEPAAARDE T-TOETS VIR BETEKENISVOLLE BINNEGROEPVERSKILLE (EEN-KANTIG) VAN KONTROLEGROEP (ROPELOC HOOFKOMPONENTE EN SUBKOMPONENTE)

Hoofkomponent	N V	n	\bar{x}	SD	Groep	p-waarde	d-waarde
Persoonlike vermoëns en oortuigings	N V	12 12	80.17 80.08	6.00 6.08	KON	0.5	-
Sosiale vermoëns	N V	12 12	60.58 61.00	6.96 5.27	KON	0.4	-
Organisatoriese vermoëns	N V	12 12	57.54 56.67	6.42 8.27	KON	0.3	-
Aktiewe betrokkenheid	N V	12 12	21.25 21.17	1.71 1.27	KON	0.4	-
Algehele effektiwiteit	N V	12 12	19.50 19.33	1.93 1.97	KON	0.4	-
Subkomponent	N V	n	\bar{x}	SD	Groep	p-waarde	d-waarde
Selfvertroue	N V	12 12	21.58 21.42	2.23 1.78	KON	0.3	-
Selfwaarde	N V	12 12	19.33 19.58	2.23 2.43	KON	0.3	-
Streshantering	N V	12 12	18.83 18.25	2.33 3.33	KON	0.2	-
Ope denke	N V	12 12	20.42 20.83	2.02 2.25	KON	0.2	-
Sosiale effektiwiteit	N V	12 12	19.50 19.67	3.12 2.87	KON	0.4	-
Koöperatiewe samewerking	N V	12 12	20.58 20.92	3.4 2.68	KON	0.3	-
Leierskapvermoëns	N V	12 12	20.50 20.42	2.28 2.50	KON	0.4	-
Tydsbestuur	N V	12 12	17.83 17.75	2.37 3.25	KON	0.5	-

Soeke na kwaliteit	N V	12 12	21.20 21.00	1.08 2.22	KON	0.4	-
Hantering van verandering	N V	12 12	18.50 17.92	3.99 3.63	KON	0.3	-
Interne lokus van kontrole	N V	12 12	22.00 21.92	1.6 2.39	KON	0.4	-
Eksterne lokus van kontrole	N V	12 12	9.33 9.08	6.6 5.58	KON	0.4	-

* $p < 0.05$ Statisties betekenisvol op 'n 5% peil

+ Medium effek: $d = 0.5$

N = Natoets

V = Voortoets

TABEL 3: GEPAAARDE T-TOETS VIR BETEKENISVOLLE BINNEGROEPVERSILLE (EEN-KANTIG) VAN WILDERNISEKSPEDISIE (ROPELOC HOOFKOMPONENTE EN SUBKOMPONENT)

Hoofkoment	N V	n	\bar{x}	SD	Groep	p-waarde	d-waarde
Persoonlike vermoëns en oortuigings	N V	12 12	77.33 77.96	11.91 9.61	WIL	0.4	-
Sosiale vermoëns	N V	12 12	56.67 57.08	9.09 7.05	WIL	0.4	-
Organisatoriese vermoëns	N V	12 12	55.13 54.00	8.86 7.41	WIL	0.3	-
Aktiewe betrokkenheid	N V	12 12	20.25 20.42	3.36 2.19	WIL	0.4	-
Algehele effektiwiteit	N V	12 12	18.83 18.25	3.1 2.93	WIL	0.2	-
Subkoment	N V	n	\bar{x}	SD	Groep	p-waarde	d-waarde
Selfvertroue	N V	12 12	21.08 20.71	2.11 1.86	WIL	0.2	-
Selfwaarde	N V	12 12	17.67 17.92	4.48 3.29	WIL	0.4	-
Streshantering	N V	12 12	17.92 19.17	4.14 2.98	WIL	0.95	-
Ope denke	N V	12 12	20.67 20.17	2.42 3.49	WIL	0.2	-

Sosiale effektiwiteit	N V	12 12	19.83 18.83	2.92 4.41	WIL	0.2	-
Koöperatiewe samewerking	N V	12 12	18.75 19.33	3.02 2.35	WIL	0.3	-
Leierskapvermoëns	N V	12 12	18.08 18.92	4.12 3.26	WIL	0.2	-
Tydsbestuur	N V	12 12	16.42 15.58	4.58 3.15	WIL	0.2	-
Soeke na kwaliteit	N V	12 12	19.71 19.92	2.30 2.11	WIL	0.4	-
Hantering van verandering	N V	12 12	19.00 18.50	3.77 4.06	WIL	0.3	-
Interne lokus van kontrole	N V	12 12	21.17 21.92	2.37 1.38	WIL	0.2	-

Eksterne lokus van kontrole	N	12	10.92	3.32	WIL	0.04*	0.55 ⁺
	V	12	9.08	2.19			
<p>* p<0.05 Statisties betekenisvol op 'n 5% peil ⁺ Medium effek: d=0.5 N = Natoets V = Voortoets</p>							

TABEL 4: EENRIGTING-KOVARIANSIE-ANALISE, GEKORRIGEER VIR VOORTOETSTELLINGS, OP NATOETS VAN ROPELOC HOOFKOMPONENTE

Hoofkarakter	Groep	Aangepaste x	\sqrt{GMF}	waarde	Kombinasie	α -waarde
Persoonlike vermoëns en oortuigings	SGS	80.25	5.73	0.28	[1;2]	-
	KON	77.52		0.70	[2;3]	-
	WIL	76.59		0.14	[3;1]	-
Sosiale vermoëns	SGS	56.56	8.29	0.63	[1;2]	-
	KON	58.28		0.90	[2;3]	-
	WIL	57.87		0.71	[3;1]	-
Organisatoriese vermoëns	SGS	57.21	6.51	0.62	[1;2]	-
	KON	55.78		0.73	[2;3]	-
	WIL	54.85		0.40	[3;1]	-
Aktiewe betrokkenheid	SGS	20.18	2.65	0.41	[1;2]	-
	KON	21.12		0.72	[2;3]	-
	WIL	20.72		0.64	[3;1]	-

Algehele effektiwiteit	SGS	20.16	1.85	0.18	[1;2]	-
	KON	19.08		0.96	[2;3]	-
	WIL	19.12		0.19	[3;1]	-

EENRIGTING KOVARIANSIE ANALISE, GEKORRIGEER VIR VOORTOETSTELLINGS, OP NATOETS VAN ROPELOC SUBKOMPONENTE

Subkarakter	Groep	Aangepaste x	GMF	waarde	Kombinasie	α -waarde
Selfvertroue	SGS	20.99	1.73	0.69	[1;2]	-
	KON	21.29		0.92	[2;3]	-
	WIL	21.22		0.76	[3;1]	-
Selfwaarde	SGS	19.66	2.36	0.13	[1;2]	-
	KON	18.02		0.88	[2;3]	-
	WIL	17.87		0.08	[3;1]	-
	SGS	19.02		0.55	[1;2]	-

Streshantering	KON WIL	18.41 16.57	2.4	0.07 0.03*	[2;3] [3;1]	- 1.02 [□]
Ope denke	SGS	20.45	1.83	0.69	[1;2]	-
	KON	20.14		0.46	[2;3]	-
	WIL	20.7		0.75	[3;1]	-
Sosiale effektiwiteit	SGS	19.30	3.27	0.85	[1;2]	-
	KON	19.57		0.58	[2;3]	-
	WIL	20.32		0.57	[3;1]	-
Koöperatiwe samewerking	SGS	19.2	2.87	0.76	[1;2]	-
	KON	19.59		0.67	[2;3]	-
	WIL	19.07		0.91	[3;1]	-
Leierskapvermoëns	SGS	18.31	3.45	0.51	[1;2]	-
	KON	19.30		0.40	[2;3]	-
	WIL	18.08		0.89	[3;1]	-
Tydsbestuur	SGS	17.56	3.02	0.54	[1;2]	-
	KON	16.71		0.83	[2;3]	-
	WIL	16.44		0.39	[3;1]	-
Soeke na kwaliteit	SGS	20.55	1.66	0.56	[1;2]	-
	KON	20.96		0.16	[2;3]	-
	WIL	19.96		0.40	[3;1]	-
Hantering van verandering	SGS	19.31	3.15	0.40	[1;2]	-
	KON	18.15		0.95	[2;3]	-
	WIL	18.23		0.44	[3;1]	-

Interne lokus van kontrole	SGS	21.04	1.76	0.23	[1;2]	-
	KON	21.94		0.25	[2;3]	-
	WIL	21.11		0.92	[3;1]	-
Eksterne lokus van kontrole	SGS	9.26	4.86	0.88	[1;2]	-
	KON	9.59		0.43	[2;3]	-
	WIL	11.17		0.36	[3;1]	-
* p<0.05 Statisties betekenisvol op 'n 5% peil + Medium effek: d=0.5 [□] Groot effek en prakties betekenisvol: d≥0.8 SGS = Sentrumgebaseerde spanboupogram KON = Kontrolegroep WIL = Wildernisekspedisie						

BESPREKING VAN RESULTATE

Met verwysing na die literatuur is daar reeds genoem dat SGS 'n gewilde metode is om die effektiwiteit van 'n organisasie te verhoog. Terselfdertyd is daar gevind dat die werklike waarde van hierdie tipe programme betwyfel word (Gall, 1987; Wagner & Roland, 1992; Wagner & Campbell, 1994). Bewyse wat wel gevind is wat die effektiwiteit van hierdie tipe programme beklemtoon, is eger nie wetenskaplik gegrond nie, maar bestaan eerder uit die

persoonlike opinies en waarnemings van deelnemers. Uit die resultate wat bestudeer is van die onderhawige studie is daar gevind dat SGS en wildernisekspedisies wel 'n positiewe effek het op sekere aspekte van persoonlike effektiwiteit. In hierdie geval het die SGS tot meer veranderinge gelei as die wildernisekspedisie.

Ten opsigte van die ses hoofkomponente van die ROPELOC (Tabel 1) het drie hiervan in Groep 1 (SGS) verandering van die voormeting tot die nameting ondergaan ($p < 0.05$). Hierdie hoofkomponente sluit in persoonlike vermoëns en oortuigings, organisatoriese vermoëns en algehele effektiwiteit. Van hierdie veranderinge het organisatoriese vermoëns 'n medium effek ($d = 0.5$) getoon. Verder het drie van die subkomponente verandering getoon, ten opsigte van selfwaarde, tydsbestuur en die hantering van verandering. Slegs tydsbestuur het 'n medium effek ($d = 0.5$) getoon. In Groep 3 (wildernisekspedisie; Tabel 3) het geen verandering plaasgevind ten opsigte van die hoofkomponente nie. Een subkomponent het wel verandering getoon, naamlik eksterne lokus van kontrole wat 'n medium effek ($d = 0.5$) getoon het. Met verwysing na Groep 2 (kontrolegroep; Tabel 2) het geen verandering plaasgevind ten opsigte van die hoofkomponente of subkomponente nie.

Met dié studie wou eerstens bepaal word of daar 'n verskil is tussen 'n wildernisekspedisie en 'n SGS ten opsigte van persoonlike effektiwiteit. Wanneer daar gekyk word na tussengroepverskille (Tabel 4) is daar net een geval waar 'n betekenisvolle tussengroepverskil ($d \geq 0.8$) opgemerk is. Hierdie verskil lê tussen Groep 3 en Groep 1 en het plaasgevind ten opsigte van een van die subkomponente, naamlik streshantering, wat prakties betekenisvol is. Met betrekking tot streshantering het die SGS beter vertoon.

Dit is duidelik dat daar gedurende die SGS meer verandering na vore gekom het ten opsigte van sekere aspekte van persoonlike effektiwiteit (soos reeds na verwys). 'n Moontlike verduideliking hiervan kan toegeskryf word aan die aard en intensiteit van die aktiwiteite wat

verbonde is aan beide programme. Met betrekking tot hierdie stelling definieer Ewert (in Ewert & Hollenhorst, 1990) SGS kortliks as 'n stel gestruktureerde, self-inisiërende aktiwiteite wat hoofsaaklik uitgevoer word in die buitelug, wat sekere elemente van waargenome en werklike risiko bevat en waarvan die uitkoms bepaal word deur die situasie en die deelnemer se vaardigheid. Gedurende SGS is daar 'n definitiewe ervaring van minder stres, angs of vrees. Hierdie stelling word beaam deur 'n opmerking wat gemaak is deur een van die respondente na afloop van die SGS: “die program kon meer gevaarlik gewees het”. Hieruit kan die afleiding gemaak word dat gedurende die program die deelnemers se vaardighede heel waarskynlik meer in balans was met die fisiese uitdaging van die aktiwiteite, wat gevolglik daartoe gelei het dat die aktiwiteite makliker en vinniger op 'n suksesvolle wyse afgehandel is (Priest, 1992; Ellis *et al.*, 1994; Nichols, 1999; Jones *et al.*, 2003; Burnett & Galloway, 2005; Sklar, 2005).

In teenstelling hiermee is die deelname aan wildernisprogramme meer intens met 'n baie hoër mate van risiko daaraan verbonde. Volgens Boyden en Harris (1978) en Burnett en Galloway (2005) bestaan daar geen twyfel dat die wildernis geassosieer word met fisieke en sielkundige uitdaging nie. Ter aansluiting hiermee het een van die respondente die opmerking gemaak dat “die omgewing daartoe gelei het dat almal tot op die uiterste beproef is”. In hierdie geval was die eise van hierdie wildernisekspedisie dalk te uitdagend vir die individu, wat moontlik verhoed het dat meer betekenisvolle veranderinge plaasgevind het.

Tesame met die ROPELOC was verskeie oopvrae gevra rakende algemene aspekte van die onderskeie programme (SGS en wildernisekspedisie). Vanuit die bestudering van antwoorde

op dié vroe word die aanname gemaak dat die wilderniseksedisie kenmerkend anders is as 'n SGS. Alhoewel dit hoofsaaklik bestaan uit die persoonlike opinies en waarnemings van die deelnemers is dit nie gevind by die resultate van die SGS nie. Die oorgrote van die deelnemers (76%) het die natuurskoon as 'n kenmerkende verskil beklemtoon. Kaplan en Talbot (1983) se bevindinge is soortgelyk aan dié wat toon dat die deelnemers se waardering van die natuur die meeste bygedra het tot die bevrediging van die hul wilderniservaring. Een van die respondente het die opmerking gemaak dat sy eers na afloop van die ekspedisie beseft het hoeveel sy van die natuur hou. Hierdie opmerking kan gekoppel word aan Fox (1999), Borrie en Roggenbuck (2001) en Ewert en Shellman (2003) se bevindinge dat gedurende die wilderniservaring gevoelens van versoenbaarheid en verbintenis met die natuurlike omgewing ontwikkel word. Talbot en Kaplan (1986) verwys hierna in die sin dat deelnemers meer omgewingsbewus raak deur groeiende vlakke van selfkennis en sensasies van ontsag, waardering en respek vir die natuurlike omgewing (Freeman *et al.*, 2003).

Navorsing deur Stringer en McAvoy (1992) en Fredrickson en Anderson (1999) het bevind dat die geleentheid vir geestelik verrykende ervaringe een van die vernaamste redes is vir wildernisdeelname, en dat wilderniservaringe deelnemers ophef na hoër vlakke van geestelike verryking. Alhoewel die betekenis van geestelik verrykende ervaringe, volgens Stringer en McAvoy (1992), uniek is aan elke individu, word daar dikwels na geestelike verryking verwys as dit wat aan die lewe bedoeling en betekenis gee. Fredrickson en Anderson (1999) meld dat geestelike verryking vir deelnemers iets meer as woorde is en dat woorde nie 'n akkurate weergawe van hul geestelike ervaring kan gee nie. In die resultate van hiérvan studie is 'n soortgelyke bevinding verkry. Een van die respondente se opmerking sluit aan by bogenoemde navorsers, waar daar genoem word dat die wilderniservaring “ 'n ervaring is wat nie oorvertel kan word nie, maar self beleef moet word”. In aansluiting hiermee het 'n ander

respondent genoem dat “ek in die toekoms gedurende my vrye tyd meer moeite sal doen om weer aan so iets deel te neem as om in 'n dorp of stad my tyd te mors”.

Volgens Hattie *et al.* (1997) is dit nodig dat deelnemers 'n sekere mate van adrenalien moet ervaar en dat uitdaging 'n sekere graad van moeilikheid bevat om hulself daarteen te meet. Om te oorleef in 'n onvoorspelbare en gevaarlike omgewing moet mens 'n sekere graad van nuwigheid en gevaar ervaar (Csikszentmihalyi & Csikszentmihalyi, 1999). Tesame hiermee ondersteun Bonnington (aangehaal deur Irvine & Wilson, 1994) die waarde van “werklike” risiko eerder as “waarneembare” risiko, en meen dat die persepsie van gevaar tesame met die moontlikheid om te misluk, die bereiking van sukses soveel meer bevredigend maak. Die resultate van hierdie studie ondersteun laasgenoemde navorsers. Vir een van die respondente dien dit as “aansporing vir die alledaagse lewe deur jouself fisies, emosioneel en sielkundig te dryf tot waar jy voorheen gedink het jy nie meer kon nie, en jouself verkeerd te bewys.” Sy beskryf dit as die “thrill” van oorwinning. Gevolglik lei dit tot beter besluitneming, dissipline en persoonlike bewustheid (Ewert, 1989). Die realisering daarvan om iets suksesvol te doen waarvan jy voorheen onseker was, word oorgedra na die manier waarop jy jou werk en die lewe benader (Anon, 1995).

GEVOLGTREKKING EN AANBEVELINGS

Ter ondersteuning van Davis-Berman en Berman (2002) kan geen programleier aanneem dat alle groepslede se persepsies van risiko en uitdaging dieselfde is nie. Hieruit word die gevolgtrekking gemaak dat indien 'n positiewe en betekenisvolle ervaring verlang word, is dit noodsaaklik dat die verhouding tussen uitdaging/risiko en vaardigheid so na as moontlik aan

die perfekte balans gebring word (Hendee & Brown, 1988; McEvoy & Buller, 1997). Aangesien dit die doel van dié studie is om te bepaal of daar 'n verskil is tussen 'n wildernisekspedisie en 'n SGS ten opsigte van persoonlike effektiwiteit, kan daar nie op grond van 'n enkele tussengroepverskil met oortuiging die aanname gemaak word dat 'n SGS meer doeltreffend is nie. Gedurende die SGS het meer verandering na vore gekom ten opsigte van persoonlike effektiwiteit, en op grond hiervan word die aanbeveling gemaak dat daar eerder van 'n SGS gebruik gemaak moet word indien betekenisvolle persoonlike ontwikkeling nagestreef word.

Op grond van die beskrywende resultate word daar sonder twyfel die aanname gemaak dat 'n wildernisekspedisie beter daartoe in staat is om 'n ervaring na vore te bring waarvan die waarde nie gemeet kan word deur kwantitatiewe navorsingsmetodes nie, en dit word hoofsaaklik moontlik gemaak deur die omgewing. Godkin (1980) stel dit dat 'n plek of 'n omgewing nie net die "ligging" van iets is nie, maar dat die landskap self 'n sekere betekenis inhou. Dit is die omgewing en alles wat deel uitmaak van daardie omgewing wat 'n geïntegreerde en betekenisvolle verskynsel na vore bring. Die huidige studie ondersteun hierdie stelling ten sterkste en beveel aan dat daar eerder van kwalitatiewe navorsingsmetodes gebruik gemaak moet word om die ware betekenis van avontuurprogramme te begryp, veral met betrekking tot wildernisekspedisies. McAvoy *et al.* (1996) sluit hierby aan deur te noem dat "more qualitative research is needed to understand better the components of the outdoor experience".

SUMMARY

THE DIFFERENCE BETWEEN A WILDERNESS EXPEDITION AND A CENTRE-BASED TEAM BUILDING PROGRAM WITH REGARD TO PERSONAL EFFECTIVENESS

Introduction

According to Sibthorp and Arthur-Banning (2004) variables directed at the individual have long been an important focus of outdoor team building. The concept of outdoor team building, which mainly consists of centre-based team building programs¹ and wilderness-based team building programs, implies a set of continuous experiential learning activities that are mainly conducted in the outdoors with the aim of positively influencing the behaviour of the participant in a positive manner (Wagner *et al.*, 1991; McEvoy & Buller, 1997).

Personal effectiveness refers to the confidence in our ability to control our own level of functioning and the things that affect our lives (Bandura, 1997; Klint, 1999; Martin, 1999; Paxton & McAvoy, 2000). According to Bandura (1993) convictions surrounding personal effectiveness influences the manner in which people think, motivate themselves, act and feel. For Neill (quoted by Sibthorp & Arthur-Banning, 2004) it is important to be personally effective as this influences the degree of self-confidence a person experiences to be able to be effective in various main tasks in life.

Aim of the study

The aim of this study is to determine whether there is a difference between a wilderness expedition and a CBTB with regard to personal effectiveness.

Research population

Thirty five students of the North-West University (Potchefstroom campus) were identified using an availability sample and were divided randomly into a control group as well as two separate experimental groups. All participants to this study volunteered to take part in the CBTB and wilderness expedition.

Measuring instrument

The Review of Personal Effectiveness and Locus of Control (ROPELOC) (Richards *et al.*, 2002) was used to measure personal effectiveness before and after the experimental intervention. The instrument focuses on psychological and behavioural aspects which are key components of the personal effectiveness (Richards *et al.*, 2002). The ROPELOC consists of 45 questions and is divided into seven main components of which three deal with various underlying subcomponents. The differences can be determined with regard to the main as well as the underlying subcomponents.

¹ For the purpose of this study the term centre-based team building program(s) (CBTB) will be used through out.

Results

With regards to the inner group differences (single sided paired t-tests) the CBTB lead to more changes than the wilderness expedition. The changes took place with regard to personal ability and beliefs, organizational skills, overall effectiveness, self-efficacy, time management and the coping with change. Only organizational skills and time management showed a medium effect ($d=0.05$). Taking into consideration the intergroup differences (covariance analysis) a single difference was apparent. This difference occurred with regards to stress management which was practically significant ($d\geq 0.8$). With regard to stress management the CBTB exhibited better results.

Conclusion

On the basis of a single intergroup difference the conclusion that CBTB is more effective than a wilderness expedition with regard to personal effectiveness cannot be made. The only suggestion that can be made is that preference be given to a CBTB if the outcomes of the program is geared to personal effectiveness. However, with regard to the descriptive results it must be said that it is this type information, which makes a wilderness expedition characteristically different than a CBTB. Without question it can be said that a wilderness expedition is more effective in creating an experience of which the meaning cannot be captured using quantitative research methods only. According to Godkin (1980) it is the environment and every part of it that brings forth an integrated and meaningful experience. The current study supports this statement fully, and recommends more qualitative research methods to properly understand the true meaning of outdoor experiential learning.

VERWYSINGS

ANON. (1995). Outdoor management development – reality or illusion? *Journal of European Industrial Training*, 19(6): 20-21.

BADGER, B.; SADLER-SMITH, E. & MICHIE, E. (1997). Outdoor management and development: use and evaluation. *Journal of European Industrial Training*, 21(9): 318-325.

- BANDURA, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2): 117-148.
- BANDURA, A. (1997). Self-efficacy. *Academic Search Premier*, 13(9): 1-4, March.
- BORRIE, W.T. & ROGGENBUCK, J.W. (2001). The dynamic, emergent, and multi-phasic nature of on-site wilderness experiences. *Academic Search Premier*, 33(2): 1-24, June.
- BOYDEN, S.V. & HARRIS, J.A. (1978). Contributions of the Wilderness to health and well-being. In National Wilderness Conference (1st, 1977, Canberra A.C.T.), *Australian Conservation Foundation. Australia's wilderness: conservation progress and plans: proceedings of the first National Wilderness Conference, Australian Academy of Science* (34-47). Hawthorn, Victoria: Australian Conservation Foundation.
- BULLER, P.F.; CRAGUN, J.R. & McEVOY, G.M. (1991). Getting the most out of outdoor training. *Training and Development Journal*, 45(3): 58-61, March.
- BURKE, V. & COLLINS, D. (2004). Optimising skills transfer via outdoor management development, part 1: The providers' perspective. *Journal of Management Development*, 23(7): 678-697, July.
- BURNETT, K. & GALLOWAY, S. (2005). In M. Phipps & A. Hayashi (Eds.), *Wilderness education association: proceedings of the 2005 national conference on outdoor leadership held on 18-20 February at Estes Park, USA* (32-42). Blooming, IN: WEA national office Hyperlink [http://www.weainfo.org/WEA_Conf_Proceedings_as.pdf]. Retrieved 16 August 2006.
- CEDERQUIST, J. (1997). Effective expedition planning. In International conference on outdoor recreation and education. *Back to the Basics: Proceedings of the International Conference on Outdoor Recreation and Education* (34-43). Hyperlink [<http://www.eric.ed.gov>]. Retrieved 16 April 2005.
- CSIKSZENTMIHALYI, M. & CSIKSZENTMIHALYI, I. (1999). Adventure and the flow experience. In J.C. Miles & S. Priest (Eds.), *Adventure Programming* (153-158) (2nd ed.). State College, PA: Venture Publishing.
- DAINTY, P. & LUCAS, D. (1992). Clarifying the confusion: a practical framework for evaluating outdoor development programmes. *Management Education and Development*, 23(2): 106-122, Summer.
- DAVIS-BERMAN, J. & BERMAN, D. (2002). Risk and anxiety in adventure programming. *The Journal of Experiential Education*, 25(2): 305-310, Fall.
- DONNISON, P. (1995). OMD put to the test. *Management Development Review*, 8(5): 35-37.
- DUFRENE, D.D.; SHARBROUGH, W.; CLIPSON, T. & McCALL. (1999). Bringing outdoor challenge education inside the business communication classroom. *Business Communication Quarterly*, 62(3): 24-36, September.
- ELLIS, G.D.; MORRIS, C. & VOEKL, J.E. (1994). Measurement and analysis issues with explanation of variance in daily experience using the flow model. *Journal of Leisure Research*, 26(4): 337-356.
- ELLIS, S.M. & STEYN, H.S. (2003). Practical significance (effect size) versus or in combination with statistical significance (p-values), *Management Dynamics*, 12(4): 51-53.
- EWERT, A. (1989). *Outdoor adventure pursuits: foundations, models, and theories*. Columbus, OH: Publishing Horizons.
- EWERT, A. & HOLLENHORST, S. (1990). Risking it on wildlands: the evolution of adventure recreation. *Journal of Environmental Education*, 21(3): 29-36.
- EWERT, A. & SHELLMAN, A. (2003). The role of higher education in wilderness for the 21st century. *The Journal of Physical Education, Recreation and Dance*, 74(8): 28-32.
- FOX, R. (1999). Enhancing Spiritual Experience in Adventure Programmes. In J.C. Miles & S. Priest (Eds.), *Adventure Programming* (455-461) (2nd ed.). State College, PA: Venture Publishing.
- FREEMAN, P.A.; NELSON, D.C. & TANIGUCHI, S.T. (2003). Philosophy and practice of wilderness-based experiential education, *Journal of Physical Education, Recreation and Dance*, 74(8): 25-27, 32, October.

- FREDRICKSON, L.A. & ANDERSON, D.H. (1999). A qualitative exploration of the wilderness experience as a source of spiritual inspiration. *Journal of Environmental Psychology*, 19(1): 21-39, March.
- GALL, A.L. (1987). You can take the manager out of the woods, but... *Training and Development Journal*, 41(3): 54-58, March.
- GECAS, V. & BURKE, P.J. (1995). In K.S. Cook; G.A. Fine & J.S. House (Eds.), *Sociological perspectives on social psychology* (41-67). Boston, MA: Allyn and Bacon.
- GODKIN, M.A. (1980). Identity and place: clinical applications based on notions of rootedness and uprootedness. In A. Buttimer & D. Seamon (Eds.), *The human experience of space and place* (73-85). London: Croom Helm.
- GOLDENBERG, M. (2001). Outdoor and risk educational practices. In A.J. Fedler (Ed.), *Recreation boating and fishing foundations: defining best practices in boating, fishing, and stewardship education* (129-141). Available: Eric. Date of access: 16 June 2006.
- HENDEE, J.H & BROWN, M. (1988). How wilderness programs experience programs facilitate personal growth: a guide for program leaders and resource managers. *Renewable Resources Journal*, 6: 9-16, Spring.
- HATTIE, J.; MARSH, H.W.; NEILL, J.T. & RICHARDS, G.E. (1997). Adventure education and outward bound: out-of-class experiences that make a lasting difference. *Review of Educational Research*, 67(1): 43-87, Spring.
- INGRAM, H. & DESOMBRE, T. (1999). Teamwork: comparing academic and practitioners' perceptions. *Team Performance Management*, 5(1): 16-22, January.
- IRVINE, D. & WILSON, J.P. (1994). Outdoor management development – reality or illusion? *Journal of Management Development*, 13(5): 25-37, June.
- JONES, P.J. & OSWICK, C. (1993). Outcomes of outdoor management development: “articles of faith.” *Journal of European Industrial Training*, 17(3): 10-18.
- JONES, D.J.; HOLLENHORST, S.J. & PERNA, F. (2003). An empirical comparison of the four channel flow model and adventure experience paradigm. *Leisure Sciences*, 25(1): 17-31, January-March.
- KAPLAN, R. (1974). Some psychological benefits of an outdoor challenge program. *Environment and Behavior*, 6(1): 101-116, March.
- KAPLAN, S. & TALBOT, J.F. (1983). Psychological benefits of wilderness experience. In I. Altman & J.F. Wohlwill (Eds.), *Behavior and the Natural Environment* (163-203). New York, NY: Plenum Press.
- KLEIN, D. (1997). Beyond the wilderness. *About Campus*, 1(6): 18-22, January.
- KLINT, K.A. (1999). The social psychology of adventure programming. In J.C. Miles & S. Priest (Eds.), *Adventure programming* (164-168) (2nd ed.). State College, PA: Venture Publishing.
- MARTIN, P. (1999). Practical stories in a theoretical framework. In J.C. Miles & S. Priest (Eds.), *Adventure programming* (169-178) (2nd ed.). State College, PA: Venture Publishing.
- MAZANY, P.; FRANCIS, S. & SUMICH, P. (1995). Evaluating the effectiveness of an outdoor workshop for team building in an MBA programme. *Journal of Management Development*, 14(3): 50-68, February.
- McAVOY, L.H.; MITTEN, D.S.; STRINGER, L.A.; STECKART, J.P. & SPROLES, K. (1996). Group development and group dynamics in outdoor education. In *Coalition for education in the outdoors research symposium proceedings*. Available: Eric. Date of access: 17 Aug. 2006.
- McEVOY, G.M. & BULLER, P.F. (1997). The power of outdoor management development. *Journal of Management*, 16(3): 208-217, May.
- NICHOLS, G. (1999). Is risk a valuable component of outdoor adventure programmes for young offenders undergoing drug rehabilitation? *Journal of Youth Studies*, 2(1): 101-115.
- NUNNALLY, J.C. & BERNSTEIN, I.H. (1994). *Psychometric theory*. New York, NY: McGraw-Hill.
- PAXTON, T. & McAVOY, L. (2000). Social psychological benefits of a wilderness adventure program.

- USDA Forest Service Proceedings RMRS-P-15(3): 202-206.
- PRIEST, S. (1992). Factor exploration and confirmation for the dimensions of an adventure experience, *Journal of Leisure Research*, 24(2): 127-139.
- RICHARDS, G.E.; ELLIS, L.A. & NEILL, J.T. (2002). The ROPELOC: review of personal effectiveness and locus of control: a comprehensive instrument for reviewing life effectiveness. *Paper Presented at Self Concept Research: Driving International Research Agendas, 6-8 August 2002*. Hyperlink [http://www.wilderdom.com/abstracts/RichardsEllisNeill2002ROPELOCComprehensiveInstrumentReviewingPersonalEffectiveness.htm]. Retrieved 9 June 2005.
- SALAS, E.; ROZELL, D.; MULLEN, B. & DRISKELL, J.E. (1999). The effect of teambuilding on performance: an integration. *Small Group Research*, 30(3): 309-329, June.
- SIBTHORP, J. & ARTHUR-BANNING, S. (2004). Developing life effectiveness through adventure education: the roles of participant expectations, perceptions of empowerment, and learning relevance. *Journal of Experiential Education*, 27(1): 32-50.
- SKLAR, S.L. (2005). Positive youth development: the case of a wilderness challenge intervention. Florida: University of Florida (DPhil dissertation). Abstract in Hyperlink [http://etd.fcla.edu/UF/UFE0010093/sklar_s.pdf]. Retrieved 18 August 2006.
- STRINGER, L.A. & McAVOY, L.H. (1992). The need for something different: spirituality and wilderness adventure. *Journal of Experiential Education*, 15(1): 13-20, May.
- TALBOT, J.F. & KAPLAN, S. (1986). Perspectives on wilderness: re-examining the value of extended wilderness experiences. *Journal of Environmental Psychology*, 6(3): 177-188.
- THOMAS, J.R. & NELSON, J.K. (2001). *Research methods in physical activity* (4th ed.). Champaign, IL: Human Kinetics.
- WAGNER, R.J.; BALDWIN, T.T. & ROLAND, C.C. (1991). Outdoor training: revolution or fad? *Training and Development Journal*, 45(3): 51-57, March.
- WAGNER, J.W. & ROLAND, C.C. (1992). How effective is outdoor training? *Training and Development*, 46(7): 61-64, July.
- WAGNER, R.J. & CAMPBELL, J. (1994). Outdoor-based experiential training: improving transfer of training using virtual reality. *Journal of Management Development*, 13(7): 4-11, July.
- WILLIAMS, S.D.; GRAHAM, T.S. & BAKER, B. (2003). Evaluating outdoor experiential training for leadership and teambuilding. *Journal of Management Development*, 22(1): 45-59.

Dr. Charlé du P. Meyer: Skool vir Biokinetika, Rekreasie en Sportwetenskap, Noordwes-Universiteit (Potchefstroom-kampus), Privaatsak X6001, Potchefstroom 2520, Republiek van Suid-Afrika. Tel: +27 (0)18 299 1809, Faks: +27 (0)18 299 1808, E-pos: charle.meyer@nwu.ac.za

(*Vakredakteur: Prof. H.J. Bloemhoff*)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 71-77.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 71-77.
ISSN: 0379-9069

AN ANALYSIS OF PLAYERS' PERFORMANCES IN THE FIRST CRICKET TWENTY20 WORLD CUP SERIES

Hermanus H. LEMMER

Department of Statistics, University of Johannesburg, Johannesburg, Republic of South Africa

ABSTRACT

The purpose of this paper is to show how batting and bowling performance measures for one-day internationals can be adapted for use in Twenty20 matches, specifically in the case of a very small number of matches played. These measures are then used to give rankings of the batsmen and bowlers who performed best in the first Twenty20 World Cup Series.

Key words: Batting performance; Bowling performance; Ranking of batsmen; Ranking of bowlers.

INTRODUCTION

The Twenty20 form of cricket, where each team gets only twenty overs to bat, has become very popular since its introduction in June 2003. Its rules are similar to those of the one-day form, which uses fifty overs per team, but every match can be very exciting because a batsman cannot afford to leave any ball alone – each team faces only twenty overs. After the conclusion of the first World Cup Series it is interesting to look at the performances of the players and to determine the top performers. Various batting and bowling performance measures have been developed for use in test matches and in one-day internationals (ODIs) alike – cf. Lemmer (2002; 2004 & 2006). These have been extended to take into account the strength of the opponents (Lemmer, 2007; 2008b), or have been modified to be applicable in the case of a small number of matches played (Lemmer, 2005; 2008a). The advent of the Twenty20 form of cricket poses a new challenge. Suitable performance measures have to be found in the light of the fact that no player has a long record of Twenty20 matches. The purpose of this paper is to show what modifications to existing measures are necessary and to use these suitably adjusted measures to analyse the performances of the players in the first Twenty20 World Cup Series.

BATSMEN

The maximum number of matches played by any batsman in the series was only seven. Their scores have been obtained from Cricinfo (2007a). It was decided to consider those batsmen who had batted in at least three innings. A measure that could be used (cf. Basevi & Binoy (2007)) is $\text{Calc} = R^2/(\text{out} \times B)$, where R is the total number of runs scored, 'out' the number of times the batsman was out and B the number of balls faced. Hence $\text{Calc} = (R/\text{out}) \times (R/B) = \text{AVE} \times (\text{SR}/100)$ with $\text{AVE} = R/\text{out}$ the ordinary average as defined by the cricketing community and $\text{SR} = 100 \times R/B$ the strike rate. In Lemmer (2008a) it was shown that AVE is not a suitable measure in the case of a batsman who had played a small number of innings and was not out in a large proportion of his innings. Let 'n' denote the total number of scores of a

batsman, 'sumout' the sum of his out scores, 'sumno' the sum of his not out scores, 'avno' the average of his not out scores,

$$e_2 = (\text{sumout} + 2 \times \text{sumno})/n$$

and

$$e_6 = (\text{sumout} + f_6 \times \text{sumno})/n \text{ where } f_6 = 2.2 - 0.01 \times \text{avno}.$$

In Lemmer (2008a) it was reasoned that if a batsman had a not out score, he could have scored more runs, had he had the opportunity to bat until he got out. It was shown that, on average, he could have been expected to double his score. This was the motivation for the formula e_2 where the factor '2' has the effect of doubling each not out score. Many other possible factors have also been considered and the conclusion was that e_6 with factor f_6 was the best overall, with e_2 in second place. It was shown that e_2 and e_6 are generally closely related (cf. Figure 2 and Table 6 in Lemmer, 2008a) and are much more sensible to use than AVE. Subsequent extensive case studies have shown that very large not out scores may cause the difference between e_2 and e_6 to be large (≥ 10). It is therefore recommended that $e_{26} = (e_2 + e_6)/2$ rather than AVE should be the pivotal quantity in the measure to be used. Some of the top scoring batsmen had large (≥ 0.40) not out proportions – cf. Table 1 columns 3 and 4. Note the large difference between AVE and e_{26} in the case of most batsmen who had two or more, not out scores. The measure BP*, defined in Lemmer (2008a) for a short series, now comes into consideration, but for batsmen who had not played international Twenty20 matches before the series the career consistency and career strike rate, which are required in the formula, do not exist. Returning to the construction of the batting performance measure (BP) on p. 59 in Lemmer (2004), guidelines can be obtained on how to find a suitable measure. The exponentially weighted average (EWA) is replaced by e_{26} . Given all the batsmen's short international Twenty20 careers, the consistency measure can again not be incorporated since it is known that the consistency coefficient (CC) varies much in the initial part of a batsman's career. The strike rate, on the other hand, can be used. Firstly, each batsman's strike rate has to be compared with a reference value, and it was mentioned by Varghese (2007) that the average value of SR for all the batsmen in the Twenty20 World Cup Series was 124.03. The value used is not critical because it does not influence the ranking of the batsmen. Let $R = \text{SR}/124.03$. In Lemmer (2004) it was argued that for limited overs matches one should define the strike rate adjustment by $\text{RP} = R^{0.45}$. This has recently been updated to $\text{RP} = R^{0.50}$. Until sufficient data becomes available for international Twenty20 matches, the exponent 0.50 is the most logical one to use. The suggested formula of batting performance in the series, derived from BP, now becomes

$$\text{BP}_{26} = e_{26} \times \text{RP} = e_{26} \times (\text{SR}/124.03)^{0.50}.$$

By using the exponent 0.50 the effect of SR is scaled down to have a smaller effect than SR in Calc.

In Table 1 the batsmen with averages over fifteen (the rest have been deleted in order to shorten the list) are ranked according to BP_{26} . In order to give ranks also according to Calc for comparison purposes, Sharma, whose average is undefined, because he was not out in all three of his innings, is artificially allocated the rank 1 (otherwise he would fall out of the comparison because he has no average, leaving 45 cases in one ranking and 46 in the other). Obviously one expects the two rankings to be closely related, but there are players whose ranks according to the two measures differ markedly. Schofield scored 24 runs in four innings and was not out in three cases. This gave him $AVE = 24$, but the more realistic $e_{26} = 12.1$. His

rank according to Calc is 29, compared to a rank of 45 according to BP_{26} . Players with very high strike rates (e.g. Afridi with 197.8, Y. Singh with 194.7 and Arafat with 183.3) benefit too much from these because Calc weights SR too highly. Afridi has $AVE = 15.2$ but this is blown up to $Calc = 30.0$ compared to $e_{26} = 15.2$ and $BP_{26} = 19.1$. Unrealistically large values of Calc in the case of top performers who had a large proportion of not out scores (cf. Hayden, Kemp, Mubarak and Misbah-ul-Haq) are mainly due to unrealistic averages. This again shows that the traditional average is not a very reliable measure to use in cases where only a small number of innings have been played.

TABLE 1. RANKING OF BATSMEN ACCORDING TO BATTING PERFORMANCE MEASURE BP_{26}

BP_{26} rank	Player	Ins	NO	Runs	AVE	SR	e_2	e_6	e_{26}	BP_{26}	Calc	Calc rank
1	M Hayden	6	3	265	88.3	144.8	77.2	62.0	69.6	75.2	127.9	2
2	J Kemp	5	3	173	86.5	139.5	64.0	55.5	59.7	63.4	120.7	3
3	R Sharma	3	3	88	-	144.3	58.7	55.9	57.3	61.8	-	1
4	H Gibbs	3	1	110	55.0	142.9	66.7	45.7	56.2	60.3	78.6	5
5	J Mubarak	4	2	105	52.5	169.4	45.5	41.9	43.7	51.1	88.9	4
6	C McMillan	5	1	163	40.8	181.1	42.2	39.5	40.9	49.4	73.8	7
7	Misbah-ul-Haq	7	3	218	54.5	139.7	45.1	43.4	44.3	47.0	76.2	6
8	A Ahmed	5	1	162	40.5	129.6	44.8	39.6	42.2	43.1	52.5	14
9	M Jayawarden	5	1	159	39.8	152.9	38.8	37.8	38.3	42.5	60.8	8
10	A Morkel	3	0	120	40.0	139.5	40.0	40.0	40.0	42.4	55.8	11
11	K Pietersen	5	0	178	35.6	161.8	35.6	35.6	35.6	40.7	57.6	10
12	B Hodge	3	1	82	41.0	134.4	39.0	37.3	38.1	39.7	55.1	12
13	G Gambhir	6	0	227	37.8	129.7	37.8	37.8	37.8	38.7	49.1	18
14	S Malik	7	2	195	39.0	126.6	39.0	36.9	37.9	38.3	49.4	17
15	Y Singh	5	0	148	29.6	194.7	29.6	29.6	29.6	37.1	57.6	9
16	A Gilchrist	6	1	169	33.8	150.9	33.3	32.8	33.0	36.5	51.0	15
17	S Jayasuriya	5	0	154	30.8	160.4	30.8	30.8	30.8	35.0	49.4	16
18	R Taylor	5	1	118	29.5	138.8	31.0	29.7	30.4	32.1	41.0	19
19	D Maddy	4	0	113	28.3	141.3	28.3	28.3	28.3	30.1	39.9	21
20	A Symonds	4	1	107	35.7	150.7	27.3	27.3	27.3	30.1	53.7	13
21	V Sehwag	5	0	133	26.6	138.5	26.6	26.6	26.6	28.1	36.9	23
22	M Dhoni	6	1	154	30.8	128.3	27.3	27.5	27.4	27.9	39.5	22
23	J Oram	5	1	92	23.0	153.3	25.0	24.1	24.6	27.3	35.3	25
24	I Nazir	7	1	147	24.5	150.0	24.9	24.6	24.7	27.2	36.8	24
25	B McCullum	6	1	139	27.8	121.9	25.8	25.9	25.9	25.7	33.9	26
26	M Boucher	3	0	88	29.3	94.62	29.3	29.3	29.3	25.6	27.8	30
27	Y Arafat	3	1	44	22.0	183.3	18.7	19.0	18.8	22.9	40.3	20
28	M Prior	3	0	69	23.0	111.3	23.0	23.0	23.0	21.8	25.6	33
29	T Dilshan	4	1	65	21.7	122.6	21.5	21.4	21.5	21.4	26.6	31
30	M Ashraf	5	0	87	17.4	181.3	17.4	17.4	17.4	21.0	31.5	27
31	O Shah	5	0	103	20.6	127.2	20.6	20.6	20.6	20.9	26.2	32
32	M Hussey	3	0	65	21.7	108.3	21.7	21.7	21.7	20.2	23.5	34
33	S Afridi	6	0	91	15.2	197.8	15.2	15.2	15.2	19.1	30.0	28
34	K Sangakkara	5	0	104	20.8	105.1	20.8	20.8	20.8	19.1	21.9	38

35	G Smith	5	0	94	18.8	120.5	18.8	18.8	18.8	18.5	22.7	37
36	P Fulton	5	1	77	19.3	105.5	19.6	19.6	19.6	18.1	20.3	41
37	R Uthappa	6	0	113	18.8	113.0	18.8	18.8	18.8	18.0	21.3	39
38	P Collingwood	5	0	86	17.2	132.3	17.2	17.2	17.2	17.8	22.8	36
39	L Vincent	6	0	117	19.5	100.9	19.5	19.5	19.5	17.6	19.7	43
40	Y Khan	7	0	127	18.1	107.6	18.1	18.1	18.1	16.9	19.5	44
41	M Hafeez	6	0	99	16.5	126.9	16.5	16.5	16.5	16.7	20.9	40
42	A Flintoff	5	1	70	17.5	132.1	15.6	15.8	15.7	16.2	23.1	35
43	L Silva	5	1	70	17.5	114.8	15.8	16.0	15.9	15.3	20.1	42

44	R Ponting	4	1	61	20.3	93.8	16.8	17.0	16.9	14.7	19.1	46
45	C Schofield	4	3	24	24.0	120.0	11.8	12.5	12.1	11.9	28.8	29
46	I Pathan	6	4	34	17.0	113.3	6.2	6.3	6.2	5.9	19.3	45

South Africa's batsmen performed well, with Kemp in second position, Gibbs fourth and Albie Morkel tenth.

BOWLERS

A bowler who had played in three matches in the series could have bowled twelve overs. Data has been obtained from Cricinfo (2007a). All the bowlers who had bowled at least twelve overs were considered. Basevi and Binoy (2007) gave a formula that can be used to measure bowling performance. Let B be the number of balls bowled, R the number of runs conceded and W the number of wickets taken, then their formula is $Calc = R^2/(W \times B)$, which can also be written as $Calc = A \times E/6$ where A is the average number of runs scored per wicket taken and E the economy rate. The requirement for the use of Calc is that a bowler should have bowled at least two hundred balls. This requirement is obviously not met. In Lemmer (2005) a method was given which is suitable for the present situation. Calculate $CBR^* = 3R/(W^* + O + W^* \times R/B)$ where O denotes the number of overs bowled and W^* is the sum of the weights of the wickets taken by the bowler. The weight of every wicket depends on the batting position of the batsman whose wicket was taken – cf. Table 2. The list of wickets taken by each bowler has been obtained from the scorecards in Cricinfo (2007b).

TABLE 2. WEIGHTS OF WICKETS ACCORDING TO BATTING POSITION

Batting position	Weight	Batting position	Weight	Batting position	Weight
1	1.30	5	1.38	9	0.59
2	1.35	6	1.18	10	0.39
3	1.40	7	0.98	11	0.19
4	1.45	8	0.79	Total	11.00

These weights are those obtained for ODIs. Ideally speaking, weights should be calculated specifically for international Twenty20 matches, but to date no batsman had played a sufficient number (at least twenty) of such matches. It may be reasoned that a batsman's batting ability in Twenty20 matches will be similar to his batting ability in ODIs, so the ODI weights are used until enough Twenty20 data becomes available.

In Table 3 the bowlers who had bowled at least twelve overs are ranked according to CBR^* . Their ranks according to Calc are also given for comparative purposes. Note that for most of the top ranked bowlers W^* is markedly larger than W. This is due to the fact that they have mainly taken the wickets of top and middle order batsmen, whose weights are larger than one. R Singh with $W = 12$ and $W^* = 14.17$ took wickets of batsmen numbers 1, 1, 1, 2, 2, 3, 4, 5, 6,

7, 8, 10 and he ranks third (not fifth as in the case of Calc). Gul, on the other hand, took most wickets (13) but is ranked fifth (not second as in the case of Calc) because 46% of the wickets he took were those of lower order batsmen (7, 7, 9, 10, 10, 11).

TABLE 3. RANKING OF BOWLERS ACCORDING TO BOWLING PERFORMANCE MEASURE CBR*

CBR* rank	Player	O	R	W	W*	CBR*	Calc	Calc rank
1	D Vettori	24	128	11	13.83	7.661	10.34	1
2	S Clark	24	144	12	14.97	8.009	12.00	3
3	R Singh	24	152	12	14.17	8.583	13.37	5
4	M Morkel	20	120	9	10.91	8.608	13.33	4
5	U Gul	27.4	155	13	13.25	8.726	11.13	2
6	M Malinga	14	100	7	8.81	9.010	17.01	7
7	I Pathan	22	149	10	12.46	9.212	16.82	6
8	A Razzak	19	121	7	9.68	9.319	18.35	10
9	C Fernando	17	104	6	8.05	9.381	17.67	9
10	S Afridi	28	188	12	14.63	9.559	17.53	8
11	C Vaas	18	100	5	6.85	9.618	18.52	11
12	M Johnson	24	153	8	10.78	9.928	20.32	13
13	A Flintoff	18	110	5	6.56	10.563	22.41	15
14	S Al Hasan	17	116	6	7.01	10.881	21.99	14
15	C Schofield	12.5	92	4	5.51	11.073	27.49	16
16	N Bracken	22.2	142	8	7.80	11.095	18.81	12
17	M Asif	26.5	212	10	12.29	11.500	27.92	17
18	S Pollock	19.3	167	8	9.79	11.580	29.80	19
19	B Lee	24	171	7	8.90	11.802	29.01	18
20	S Tanvir	23	161	6	8.18	11.861	31.31	21
21	J vd Wath	20	150	6	6.61	12.904	31.25	20
22	J Anderson	15	102	3	3.98	13.026	38.53	28
23	C Martin	15	114	4	4.96	13.032	36.10	27
24	S Bond	24	180	7	7.74	13.039	32.14	22
25	A Mascarenhas	14	122	4	5.50	13.315	44.30	30
26	Harbhajan Singh	23	182	7	7.69	13.372	34.29	25
27	S Jayasuriya	12.5	102	4	4.20	13.543	33.79	23
28	V Philander	13	104	4	4.30	13.546	34.67	26
29	M Gillespie	19.5	156	6	6.36	13.554	34.09	24
30	M Hafeez	19	163	5	6.66	13.899	46.61	31
31	S Sreesanth	23	183	6	7.00	13.976	49.44	29
32	S Rasel	17	123	3	4.00	14.289	54.72	32
33	J Sharma	14.3	138	4	4.80	15.382	59.40	33
34	S Broad	19	184	5	5.72	16.258	82.51	34
35	M Ntini	12	109	2	2.70	17.405	46.61	35

Morné Morkel ranked fourth and was by far South Africa's best bowler. Then follows Pollock, who is ranked 18th. He is normally very economical, but he ranked 30th according to E, 15th according to A and ninth according to his strike rate.

CONCLUSION

Measures specifically adapted to measure performance in the case of a small number of matches have been used to rank the batsmen and bowlers in the first Twenty20 World Cup Series. In both rankings examples have been given of players who would have been ranked differently if ordinary measures had been used. In order to be fair, the most reliable measures should always be used.

The Calc formulas for batting and bowling are simple to calculate, but it was shown here that they are not suitable in the case of a small number of matches. In a recent study of the performances of seventeen South African batsmen in their List-A careers (i.e. one-day matches on local and at international level combined) Mark Boucher was ranked twelfth according to Calc but fourth according to the batting performance measure BPW of Lemmer (2008b). Similarly, among eighteen bowlers Jacques Kallis was ranked thirteenth according to Calc, but third according to the current bowling performance measure CBPW of Lemmer (2008b).

The desire to adjust measures like BPW, CBPW and others for use in Twenty20 cricket and to revisit the weights in Table 2 will not be realized soon because a lot of additional data must become available to do the work properly. Unfortunately the number of international Twenty20 matches is restricted by the International Cricket Council, with the result that players' data grows slowly.

From the results of this study it is interesting to note that India, who won the Twenty20 World Cup, had only one batsman among the top ten batsmen and two bowlers among the top ten bowlers. Pakistan, who came second, also had only one batsman and two bowlers among the top ten. This clearly shows that cricket is a team sport and that the result of a match depends on team effort and not only on individual performances.

REFERENCES

- BASEVI, T. & BINOY, G. (2007). The world's best Twenty20 players [<http://content-rsa.cricinfo.com/columns/content/story/311962.html>]. Retrieved on 3 October 2007.
- CRICINFO (2007a). Statsguru [<http://stat.cricinfo.com/guru?sdb=find&search=>]. Retrieved on 1 October 2007.
- CRICINFO (2007b). ICC World Twenty20 [<http://content-rsa.cricinfo.com/twenty20wc/engine/current/match/html>]. Retrieved on 1 October 2007.
- LEMMER, H.H. (2002). The combined bowling rate as a measure of bowling erformance in cricket. *South African Journal for Research in Sport, Physical Education and Recreation*, 24(2): 37-44.
- LEMMER, H.H. (2004). A measure for the batting performance of cricket players. *South African Journal for Research in Sport, Physical Education and Recreation*, 26(1): 55-64.
- LEMMER, H.H. (2005). A method for the comparison of the bowling performances of bowlers in a match or a series of matches. *South African Journal for Research in Sport, Physical Education and Recreation*, 27(1): 91-103.
- LEMMER, H.H. (2006). A measure of the current bowling performance in cricket. *South African Journal for Research in Sport, Physical Education and Recreation*, 28(2): 91-103.
- LEMMER, H.H. (2007). The allocation of weights in the calculation of batting and bowling performance measures. *South African Journal for Research in Sport, Physical Education and Recreation*, 29(2): 75-85.

- LEMMER, H.H. (2008a). Measures of batting performance in a short series of cricket matches. *South African Statistical Journal*, 42(1): 83-105.
- LEMMER, H.H. (2008b). Batting and bowling performance measures for List-A and First Class matches. Submitted for publication in the *South African Journal for Research in Sport, Physical Education and Recreation*.
- VARGHESE, M. (2007). Twenty quick numbers [<http://content-rsa.cricinfo.com/twenty20wc/content/story/312546.html>]. Retrieved on 13 October 2007.

Prof. Hermanus H. Lemmer: 122 Fourth Avenue, Fairland 2195, Republic of South Africa. Tel.: (w): +27 (0)11 6784413, Tel.: (h) & Fax.: +27 (0)11 6783031, Cell.: 073 1661934, E-mail: hoffiel@uj.ac.za

(Subject editor: Prof. E. Terblanche)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 79-93.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 79-93.
ISSN: 0379-9069

**SPORT TOURISM EVENT IMPACTS ON THE HOST COMMUNITY:
A CASE STUDY OF RED BULL BIG WAVE AFRICA**

ABSTRACT

The focus of this article is on the management and social impacts of sport tourism events on the host community. This article specifically evaluates the Red Bull Big Wave Africa (RBBWA) event as a case study. Of cognisance is the host community's involvement, perceptions, attitudes and an understanding of costs and benefits linked to the event, at the same time providing a critical view on the management aspects of the event and impacts evident from the host community's point of view. Survey questionnaires, interviews and direct observations were carried out as methods of obtaining data. Altogether 200 residents, two community leaders and one organiser took part in the investigation. The results indicated the event has entertainment value; provides economic benefits in particular for local businesses; promotes community pride and act as regional showcase. On the other hand, the analysis indicated the event as causing minimal disruption to local residents including use of public facilities, mainly for residents in close proximity to the event. In addition, negative environmental impacts and social inequalities became evident. The article reflects a strong link between management and impact of events as a measure to maximise the positive impacts and minimise the negative impacts.

Key words: Event Impacts; Sport tourism events; Host community.

INTRODUCTION

Worldwide, events have been recognised as a strong component of sport tourism that draw people from different places (Getz, 1997; Gammon & Robinson, 2003; Penot, 2003; Sofield, 2003; Zauhar, 2004), and are becoming an integral and major part of tourism development and marketing strategies (Tassiopoulos, 2005). In South Africa, Swart (1998) highlights the country's sport tourism campaign as being launched in 1997. Several authors (Swart, 1998; Burnett & Uys, 2000; Turco *et al.*, 2003; Saayman 2004; Swart *et al.*, 2005) have contributed to the development and understanding of sport tourism and its imperatives in South Africa. "Sport tourism events refer to those sport activities that attract tourists of which a large percentage are spectators ... [they] have the potential to attract non-residents, media, technical personnel, athletes, coaches and other sporting officials" (Kurtzman & Zauhar, 2003: 44), with the primary purpose for travel being participating in or viewing sport (Turco *et al.*, 2002).

Sport tourism and sport tourism events are viewed as a growing niche market, reflecting South Africa's sport tourism contribution to the county's economy to be in the range of 4% (Ritchie, 2005), with South African Tourism (SAT, 2006) estimating the country's tourism contribution to 122,49 bn to the GDP (direct and indirect). Hosting of major international events like the 1995 Rugby World Cup, 2003 Cricket World Cup and the upcoming 2010 Federation International de Football Association (FIFA) have contributed to this growth. With the

increasing reliance on the staging of events as an ingredient of tourist destination development and promotion, their impacts within the host community have become an issue for consideration (Fredline & Faulkner, 2002b). The host community relates to people or residents who are staying at the event location or at close proximity to the event location and

are the most people who are likely to understand the event and impacts better, by virtue of their proximity and hosting of the event (Delamere, 2001; Burkner, Page & Meyer, 2002). Consideration of sport tourism events on the host community is an effort to understand the different ways in which local residents react to the hosting of the events and its impacts and the reasons for their reactions. As noted by Delamere (2001) awareness of the event impacts and of residents attitudes towards the event impacts, may enable action that could lead to a reduction of unwanted disruption of local community life, thereby encouraging a balance between social and economic development. This means, hosting the event is not good enough until recognition is given to the resources used, and at the same time people (host communities) should identify with the participatory processes. Involvement of people in the host community as an integral part of both sport and tourism, directly or indirectly is vital for the continuing existence of these activities. Following this trend negative event impacts could be minimised. Event impacts are the effects and implications of how the event impinge on local residents' quality of life and their reactions thereof (Fredline & Falkner, 2002a). Taking into consideration the nature of the impacts discussed underneath, Dwyer *et al.* (2000) provide a summary of tangible cost and benefits of events, as a reflection of the latter view in Table 1 below.

TABLE 1. RECOGNITION OF TANGIBLE COSTS AND BENEFITS (Dwyer *et al.*, 2000: 35)

Social Benefits	Social Costs
<ul style="list-style-type: none"> • Community development • Civic Pride • Event production extension 	<ul style="list-style-type: none"> • Disruption to resident lifestyle • Traffic congestion • Noise • Vandalism • Crowding • Property damage
Economic Benefits	Economic Costs
<ul style="list-style-type: none"> • Long term promotional benefits • Induced development and construction expenditure • Additional trade and business development • Increased property values 	<ul style="list-style-type: none"> • Resident's exodus • Interruption of normal business • Under-utilised infrastructure

The reflection presented in the table underscores the importance of management of events, as reflected by several studies (Bowdin & Church, 2000; Weed & Bull 2004; Bohlman & Heerden, 2005; Kurtzman & Zauhar, 2005; Swart & Smith-Christensen, 2005). It is widely recognised that events have the power to have impacts of a socio-cultural, economic and environmental nature on their host destination and within the affected community (Swart & Smith-Christensen, 2005). Hede *et al.* (2002) suggest that events are usually evaluated from

an economic perspective and largely driven by the needs of government and tourism agencies to justify the staging of special events based on their economic contribution to the host economy. This is because of the benefits or economic stimulus associated with sport tourism events (Hautbis *et al.*, 2003) linking sport tourism and local economic development.

Denoting from Table 1, several studies (Urgan & Mule, 2001; Turco *et al.* 2003;

Tassiopoulos, 2005; Shone & Parry, 2005; Horne & Whitson, 2006;) on the costs and benefits and impacts of events, suggests the tangible costs and benefits presented above can be used as the basis of understanding and assessing some of the impacts linked to events. Looking at the nature of the impacts that are evident in Table 1, sport tourism events could be beneficial or detrimental to the host destination. Measuring these impacts depends on the scale and the nature of the event. It also cannot be disputed that when providing a sport tourism experience, utilisation of resources in the entire organisation of the event remains crucial. Thus, proper planning, taking cognisance of both management and impacts of sport tourism events could result in the maximisation of positive impacts. "It is critical that the impacts of ... events be managed effectively so that benefits accrue not only to select stakeholders, but to all of the host community" (Tiyce & Dimmock, 2000: 222). For the practical understanding of Table 1 in relation to the study, the table can be linked to the results section.

This study presents a broader understanding of the management and social impacts of sport tourism events on the host community in relation to the Red Bull Big Wave Africa (RBBWA). It is important to note that since the inception of the event in 1999, this is the first study to be conducted. Similar to Reid and Arcodia (2002), the study used a holistic stakeholder approach composed of residents, community leaders and event organisers. This study had the following objectives: firstly, to determine how local residents respond to and perceive the event; secondly, to assess the current management practices and impacts towards the development of a sustainable sport tourism event; and finally attempt to strengthen and contribute to the creation of a sustainable sport tourism industry in the Western Cape, as well as South Africa. The event is part of a broader, comparative study of the management and impacts of sport tourism events in the Western Cape and KwaZulu-Natal.

METHODOLOGY AND DESIGN

In order to achieve the objectives of the study, known and acceptable methods of obtaining data were used – qualitative and quantitative. A literature study was used to provide background to the study, presenting a holistic understanding of sport tourism events, at the same time placing in context what the study sought to achieve and informed questions for interviews, questionnaire survey and observations. Survey questionnaires, interviews and direct observations were used in the collection of data.

The residents' survey was based on the survey developed by Fredline (2000) and Fredline and Faulkner (2000; 2002a; 2002b). Once approval was given, the survey was adapted to the South African context. The data was collected from residents of Hout Bay a week after the event. Two hundred (200) questionnaires with close and open-ended questions were administered using face to face interviews with the residents of the host community. A stratified purposive sampling approach was deployed taking cognisance of low, medium and high income areas to provide a broad representation of the respondents. A Geographical Information System (GIS) map was used to determine these areas within the scope of 1 to 5

km radius, with the intention to evaluate variance associated with proximity to the event. Areas which were part of the study included: Hungberg; Imizamo Yethu; Mount Rhodes; Llandudno; and Hout Bay Heights. A Likert-type scale was used, ranging from strongly disagree (SD), disagree (D), neutral (N) and agree (A) to strongly agree (SA). For an overall interpretation of the results, presentation of results in some instances are grouped (disagree and strongly disagree and agree and strongly agree).

In addition to this, interviews were conducted with the event organiser (1) and leaders of the communities (2). The interviews ranged from unstructured to semi-structured interviews. Unlike completely structured interviews, unstructured and semi-structured interviews allow the interviewer to use probes with a view to clearing up vague responses, or to ask for elaboration of incomplete answers (Welman & Kruger, 2000: 161). The purpose of these personal interviews was to gain a greater understanding of sport tourism event initiatives in relation to the RBBWA, including planning, management and implementation, which might not be captured in the surveys.

Furthermore, direct observations were carried out throughout the event. This was done to capture supporting evidence for the study. This method was chosen because of its ability to excavate and expose the underlying areas of the investigation. As highlighted by Bailey (1987: 239) "observation can provide a picture of overall ... [of] all persons present at a given time rather than the more fragmented and isolated information provided by a survey respondent". In addition, careful observation of what is happening at a particular facility or type of facility or among particular groups can be a more appropriate research approach than the use of questionnaires or even informal interviews (Veal, 1992).

For this study, the Statistical Package for Social Science (SPSS) was used as a tool for data inputting and analysis (descriptive), using correlation as an instrumental measure. The research approach was chosen on the basis that it will contribute to the understanding of sport tourism event impacts on the host community in relation to the RBBWA.

AN OVERVIEW OF THE RED BULL BIG WAVE AFRICA

Red Bull Big Wave Africa (RBBWA) is a professional surfing event. It is an event for those who participate in extreme sport, namely riding/surfing the 'Big Wave'. RBBWA is not an ordinary surfing event, it is unique. The event takes place in close proximity of the Hungberg community in Hout Bay, Cape Town, and in an environmentally sensitive area (Sentinel), which is part of the Cape Peninsula National Park (Botha, 2005b). The Sentinel (peak of the mountain) point allows one to view the biggest and most radical surf break on the African continent (Red Bull Big Wave Africa, 2005). The distance is between 1 and 2 kms from the harbour. One needs to pass through the Hungberg community in order to view the 'Big Wave' event from the land. The harbour is also an integral part of the event location, as it can be viewed as a base of the RBBWA and boasts the National Sea Rescue Institute (NSRI) which is the headquarters of the event. The harbour is also the departure point for participants, using their boats and jet skis. In addition, the harbour provides access to view the surfers/event in action from the water. Finally, it can be seen as a departure point for those who opt to use transport to the Sentinel and watch the event at the tip of the Sentinel (park and ride).

The event is organised and sponsored by Red Bull hence called the Red Bull Big Wave Africa and sanctioned by Surfing South Africa. Other sponsors include Sensi Threads for the biggest wave award, Engen as a partner and sponsor of the event, Canon for the best tube award, Von Zipper for the deep throat award and Billabong as the official clothing supplier of the crew. The RBBWA is an annual event and takes place over a period of about two weeks. There is no specified date for this contest as it depends on the size of the waves at a given period. Since its inception in 1999, the RBBWA contest took place twice (2000 and 2006) with waves reaching a required height (5 meters) for the contest to begin. The actual surfing takes place at the Dungeon. Bertish (2005) describes the Dungeon as an open ocean reef located under the towering cliffs of the Sentinel Mountain at the mouth of Hout Bay, on the west coast of the

Cape Peninsula at the southern tip of Africa. The Dungeon has become part of the international wave circuit (Pike, 2001).

The inception of the RBBWA event in 1999 was not only a highlight for South African waters but also a highlight for the African continent. The event has attracted quite a number of well-known, top surfers of the “Big Wave” across the globe. Initially, RBBWA was a contest between South African surfers and there were no international invitees. Due to growth of this event, the event now hosts seven international invitees and seven nationals (Botha, 2005a). Even if the contest does not take place, the prizes and awards are distributed based on the call made for the trial sessions within the 21-day waiting period. Whether the contest takes place or not, a contest format is in place for this event:

“The 14 man field will be divided into two semi-final heats of seven competitors each and a draw will be conducted at the opening function to decide which heat will surf first. The duration of these heats will be 60 minutes and each surfers’ best two rides during that period will be tallied to determine his total for the heat. The three competitors with the highest tallies in each semi-final will advance to the final. The six man final will start approximately 30 minutes after the completion of the second semi to allow for scores to be tallied and for the top three competitors in the second heat to change their contest vests and get some sustenance. The duration of the final will depend on the surf and weather conditions on the day, but is likely to be a minimum of 60 minutes with each surfers’ best two rides counting. The highest scorer in the final will be crowned the 2005 Red Bull Big Wave Africa champion” (Red Bull Big Wave Africa, 2005).

This was the prescribed contest format for the 2005 RBBWA.

RESULTS, ANALYSIS AND DISCUSSION

The results and analysis of the residents survey is presented in the next section, and enhanced by interview comments and direct observations where necessary.

Location and demographic profile of respondents - Most of the respondents (32.5%) were from Hungberg – an important area that gives access to view the event from the land, followed by 28.5% of respondents from Imizamo Yethu and 25.5% of respondents from Hout Bay Heights. A further 10.5% and 3% of the respondents were from Mt. Rhodes and Llandudno respectively. Out of the sample ($n=200$), 59% of the respondents were males and 41% females. In terms of their racial representation, 58% of the respondents were Coloureds, 26%

Africans, 15% Whites and 1% Indian. This is not surprising as Hungberg is a traditional “Coloured community” created by the apartheid dispensation. The age distribution was from 31-40 years (31.5%), 21-30 years (22.5%), 41-50 years (22%) and 51-60 years (10.5%). These were the most prominent groups representing 86.5% of the respondents.

Event attendance and awareness - The majority of the respondents (84%) did not attend the event of which 16% indicated that they have attended the event before. Out of the sample ($n=200$), only 17.5% of the respondents did not provide reasons as to why they did not attend the event. Reasons highlighted by the respondents (82.5%) for not attending the event included: Unaware (31.5%); Didn’t have time (24%), Working (8%); Didn’t want to go (7.5%); Didn’t know (5%); Didn’t know the location (1.5%); Too expensive (1.5%); Not

around (1%); Too old to attend (1%); Too racial (1%) and Children too small (0.5%).

The responses of 37.5% (31.5% unaware, 5% didn't know and 1.5% didn't know the location) of people who were unable to attend the event because they were unaware, raises concern. Emanating from the interviews, community leaders and residents in general have a strong view that they should be more informed about the RBBWA event, as it takes place in their backyard. Even on the day of the practice session, about 25 people attended, out of which 16 were respondents, equating to 64% of attendees. Before the event, it was anticipated that the event would attract about (300) spectators. Based on this representation by the organisers, a population of n=200 was targeted. Despite the turn out, all respondents came specifically to the location for the event. It is also interesting to note that 87.5% of the respondents were local residents and 12.5% day tripper. The low number of attendance could have been influenced by the nature of the event being a media-type sport tourism event.

The efforts made by the organisers distributing letters to 50 households in close proximity to the event, seems not enough, as they appear to have left the rest of the community unaware of the event. Contributing to the low level of awareness could be the low and targeted marketing approach used by the organisers, as an attempt not to make RBBWA a spectator event, since the event takes place in an environmentally sensitive area. For common understanding, broader circles of communication between the organisers and the community are important.

Perceptions and attitudes - Emphasising the importance of residents' perceptions and attitudes, Soutar and Mcleod (1993: 537) note that events give rise to a variety of expectations in the local community. Table 2 presents a summary of residents' perception, attitudes and reaction to impacts of the event. Getz (1997) notes that attention to community wishes and impacts is essential.

TABLE 2. PERCEPTIONS AND REACTIONS TO IMPACTS OF THE EVENT - RESIDENTS (n=200)

Event as entertainment	SD	D	N	A	SA
The event provided an opportunity to attend an interesting event	6.5	7	24.5	47	15
The event provided an opportunity to have fun with family and friends	6.5	8	20.5	51	14
The event provided an opportunity to meet new people	4	7	15.5	60	13.5
The event increases entertainment opportunities for	8.5	10	13	53	15.5

locals					
Use of public money					
The event was a waste of public money	17.5	35	30.5	10.5	6.5
Too much money was spent on the event that could be spent on other activities	10	29	29.5	20	11.5
The event assists in increasing public spending for sport	11	14.5	30	34	10.5
Economic benefits of the event					
The event is good for the economy since it creates jobs	9.5	17.5	16	42	15
The event is good for local business (increases turnover)	9.5	12	17.5	47.5	13.5

Event disruption to local residents					
The event disrupted the lives of local residents and created inconvenience	21.5	48.5	16.5	10	3.5
The event caused traffic congestion and parking difficulties	19	37	18	21	5
The event created excessive noise	25	48	17	8.5	1.5
The event increased crime	21.5	47.5	16.5	11	3.5
The event was associated with some people behaving inappropriately such as excessive drinking or drug use	23	34	30	10	3
Use of public facilities					
The event promoted the development and better maintenance of public facilities such as roads, parks, sporting facilities and/ or public transport	26	18.5	26	26	3.5
The event denied local residents access to public facilities such as roads, parks, sporting facilities and/ or public transport because of closure or overcrowding	24	27.5	29	17	2.5
The event and promotion of community pride					
The event made locals feel more proud of the city/ country	3.5	5.5	8	57	26
The event made locals feels good about themselves and their community	3	5	12	54.5	25.5
Ordinary residents get a say in the planning and management of the event	39.5	23	17	18.5	2
Environmental impact of the event					
The event had a negative impact on the environment through excessive litter	17	40.5	28	12	2.5
The event had a negative impact on the environment through pollution	18	42.5	29	9.5	1
The event had a negative impact on the environment through damage to natural areas	17.5	41	25.5	15	1
The event as a regional showcase					
The event showcased the area in a positive light	4	4.5	11	57.5	23
The event attracts tourists to the area	1.5	5	8.5	62.5	22.5
The event attracts future business to the area	5	9	21	50	15

The event has increased media coverage of the area	5	9.5	19.5	51.5	14.5
Impact of the event on price					
The event leads to increases in the price of some things such as food, transport and property values	19.5	31.5	29	18	2
As a result of the event, more people are buying holiday homes in the area	8	18.5	39.5	26.5	7.5
During the event period, the overall cost of living has increased	20	31	33	15	1
Community benefits in relation to the event					
The community benefited directly from the event	31.5	30	20.5	16.5	1.5
Only some members of the community benefited from the event/ event increases social inequity	9	15.5	28	37	10.5

The event increases interaction between locals and tourists	10.5	14	22	45	8.5
---	------	----	----	----	-----

Strongly Disagree = SD; Disagree = D; Neutral = N; Agree = A and Strongly Agree = SA

Event as entertainment - According to Table 2, 73.5% agreed that the event provided a chance to meet new people, increases entertainment opportunities for locals (68.5%), provided an opportunity to have fun with family and friends (65%) and provided an opportunity to attend an interesting (62%). These results show that the event has an entertainment value. As noted by Fredline and Faulkner (2002b) entertainment and social opportunities are part of the range of tangible benefits.

Use of public money - As shown in Table 2, more than half of the respondents (52.5%) indicated the event was not a waste of public money, 44.5% agreed that the event assists in increasing public spending for sport while 39% indicated their disagreement (strongly disagreed and disagreed) with the statement that too much money spent on the event could have been spent on other activities. It is important to note that in all the statements above, the majority of the respondents were from Hungberg (20.5%, 13% & 14.5%) followed by Hout Bay Heights (13.5%, 13% & 10%) indicating the majority of the shared response to the statements as Coloured (30.5%, 24.5% & 24.5%) respectively. This is not surprising as these areas are very close to each other, with Hungberg being one of the event locations and that both these communities are coloured dominated terrains. It is also important to note that the majority of the respondents came from those who do not have income (9%, 5% & 6.5%) and those earning between R1–R1 000 (8.5%, 8.5%) and > R12 000 (6.5%) which are a proportion to the responses of the statements respectively. Based on these findings, there seems to be a mixed response from the respondents about the use of public money. High levels of neutral responses of the statements could merely mean that the respondents are not aware of: how the event is organised or managed; who is involved and the status of their involvement; and how much money is involved and the source of money involved in the event?

Economic benefits of the event - Reflecting on the economic benefits of the event, 61% of the respondents were of the view that the event is good for local business (increases turnover) with 57% percent giving an indication that the event is good for the economy since it creates jobs. In line with this finding, Chalip *et al.* (2003: 230) put emphasis on the importance of events on the host community by arguing that the increasing demand for accountability

requires event organisers to demonstrate that their events add value to the life of the community in which they are held.

Event disruption to local residents - Relating to the event disruption to local residents, there seemed to be a high level of disagreement with the statements. The respondents disagreed to strongly disagreed that the event created excessive noise (73%), disrupted the lives of local residents and created inconvenience (70%), the event increased crime (69%), the event was associated with some people behaving inappropriately such as excessive drinking or drug use (57%) and the event caused traffic congestion and parking difficulties (56%). It is important to note that these are positive responses, as they reflect minimal disruption to local residents. Observations carried out also provide supporting evidence, as there were few spectators at this event due to the contest not taking place. However, this issue (event disruption to local residents) needs greater attention, especially when the contest takes place, as it affects residents of the Hungberg community negatively. Vehicles were parked on the side of the street adjacent to the residents' houses and in some instances parked in front of the houses.

Overall, since the contest did not take place, it could be argued that less negative impacts than expected were observed.

Use of public facilities - In terms of public facilities it is disconcerting to note that 44.5% of the respondents indicated their disagreement with the statement that the event promoted the development and better maintenance of public facilities such as roads, parks, sporting facilities and/ or public transport while 29.5% agreed to strongly agreed as per Table 2. Only 19.5% of respondents agreed to strongly agreed that the event denied local residents access to public facilities such as roads, parks, sporting facilities and/ or public transport because of closure or overcrowding while 51.5% of the respondents provided an opposite view of the statement. The study contends that in this event, lack of access to public facilities because of closure or overcrowding could have had an impact on the respondents at close proximity to the event, hence the 19.5% response agreed to the statement. There is always going to be some disruption and inconvenience in hosting of events, however, management and understanding of the impacts is crucial. As presented by Delamere (2001: 25) “awareness of these social impacts, and of residents’ attitudes towards those impacts, may enable action that could lead to a reduction in the unwanted disruption of local community life ... thereby encouraging a balance between social and economic development forces within the community”.

The event and promotion of community pride - On issues relating to the event and promotion of community pride, the respondents indicated a high level of agreement with the event impacting on community pride, with the majority (83%) expressing that the event made locals feel more proud of the city/country and the event made locals feel good about themselves and their community (80%). However, the high level of disagreement (62.5%) that ordinary residents get a say in the planning and management of the event raises concerns. The organisers highlighted that efforts to involve the community in the event were made. This was done by involving some members of the community in the cleaning programme of the Sentinel before, during and after the event as well as the distribution of pamphlets or letters to the fifty households mentioned earlier. Despite this, community leaders have indicated great concern on the role of community or ordinary residents having a say or their involvement in the planning and management of this event (James, 2005; Ngetu, 2005). The interviews conducted with community leaders and comments by the community members revealed an

element of hostility against this event, with residents claiming the event as taking place in their community, hence the hostility if this aspect is ignored.

These interviews indicate contradicting views and expectations when it comes to community involvement in the event. They present a lack of awareness on part of the organisers on community issues in relation to the event. This aspect suggests that better relations between the organisers and the community at large, is an important aspect for the future of this event. Though there seemed to be a positive impact of the event on community pride, the relations between the event organisers and the community is an important aspect for future consideration. Community consultation, participation and involvement in planning and management of the event are a basis for the sustainable future of the event. As Reid and Arcodia (2002) indicate, involving community leaders and the key stakeholders within the host community in the planning process is also a way for the event organisers to ensure that the community participates in and has ownership of the event.

Environmental impact of the event - Though the majority (57.5%, 60.5% and 58.5%) of the respondents strongly disagreed with the three statements on environmental impact of the event

respectively as indicated in Table 2, high levels of neutrality could be based on the fact that few of the respondents have attended the event. Contributing to this view, could also be based on the contest not taking place. Despite the level of disagreement and neutrality, observations revealed that there were no facilities such as waste bins/bags and toilets provided at the event site or near to, for the entire duration of the event, including the days when the practice session was held. This may have played a part in negative or irresponsible behaviour of some spectators such as dumping of bottles and cigarette butts which could have resulted in fire risk and safety.

Though the respondents (16%) indicated a low level of agreement with the statement of negative impact on the environment through damage to natural areas, observations revealed that there was no one to direct spectators away from 'no go' areas, as they were moving freely without restrictions at the Sentinel area which is regarded as an environmentally sensitive area under Cape Peninsula National Park. This has the potential to cause damage to the natural environment, taking into consideration that toilets, waste bins/bags and restrictions on 'no go' areas were not provided at the event location or near the event location, which is environmentally sensitive one. Even when it comes to the entrance to the Sentinel, there was no single entrance to the area as spectators were using different entrances, as they wished. There are different paths on your way to the peak of the mountain which indicate a poor level of control in order to minimise damage to the natural vegetation. In some instances paths were not used, with spectators trampling over the natural vegetation. Despite the organiser's point of view of limiting crowds by not undertaking extensive marketing to prevent environmental damage, observations suggest more measures for crowd and environmental control as crucial in this event, not only when the contest takes place but also during the practise sessions.

The event as a regional showcase - As outlined in Table 2, 85% agreed that the event attracts tourists to the area, the event showcased the area in a positive light (80.5%), the event has increased media coverage of the area (66%) and the event attracts future business to the area (65%). Lee (2001) denotes that increasing community visibility, positive income, and enhancing community image are all common and acceptable postulations in hosting events. Putting the respondents' reflection into context, there seemed to be a strong view that the

event is a regional showcase. Arguing that the event is one element of a destination's overall product or service mix, Chalip (2004) contends that events can be useful beyond the period of the event itself if they are built into the destination's marketing communication mix. The findings in this section demonstrate the role the RBBWA has in profiling the area. Hout Bay can use this event to create a strong profile for the destination. Jago *et al.* (2002) note that the importance of events in a destination will only be achieved if marketers and event managers have a good understanding of brand theory and how it can be used to achieve maximum visitation to the destination.

Impact of the event on price - On impacts of the event on price as displayed in Table 2, the relatively high response rate reflecting neutral responses suggest that the event is fairly small hence it would need a huge increase in demand to have any effect, even a temporary one on both food or property prices.

Community benefits in relation to the event - Considering the community benefits in relation to the event, 61.5% of the respondents disagreed to strongly disagreed with the statement that the community benefited directly from the event, with a further 18% agreeing with the statement. Highlighting the importance of relations between the organisers and the

host community in hosting events, Waitt (2003: 195) posits that “a positive perception is suggested to occur only when both [community and organisers] actors have a high level of social power within the exchange relationship”. Nearly half of the respondents (47.5%) agreed to strongly agreed that only some members of the community benefited from the event, while 53.5% agreed to strongly agreed that the event increased interaction between locals and tourists. It is important to note that in all the statements above, the majority of the respondents were from Hungberg (23.5%, 17.5% & 16.5%), reflecting the majority of the shared responses to the statements as Coloured (36.5%, 27% & 30%) respectively. The majority of the respondents came from those who do not have income (12%), and those earning between R1–R1 000 (10.5% & 9.5%) which are a proportion to the responses to the statements respectively. Contextualising the responses on community benefits in relation to the event, speculations can be drawn that: i) The respondents do not know who in their communities benefits from this event. ii) Even though they highlighted that certain members of the community benefit, it is not clear how they go about doing so and there is no evidence in their communities which reflect direct or indirect community benefits from or as a result of this event. Presenting the importance of social impacts of events and in line with the outcome presented above, Fredline *et al.* (2003) deduce that understanding the social impacts of events on residents and being able to measure or monitor such impacts is critical to the event vitality. Common understanding amongst residents of the host community regarding community benefits of the event could prevent potential conflicts and issues of social inequality.

CONCLUSIONS AND RECOMMENDATIONS

In relation to the objectives of the study, the results present both negative and positive responses and perceptions of the event by community. Amongst issues emerging as critical are lower levels of awareness and attendance of the event by the host community. The event has the potential of creating more positive economic, social and cultural benefits provided it is organised in a manner that will promote tourism development in Hout Bay. However, it is important to note that the marketing approach used by the organisers is an attempt to bring

balance between the spectatorship of the event and the environment, as the event takes place in an environmentally sensitive area.

What has been the crux of the study is the community involvement in the planning and organising of the event and community benefits in relation to the event (direct benefits, social inequalities, host and guest relations). For the community benefits to be addressed, the results indicate a dire need for community involvement. In addition to this, if the host community is aware of the event particularly the community in close proximity to the event (Hungberg), visitors could expect better host and guest relations. It is therefore paramount that organisers of the event get the buy-in of residents to host a successful event. Broad public or community consultation and participation with the local community using available and recognised community structures in order to: determine the views and understanding of the public about the event and assess the community’s understanding of impacts which are associated with the event and educate them where necessary is recommended. Their involvement will also ensure that there is common understanding of costs and benefits associated with the event and minimise potential conflicts between the organisers and the community. Addressing the possible conflicts will present a more ‘willing community’ and a ‘willing organiser’, ensuring the future of this event. This in turn may give recognition to members of the community and reflect truly on the: participation of the community; ownership of the event by the community; community pride in hosting of the event and empowerment.

An assessment of current management practice, based on the evaluation of the impacts of the event on the host community, including the entire organisation of the RBBWA indicates a strong need for the development of a sound and an acceptable sport tourism event practice. The event has an element of isolation or exclusivity to the host community, as highlighted by the community leaders and the residents. This exclusivity could pose a threat to the event if ignored. Based on the findings of this study, the organiser's involvement of the host community as a stakeholder in the event, was not enough. A holistic plan which takes into consideration development issues at the same time incorporating all role players in this event is a step towards the success and the future of this event. The issues presented above are key in strengthening and contributing to a sustainable sport tourism industry in the Western Cape, as well as South Africa.

This approach can also be used for other sport tourism events in Western Cape. By doing so, the event organisers including everyone who is involved in sport tourism events will be in a better position to understand the management implications, opportunities and mutual benefits of sustainable sport tourism development.

REFERENCES

- BAILEY, K.D. (1987). *Methods of social research* (3rd ed.). New York, NY: Free Press.
- BERTISH, C. (2005). *Red Bull Big Wave Africa*.
[http://www.redbullbwa.com/event_location.php?id=210]. Retrieved by 24 June 2005.
- BOHLMANN, H.R. & VAN HEERDEN, J.C. (2005). The impact of hosting a major sport event on the South African economy. *Journal of Tourism*, 26(4): 595-603.
- BOTHA, P. (2005a). Personal interview with the organiser on 18 May 2005, Cape Town.
- BOTHA, P. (2005b). Personal interview with the organiser on 24 May 2005, Hout Bay.
- BOWDIN, G.A.J. & CHURCH, I.J. (2000). Customer satisfaction and quality costs: towards a pragmatic approach for event management. *Proceedings of event evaluation, research and education, Sydney, July 2000* (186-200). Sydney: Australian Centre for Event Management.
- BURKER, M.; PAGE, S.J. & MEYER, D. (2002). Evaluating the impact of the 2000 America's Cup on Auckland, New Zealand. *Event Management*, 7: 79-72.
- BURNETT, C. & UYS, W.T. (2000). Sport development impact assessment: towards a rationale and tools. *South African Journal for Research in Sport, Physical Education and Recreation*, 22(1): 27-40.
- CHALIP, L.; GREEN, B.C. & HILL, B. (2003). Effects of sport event media on destination image and intention to visit. *Journal of Sport Management*, 17(3): 214-234.
- CHALIP, L. (2004). Beyond impact: a general model for sport event leverage. In B.W. Ritchie & D. Adair (Eds.), *Sport tourism: interrelationships, impacts and issues* (226-252). Clevedon (England): Channel View Publications.
- DELAMERE, T.A. (2001). Development of a scale to measure residents attitudes toward the social impacts of community festivals, part II: verification of the scale. *Event Management*, 7: 25-38.
- DWYER, L.; MELLOR, R.; MISTILIS, N. & MULES, T. (2000). A framework for evaluating and forecasting the impacts of special events. *Proceedings of event evaluation, research and education, Sydney, July 2000* (31-45). Sydney: Australian Centre for Event Management.
- SOUTH AFRICAN TOURISM. (2006). 2006 Annual tourism report
[<http://www.southafrica.net/satourism/research/viewResearchDocument.cfm?ResearchDocumentID=461>]. Retrieved by 24 February 2008.
- FREDLINE, E. (2000). Host community reactions to major sporting events: Gold Coast Indy and the

- Australia formula One Grand Prix in Melbourne. Unpublished PhD dissertation. Southport, Queensland: Griffith University, Gold Coast.
- FREDLINE, E. & FAULKNER, B. (2000). Community perceptions of the impacts of events. *Proceedings of event evaluation, research and education, Sydney, July 2000* (60-74). Sydney: Australian Centre for Event Management.
- FREDLINE, E. & FAULKNER, B. (2002a). Residents' reactions to the staging of major motorsport events within their communities: a cluster analysis. *Event Management*, 7: 103-114.
- FREDLINE, E. & FAULKNER, B. (2002b). Variations in residents' reactions to major motorsport events: why residents perceive the impacts of event differently. *Event Management*, 7(2): 115-126.
- FREDLINE, L.; JAGO, L. & DEERY, M. (2003). The development of a generic scale to measure the social impacts of events. *Event Management*, 8: 23-37.
- GAMMON, S. & ROBINSON, T. (2003). Sport and tourism: a conceptual framework. *Journal of Sport Tourism*, 8(1): 21-26.
- GETZ, D. (1997). *Event management and event tourism*. New York, NY: Cognizant Communication Corporation.
- HAUTBIS, C.; REVENEL, L. & DURAND, C. (2003). Sport tourism and local economic development: the importance of an initial diagnosis of supplier's geographical concentration: a case study of France. *Journal of Sport Tourism*, 8(4): 240-259.
- HEDE, A.M.; JAGO, L. & DEERY, M. (2002). Special event research 1990-2001: key trends and issues. *Event and place making: Business Event Research Conference, Sydney, 15-16 July 2000* (305-338). Sydney: Australian Centre for Management.
- HORNE, J. & WHITSON, D. 2006. Underestimating cost and overestimated benefits? comparing the outcomes of sport mega-events in Canada and Japan. *The Sociological Review*, 54(2): 71-89, Dec.
- JAGO, L.; CHALIP, L.; BROWN, G.; MULES, T. & ALI, S. (2002). The role of events in helping to brand a destination. *Event and place making: Business Event Research Conference, Sydney, 15-16 July 2000* (111-143). Sydney: Australian Centre for Management.
- JAMES, I. (2005). Personal interview with Hungberg community leader on 25 May 2005, Hout Bay.
- KURTZMAN, J. & ZAUHAR, J. (2003) A wave in time: the sport tourism phenomenon. *Journal of Sport Tourism*, 8(1): 35-47.
- KURTZMAN, J. & ZAUHAR, J. (2005). Sport tourism consumer motivation. *Journal of Sport Tourism*, 10(1): 21-31.
- LEE, S. (2001). A review of economic impact study on sport events. *The Sport Journal*, 4(2) Online. [<http://www.thesportjournal.org/2001Journal/Vol4-No2/economic-sport.asp>]. Retrieved by 26 October 2005.
- NETU, M. (2005). Personal interview with the community leader and vice-chairperson for Hout Bay Business Opportunity Forum (HBBOF) on 29 May 2005, Hout Bay.
- PENOT, J. (2003). Sport tourism and tourism generated by sporting events. *Journal of Sport Tourism*, 8(2): 100-101.
- PIKE, S. (2001). *Surfing in South Africa*. Cape Town: Compress.
- RED BULL BIG WAVE AFRICA. (2005). *Red Bull Big Wave Africa*. [<http://www.redbullbwa.com>]. Retrieved by 24 June 2005.
- REID, S. & ARCODIA, C. (2002). Understanding the role of the stakeholder in event management. (ed.). *Event and Place Making: Business Event Research Conference, Sydney, 15-16 July 2000*. Australian Centre for Management: 479- 515.
- RITCHIE, B. (2005). Small-scale sport event tourism: the changing dynamics of the New Zealand masters game. In M. Novelli (Ed.). *Niche tourism: contemporary issues, trends and cases* (157-170). London: Elsevier.
- SAAYMAN, M. (2004). *An introduction to sport tourism and event management* (2nd ed). Potchefstroom: Institute for Tourism Leisure Studies.

- SHONE, A. & PARY, B. (2005). *Successful event management: a practical handbook*. (2nd ed.). London: Thomson Learning.
- SWART, K. (1998). Visions for South African sport tourism. *Visions in leisure and business*: 17(2): 4-12, Summer.
- SWART, K.; BOB, U. & HEATH, E. (2005). Developing a strategic framework for leveraging community benefits associated with hosting 2010 Soccer World Cup in South Africa. *Embok imbizo conference proceedings, Johannesburg, July 2005* (108-123). Event Management Body of Knowledge Global Alignment Summit.
- SWART, K. & SMITH-CHRISTENSEN, C. (2005). Contributing towards a research culture in the South African event industry: the development of communi-serve. *Embok imbizo conference proceedings, Johannesburg, July 2005* (124-134). Event Management Body of Knowledge Global Alignment Summit.
- SOFIELD, T.B.H. (2003). Sport tourism: from binary division to quadripartite construct. *Journal of Sport Tourism*, 8(3): 144-146.
- SOUTAR, G.N. & McLEOD, P.B. (1993). Residents' perception on impacts of the America's cup. *Annals of Tourism Research*, 20: 571-582.
- TASSIOPOULOS, D. (2005). *Event management: a professional and development approach* (2nd ed.). Cape Town: Juta.
- TIYCE, M. & DIMMOCK, K. (2000). Nimbin Mardi grass festival. *Proceedings of event evaluation research and education, Sydney, July 2000* (222-230). Sydney: Australian Centre for Event Management.
- TURCO, D.M.; RILEY, R. & SWART, K. (2002). *Sport Tourism*. Morgantown, WV: Fitness Information Technology.
- TURCO, D.M.; SWART, K.; BOB, U. & MOODLEY, V. (2003). Socio-economic impacts of sport tourism in Durban unicipity, South Africa. *Journal of Sport Tourism*, 8(4): 223-239.
- URGAN, B. & MULE, T. (2001). Reconciling cost-benefit and economic impact assessment for event tourism. *Tourism Economics*, 7(4): 321-330.
- VEAL, A.J. (1992). *Research methods for leisure and tourism: a practical guide*. London: Longman.
- WAIIT, G. (2003). Social impacts of the Sydney Olympics. *Annals of Tourism Research*, 30(1): 194-215.
- WEED, M. & BULL, C. (2004). *Sport and tourism: participants, policy and providers*. Oxford: Elsevier Butterworth-Heinemann.
- WELMAN, J.C. & KRUGER, S.J. (2000). *Research methodology* (2nd ed.). Cape Town: Oxford University Press.
- ZAUHAR, J. (2004). Historical perspective of sport tourism. *Journal of Sport Tourism*, 9(1): 5-101.

Mr. Ncedo Jonathan Ntloko: Cape Peninsula University of Technology, Cape Town, Republic of South Africa and Human Sciences Research Council, Cape Town, Republic of South Africa. Postal address: 22 Devonshire Close, Parklands 7441, Republic of South Africa. Tel.: +27 (0)21 466 7908 (w), +27 (0)21 557 1377 (h), Fax.: +27 (0)21 5571377 (h) / +27 (0)21 461 2696 (w), E-mail: ncedo@webmail.co.za

(Subject editor: Prof. M. Saayman)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 95-105.

Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 95-105.

ISSN: 0379-9069

HEALTH LOCUS OF CONTROL AND INTERNAL RESILIENCE FACTORS AMONG ADOLESCENTS IN BOTSWANA: A CASE-CONTROL STUDY WITH IMPLICATIONS FOR PHYSICAL EDUCATION

Jimoh SHEHU & Martin M. MOKGWATHI

Physical Education Department, University of Botswana, Gaborone, Botswana

ABSTRACT

Studies exploring self and health belief systems are keys to understanding the challenges to wholesome development of adolescents and creating interventions to enhance their mental, emotional and physical health status. Accordingly, this case-control study compared internal resilience factors and health locus of control among 1700 physical education and non- Physical Education students in the central and south-central regions of Botswana. The study variables were assessed using the Multidimensional Health Locus of Control Scale (MHLC) (Wallston et al., 1978:165) and a modified version of the Resilience Scale (Wagnild & Young, 1993:160). Analysis of variance of the loci of control and resilience scores were conducted. Although 78% of the resilience scores were well within the moderate range, females across the comparisons groups had significantly higher resilience scores than the males. On the MHLC subscales Physical Education students were significantly more likely than the referents to believe that their health is controlled by powerful others. Mean scores on the internal and chance loci of control scales were significantly

higher among the males. Relationships among resilience and locus of control scores were statistically significant. Directions for future research and physical education interventions are offered.

Key words: Physical Education; Adolescents; Resilience; Health locus of control.

INTRODUCTION

Affirmative attitudes and beliefs about health and self, increase the likelihood that adolescents will behave wisely in high-risk situations and strive under adverse conditions such as poverty, bereavement, and other stressful life events (Bandura, 1997; Malcarne *et al.*, 2005:47; Prelow *et al.*, 2006:507). Accordingly, studies examining adolescents' convictions about causative agents for health and the degree to which they feel capable of enduring and thriving under stressful conditions, can contribute to a greater understanding of life-enhancing competencies among this age group. This study compares differences in the health locus of control and internal resilience factors between students taking or not taking elective Physical Education in Botswana junior secondary schools (JSS) in order to generate hypotheses to be later tested in a quasi-experimental study in the context of school physical education.

Extensive research, focusing on the key variables in the school context that are important in enhancing adolescents' physical and psycho-social development, supports the inclusion of physical education in the school curriculum (Calfas & Taylor, 1994:302; Goran *et al.* 1999:18; Langford & Carter, 2003:28; Anderson *et al.*, 2006:299). Participation in Physical education has been found to impact the way adolescent students think, feel, move and relate with others,

creating space to explore the what, when, why and how of motor skills, social skills, cognitive skills, safety skills, self-concept and lifestyle change (Arnold, 1988; Almond, 1989; Siedentop, 1994; Capel & Piotrowski, 2000; Hopper *et al.*, 2000; Liukkonen, *et al.*, 2007).

Since 1999, Physical Education has been an optional subject in JSS in Botswana. Before the 1990s, Physical Education was associated with extra-curricular activities in the nation's secondary schools. This situation dramatically changed following the Revised National Policy on Education (RNPE) (Republic of Botswana, 1994). Importantly, the revised policy embodied a redefined secondary school curriculum in line with the ideals of holistic and comprehensive education, multiple intelligences and social ecological model of youth development and wellness (Gardner, 1983; Republic of Botswana, 1994; Land, 2005:1). The RNPE stipulates that in addition to seven core courses (i.e. Mathematics, English, Setswana, Integrated Science, Agriculture, Social Studies and Moral Education), each JSS student must take a maximum of two optional subjects from the Practical Subject category (Art, Business Studies, Design and Technology and Home Economics) and one from the General Subject category, comprising of Music, Religious Education and Physical Education. This study was aimed at exploring differences in health locus of control and internal resilience factors between students taking Physical Education and those enrolled in other electives. To the best of our knowledge there is no empirical research directly examining these constructs in the context of elective Physical Education.

Conceptual framework

Health locus of control (HLC) is the degree to which people believe that they themselves, powerful others or chance influence their health and sickness (Wallston *et al.*, 1978:165; Taylor, 1999). People who believe they have control over their health or life events are called

internals, in contrast to those who feel other people or chance is responsible for what happens to their health (externals). Literature indicates that internals are more likely to engage in wide range of health enhancing behaviours than those that believe in chance or social influence on health (Pitts & Phillips, 1998; Blaxter, 1990). They are also less prone to *learned helplessness* (Petersen *et al.*, 1995). In essence, perception of personal influence and individual responsibility over health is a modifying variable enhancing coping efficacy and engagement in a healthy lifestyle. A key role of Physical Education is enlarging young people's understanding of the significance of *lifestyle-health relationships* which ultimately influences the individual's assumptions, beliefs, values and options in relation to physical exercise, nutrition and leisure. Adolescents face a series of developmental challenges and increasingly take individual responsibility for health maintenance and disease prevention. It is therefore important to understand their HLC for timely Physical Education interventions to reduce health-risk behaviours and promote health-protective ones.

Resilience has been viewed as the process of and capacity for adapting successfully to challenging or threatening circumstances (Masten *et al.*, 1990:425). It has also been conceptualized as a relative tendency or ability to effectively resist risk and surmount adversity (Rutter, 2006:26). Researchers variously refer to adolescent resilience as a set of traits, a process or an outcome (Ahern, 2006:26; Rutter, 2007:205). Resilience is predicated on a sense of self-control, self-worth, self-reliance, positive approach to life, intrinsic motivation, intelligence and good sense of humor that enables a young person to thrive in the face of adversity and achieve wholesome development (Jessor, 1993:117; Cobb, 2001). Researchers

have also found that gender is related to resilience, depending on the context (Werner, 1989:72; Somchit, 2004:294). Lack of internal resilience factors has been consistently identified as a precursor to maladaptive behaviours that compromise adolescents' health and overall well-being (Rew & Horner, 2003:379; Everall *et al.*, 2006:461). In other words, internal resilience factors constitute a key protective factor moderating the impact of adversities on the individual (Kettelinus *et al.*, 1991:435; Sandberg *et al.*, 2001:523; Goodyer, 2002:383).

Evidence from research suggests that resilience is influenced by individual and environment factors. For instance, resilience has been described in terms of three factors: internal strengths to successfully cope with problematic situations; external support and resources; and an individual's interpersonal skills (Grotberg, 1995). The protective factors in the environment include: personal relationships within the family, neighbourhood or community, caring relatives or neighbors; favorite teachers, coaches, social workers, or priests; supportive and effective classroom environment; and connections to pro-social groups (Cobb, 2001; Tusaie & Dyer, 2004:3). Participation in organized physical activities is included among the external *protective factors* that challenge and help young people employ and develop their inner strengths and resources (Bernard, 1991; Baron, 1998; Hauser, 1999:1; Palen & Coatsworth, 2007:721). Involvement in such activities has been shown to foster positive connection to peer and adults, enhance adolescents' physical, mental and psycho-social skills and protect them from a host of health risk behaviours (Henderson & King, 1998:1; Santrock, 2001).

Objectives of the study

Building on the above framework, this study sought to:

1. Compare HLC and resilience scores between Physical Education and non-Physical Education students in Botswana junior secondary schools

2. Explore the correlations among resilience and HLC variables.
3. Examine whether the subjects' resilience and HLC scores vary by gender.

Hypotheses

Since research suggests that resilience is linked to locus of control, it was hypothesized that scores on the two measures will significantly correlate. Due to lack of prior research specifically comparing differences in HLC and resilience scores between Physical Education students and referents, the following null hypotheses were tested:

- There will be no significant difference in HLC scores between Physical Education students and referents in Botswana junior secondary schools.
- There will be no significant difference in resilience scores between the two study groups.
- There will be significant correlations among resilience and HLC variables.
- Gender will have no significant effect on the subjects' HLC and resilience scores.

METHOD

Design

This study was based on a descriptive (case-control) design in which students exposed to Physical Education (cases) are compared with their counterparts exposed to other elective subjects (controls or referents) on HLC and internal resilience factors. It is worth noting that the study does not assume any cause-and-effect relationships. Ideally, outcomes of school programs are best evaluated through a longitudinal design, with control and experimental groups, deliberate randomization of matched samples, manipulation of the independent variables and measures of baseline and post-intervention data (Torgerson & Torgerson, 2001:316). The present study was aimed at generating hypotheses to be later tested in a quasi-experimental design. Consequently, the participants were recruited from self-selected elective class sets, whereby students taking Physical Education and those taking other general subjects were identified to create two comparison groups.

Population and setting

This study was conducted in 25 out of 114 eligible public junior secondary schools in south-central and central regions of Botswana. The participating schools were drawn from Serowe, Sebina, Selibe-Phikwe, Gaborone, Gabane, Mogoditshane and Tlokweng. To be eligible, a school had to have offered physical education for the past three years. About 5 750 students in their third year during the winter of 2006 constituted the population of this study. Of this cohort of students, 1 840 were Physical Education students and 3 910 were not.

Sample

Across the school sites, 1 800 students were randomly selected to participate in the study. However, convenience samples of volunteer students were resorted to in schools where selected students were absent on the day of data collection or did not consent to participate. Convenience sampling is considered necessary in such cases to minimize non-response and low participation, which may adversely affect the representativeness of participants (Bryman & Cramer, 1994).

Procedures

The research protocol was approved by the University of Botswana's Office of Research and Development (ORD) and the Botswana Ministry of Education. Copies of research permits were submitted to the selected schools prior to data collection. All the sampled schools agreed to participate and nominated school staff to liaise with the researchers. Students were apprised of the purpose of the study and assured of confidentiality. Written and verbal informed consent was obtained from the students prior to questionnaire administration. The questionnaires were administered to the students between 14:00 and 16:00 – the period known in Botswana secondary education lexicon as *study time*. Completion of the questionnaires took approximately 40–60 minutes. To maintain privacy and confidentiality, no names were written on the questionnaires and the teachers were not involved in the data collection processes.

Measures

The Multidimensional Health Locus of Control Scales (MHLCS) (Wallston *et al.*, 1978:160) and a modified version of the Resilience Scale (Wagnild & Young, 1993:165) were used for this study. The MHLCS comprise 18 items measuring three dimensions of HLC: Internal Health Locus of Control (IHLC), Chance Health Locus of Control (CHLC), or Powerful Others Health Locus of Control (PHLC). Responses range from 1 = *strongly disagree* to 6 = *strongly agree*. Consequently, the total score for each subscale ranges from 6–36 (Wallston *et al.*, 1978:160), with a median score of 21 (Cross *et al.*, 2006:92). A high score on a subscale indicates a strong belief in that category of control.

A 14-item version of the Resilience Scale was used for this study. Responses ranged from 1 = *not at all true of me* to 5 = *very true of me*. Items 2, 3, 9, 12 & 13 are reversed-scored. Possible scores on this resilience scale range from 0–70, with higher score indicating higher resilience factors (Wagnild & Young, 1993:165). In order to ensure the reliability of the data generation process, the research instruments were pre-tested in two junior secondary schools in Gaborone. The items were considered satisfactory by respondents in terms of clarity, item order and wording.

Data analysis

A series of ANOVA's were performed to explore differences in mean scores on the dependent variables. Bivariate Pearson's correlations were also calculated to assess the relationships between resilience and HLC scores. Although there is ample evidence in the literature that the MHLCS and RC scales are valid and reliable instruments (Wagnild & Young, 1993:165; Wallston, 2005:623), their stability and suitability for the Botswana context were nevertheless assessed. Frequency and percentage of students in the comparison groups were examined as a function of gender and electives, using the chi-square test of independence. All analyses were carried out using the SPSS Version 15 (SPSS Inc. 2006). Statistical significance level was set at a probability value equal to or less than 0.05.

RESULTS

Out of the initial 1 800 questionnaire administered, only 1 764 were retrieved, from which 64 were excluded from analysis because of incomplete data. Thus, a total of 1 700 students participated in this study (a 94% response rate). Females and males were 882 (52%) and 818 (48%) respectively. The proportion of Physical Education students in the sample was 49% (n=840) and that of the referents was 51% (n=860). Chi-square test of independence indicated that the comparison groups did not differ by gender and percentage ($\chi^2 = 2.49$, $p = 0.12$ and $\chi^2 = .239$, $p = 0.63$ respectively). The participants' ages ranged between 16 and 17 years, with a

mean of 16±1. Cronbach's Alpha coefficient for the adapted RS was 0.74. Reliability coefficients for the MHLC subscales were 0.76, 0.72 and 0.81 for IHLC, CHLC and PHLC respectively. Test-retest correlations for the scales after a 4-week interval range from 0.78 to 0.84. Bivariate correlations among resilience scores and HLC measures are presented in Table 1.

TABLE 1. CORRELATIONS AMONG RESILIENCE AND HLC VARIABLES

Variable	2	3	4
1. Resilience	.15**	-.06*	.07**
2. IHLC	-	.07**	.25**
3. CHLC	-	-	.24**
4. PHLC	-	-	-

* $p < 0.05$

** $p < 0.01$

Resilience was negatively and weakly correlated with CHLC ($r = -0.06, p < 0.05$). Positive but weak correlations were found among scores for IHLC and CHLC ($r = 0.07, p < 0.01$), resilience and PHLC ($r = 0.07, p < 0.01$) and resilience and IHLC ($r = 0.15, p < 0.01$). Positive correlations were also found among IHLC and PHLC scores ($r = 0.25, p < 0.01$) and between CHLC and PHLC measures ($r = 0.24, p < 0.01$), implying that students with higher PHLC scores also obtained higher scores for IHLC and CHLC.

TABLE 2. COMPARISON OF MEAN SCORES ON THE MHLC AND RC SCALES (N=1700)

Variable	Resilience			IHLC			CHLC			PHLC		
	\bar{X}	SD	F	\bar{X}	SD	F	\bar{X}	SD	F	\bar{X}	SD	F
PE students	48.24	7.3	1.146	23.91	5.3	.024	17.72	5.1	.964	24.77	6.0	5.345*
Referents	48.62	7.7		23.89	5.4		17.97	5.3		24.43	5.7	
Male	47.76	7.3	12.988***	24.2	5.3	6.518*	18.27	5.3	10.503***	25.12	5.7	.023
Female	49.06	7.6		23.6	5.4		17.45	5.1		25.08	6.0	

* $p < 0.05$

*** $p < 0.001$

Table 2 presents the mean scores, standard deviations and ANOVA results for the HLC and RS measures. Mean resilience scores for Physical Education and referents did not differ significantly. Overall, females had significantly higher resilience scores than males (49.06 vs. 47.76, $p < 0.05$). Median resilience score was 48 and about 77.8% of the respondents had a score of 42 or higher, indicating a moderate level of internal resilience factors among the study sample. A comparison of scores on the MHLC subscales indicated that regardless of electives, most participants believed that powerful others influence their health. Using a score above the median (i.e. 21) to classify the respondents, 78.8% of the respondents obtained highest scores on the powerful others subscale, followed by 74.5% and 30.6% on internal and chance subscales respectively. Physical Education students, however, attributed significantly more control to powerful others compared to the referents (24.77 vs. 24.43, $p < 0.05$). Further analysis revealed gender differences in belief in chance and internality. Males had significantly higher mean scores on the internal and chance scales than the females (24.2 vs. 23.6, $p < 0.05$ and 18.27 vs. 17.45, $p < 0.001$ respectively).

DISCUSSION

This study compares internal resilience factors and health locus of control between Physical Education and non- Physical Education students (N=1 700) drawn from the central and south central regions of Botswana. There were 840 Physical Education students and 860 referents. Females and males were 52% and 48% respectively. No significant differences were expected in the scores of the study samples partly due to the fact that multiple data and a number of possible confounding factors needed to be taken into consideration over time in order to generate valid results. Contrary to hypothesis, Physical Education students endorsed powerful others locus of control more than their counterparts enrolled in other electives. As hypothesized, the comparison groups did not differ significantly in their scores on the internal and chance loci of control subscales. However, males scored significantly higher than females in those measures. Previous studies have also reported greater internality among adolescent boys than adolescent girls (Kulas, 1996:721; Matlin, 2000; Bursik & Martin, 2006:1). Nonetheless, girls in this study reported higher resilience than the males. This finding supports earlier research indicating that despite gender differences in locus of control, girls have a higher capacity for resilience than boys due to socialization patterns that may engender differential socio-emotional development and relations with peers and adults (Tyler & Lichtenstein, 1997:27; Matlin, 2000; Broderick & Korteland, 2002:201; Somchit, 2004:294; Hampel & Petermann, 2005:73).

In line with one of the hypotheses, significant correlations were found among resilience and HLC measures. A weak and negative correlation was between resilience and belief that chance is in control of one's health outcomes. The positive correlations between resilience and internal health locus of control has been attributed to the fact that resilient people see themselves as having personal control and capability to engage in health promoting and adaptive behaviours (Bandura, 1997; Nowicki *et al.*, 1997:549; Rew & Horner, 2003:379; Ahern, 2006:175). The significant positive correlation between IHLC and PHLC shows that respondents simultaneously believe that personal control as well as the influence of powerful others are critical to illness and health outcomes. This finding validates previous studies showing that internal and external control beliefs may be combined in an individual (Wallston, 1992:183; Cross *et al.*, 2005:92; Afifi, 2007:1043). Literature suggests that any of these beliefs can be used to predict health practices and outcomes in the long run, that they are amenable to change, and that those who report more internal health locus of control and resilience are more likely to proactively seek health-promoting information and skills, realize for themselves the link between their lifestyle and health, and purposefully engage in initiatives associated with psycho-social and developmental well-being (Werner & Smith, 1992; Earvolino-Ramirez, 2007:73). As with all research reports, findings of this study must be interpreted in the context of its limitations, such as use of self-reported measures and *a priori* elective groups, relatively small sample size, and non-random assignment of subjects to Physical Education and control groups. Notwithstanding these limitations, this study extends the literature on resilience and health locus of control within the context of Physical Education.

Implications for Physical Education

The plethora of evidence linking internal locus of control and resilience to how people have been taught or treated by significant figures at different stages of development (Kroger, 1996; Rew & Horner, 2003:379; Resnick, 2000:157; Bandura, 2001:52) and the growing recognition

that the school system has an important role to play together with the family and community in enhancing favorable health and developmental outcomes for young people (Kidder, 1990; Bernard, 1991; Werner & Smith, 1992), suggest that Physical Education *context, content, methods* and *values* can provide necessary traction and leverage for promoting adolescents' self-development and thriving in the world. From the literature reviewed in this study it would seem logical that physical educators, like other school teachers, could help shape perceptions of internal (health) locus of control and enhance protective resources among school-aged adolescents by ensuring that Physical Education structures and processes are concertedly keyed to the following: acknowledge students' voices, interests and experiences; build on students' strengths and resources; communicate high expectations coupled with timely and supportive feedback; provide opportunity for self-reflection, autonomy and problem-solving; respond to diversity and different learning styles; encourage cooperative learning and development of interpersonal skills; facilitate participation in meaningful, goal-directed, self-defined and challenging activities; promote caring relationships and honoring interactions; enhance competencies in various curricular and co-curricular areas; partner with families, peers, co-teachers and community agencies to help students realize their personal potentials; address students' physical and psycho-social safety during activities; enhance students' health-related physical fitness; teach health-enhancing skills, knowledge and attitudes; and provide models demonstrating warmth, trust, humor, empathy, and affirmative behaviours.

Implications for further research

Many of the scholars whose work were reviewed in this paper suggest that participation in physical activity in school and post-school contexts is an external protective factor or precursor linked to psycho-social well-being in adolescence. Therefore there is a need to explore the possible mechanisms for mediating this protection in school Physical Education setting. The second challenge is to explore the interplay and path of influence of locus of control, resilience and experiences of adversities and life transitions in the selection or avoidance of elective Physical Education by secondary school students, and how these moderate the outcomes of Physical Education interventions. Third, given that researchers' suggest that resilience is multidimensional and affected by personal and social variables, context-specific Physical Education interventions must be identified. Fourth, since belief systems and resilience are developmental and situation specific, valid and reliable scales must be used to measure adolescents' psycho-social well-being in response to specific Physical Education interventions.

CONCLUSION

Studies on resilience and locus of control are of particular importance to physical educators in an HIV-AIDS-laden environment like Botswana, where a large segment of the population is either directly or indirectly affected by the social, physical, emotional, economic and other stressors associated with the disease. Understanding adolescents' risk factors relating to resilience and locus of control will help physical educators in this context identify and evaluate possible strategies for promoting the psycho-social health of adolescents, improving and sustaining their learning and enhancing their overall development. This study compared students exposed to Physical Education (cases) to their counterparts exposed to other elective subjects (controls or referents) on HLC and internal resilience factors. Elective Physical Education classes appear not to have yielded significantly greater internal resilience and health

locus of control in the case group compared to the referents. This finding has important implications for physical educators concerned with fostering healthy, nurturing beliefs among students and helping those with internal obstacles to efficacious actions. Longitudinal, multilevel and large scale studies are needed to explore the variables that are germane to Physical Education-based model for enhancing resilience and health locus of control in adolescents.

ACKNOWLEDGEMENT

This article draws on a study funded by a grant (No.R644) from the Office of Research & Development, University of Botswana.

REFERENCES

- AFIFI, M. (2007). Health locus of control and depressive symptoms among adolescents in Alexandria, Egypt. *Eastern Mediterranean Health Journal*, 134(5): 1043-1052.
- AHERN, N.R. (2006). Adolescent Resilience: An evolutionary concept analysis. *Journal of Pediatric Nursing*, 21(3): 175-185.
- ALMOND, L. (1989) (Ed.). *The place of physical education in schools*. London: Kegan Paul.
- ANDERSON, L.B.; HARRO, M.; SARDINHA, L.B.; FROBERG K.; EKELUND, U.; BRAGE, S. & ANDERSEN, S.A. (2006). Physical activity and clustered cardiovascular risk in children: a cross-sectional study (The European Youth Heart Study). *The Lancet*, 368: 299-304.
- ARNOLD, P. (1988). *Education, physical education and the curriculum*. London: Falmer.
- BANDURA, A. (1997). *Self-efficacy: The exercise of control*. New York, NY: W.H. Freeman.
- BANDURA, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, 52: 1-26.
- BARON, R.A. (1998). *Psychology*. Boston, MA: Allyn & Bacon.
- BERNARD, B. (1991). *Fostering resiliency in kids: Protective factors in the family, school, and community*. Portland, OR: Northwest Regional Educational Laboratory.
- BLAXTER, M. (1990). *Health and lifestyle*. London: Routledge.
- BRODERICK, P.C. & KORTELAND, C. (2002). Coping style and depression in early adolescence: Relationships to gender, gender role, and implicit beliefs. *Sex Roles*, 46(7/8): 201-213.
- BRYMAN, A & CRAMER, D (1994). *Quantitative data analysis for social scientists*. New York, NY: Routledge.
- BURSIK, K. & MARTIN, T.A. (2006). Ego development and adolescent academic development. *Journal of Research on Adolescence*, 16(1): 1-18.
- CALFAS, K. & TAYLOR, W. (1994). The effects of physical activity on psychological variables in adolescents. *Pediatric Exercise Science*, 6: 302-314.
- CAPEL, S. & PIOTROWSKI, S. (2000). *Issues in physical education*. London: Routledge/Falmer.
- COBB, N.J. (2001). *The child: Infants, children and adolescents*. Mt. View, CA: Mayfield.
- CROSS, M.J.; MARCH, L.M.; LAPSLEY, H.M.; BYRNE, E. & BROOKS, P.M. (2006). Patient self-efficacy and health locus of control: relationships with health status and arthritis-related expenditure. *Rheumatology*, 45: 92-96.
- EARVOLINO-RAMIREZ, M. (2007). Resilience: A concept analysis. *Nursing Forum*, 42(2): 73-82.
- EVERALL, R.D.; ALTROWS, K.J. & PAULSON, B.L. (2006). Creating a future: A study of resilience in suicidal female adolescents. *Journal of Counseling & Development*, 84: 461-470.
- GARDNER, H. (1983). *Frames of mind: The theory of multiple intelligences*. New York, NY: Basic Books.

- GOODYER, I.M. (2002). Social adversity and mental functions in adolescents at high risk of psychopathology. *The British Journal of Psychiatry*, 181: 383-386.
- GORAN, M.I.; REYNOLDS, K.D. & LINDQUIST, C.H. (1999). Role of physical activity in the prevention of obesity in children. *International Journal of Obesity*, 23(3): 18-33.
- GROTBERG, E. (1995). *A guide to promoting resilience in children: Strengthening the human spirit*. The Hague: Bernard van Leer Foundation.
- HAMPEL, P. & PETERMANN, F. (2005). Age and gender effects on coping in children and adolescents. *Journal of Youth and Adolescence*, 34(2): 73-83.
- HAUSER, S.T. (1999). Understanding resilient outcomes: Adolescent lives across time and generations. *Journal of Research on Adolescence*, 9: 1-24.
- HENDERSON, K.H. & KING, K.K. (1998). Recreation programming for adolescent girls: Rationale and foundations. *Journal of Park and Recreation Administration*, 16(2):1-15.
- HOPPER, B.; GREY, J. & MAUDE, T. (2000). *Teaching physical education in the primary school*. London: Routledge/Falmer.
- JESSOR, R. (1993). Successful adolescent development among youth in high-risk settings. *American Psychologist*, 48: 117-126.
- KETTERLINUS, R.D.; LAMB, M.E. & NITZ, K. (1991). Developmental and ecological sources of stress among adolescent parents. *Family Relations*, 40(4): 435-441.
- KIDDER, T. (1990). *Among school children*. New York, NY: Avon.
- KROGER, J. (1996). *Identity in adolescence*. London: Routledge.
- KULAS, H. (1996). Locus of control in adolescence: A longitudinal study. *Adolescence*, 31: 721-729.
- LAND, K.C. (2005) The 2005 FCD Index of child well-being (CWI): implications for policymakers. *FCD Policy Brief Series*, 2: 1-7.
- LANGFORD, G.A. & CARTER, B.L. (2003). Academic excellence must include physical education. *The Physical Educator*, 60(1): 28-33.
- LIUKKONEN, J.; AUWEELE, Y.V.; VEREIJKEN, B.; ALFERMANN, D. & THEODORAKIS, Y. (2007). *Psychology for physical educators*. Champaign, IL: Human Kinetics.
- MALCARNE, V.L.; DRAHOTA, A. & HAMILTON, N.A. (2005). Children's health-related locus of control beliefs: ethnicity, gender, and family income. *Child Health Care*, 34: 47-59.
- MASTEN, A.; BEST, K. & GARMEZY, N. (1990). Resilience and development: Contributions from the study of children who overcome adversity, *Development and Psychopathology*, 2: 425-444.
- MATLIN, M. (2000). *The psychology of women*. Fort Worth, TX: Harcourt Brace.
- NOWICKI, S.; ADAME, D.; JOHNSON, T.C. & COLE, S.P. (1997). Physical fitness as a function of psychological and situational factors. *Journal of Social Psychology*, 137: 549-558.
- PALEN, L. & COATSWORTH, J.D. (2007). Activity-based identity experiences and their relations to problem behavior and psychological well-being in adolescence. *Journal of Adolescence*, 30: 721-737.
- PETERSEN, C.; MAIER, S.F. & SELIGMAN, M.E.P. (1995). *Learned helplessness: A theory for the age of personal control*. New York, NY: Oxford University Press.
- PRELOW, H.M.; WEAVER, S.R. & SWENSON, R.R. (2006). Competence, self-esteem, and coping efficacy as mediators of ecological risk and depressive symptoms in urban African American and European American youth. *Journal of Youth & Adolescence*, 35: 507-517.
- PITTS, M. & PHILLIPS, K. (1998). *The psychology of health*. London: Routledge.
- REPUBLIC OF BOTSWANA (1994). *Revised national policy on education*. Gaborone: Government Printer.
- RESNICK, M.D. (2000). Protective factors, resiliency, and healthy youth development. *Adolescent Medicine: State of the Art Review*, 11: 157-164.
- REW, L. & HORNER, S.D. (2003). Youth resilience framework for reducing health-risk behaviors in

- adolescents. *Journal of Pediatric Nursing*, 18(6): 379-388.
- RUTTER, M. (2006). The promotion of resilience in the face of adversity. In A. Clarke-Stewart & J. Dunn (Eds.), *Families count: Effects on child and adolescent development* (26-52). Cambridge: Cambridge University Press.
- RUTTER, M. (2007). Resilience, competence and coping. *Child Abuse & Neglect*, 31: 205-209.
- SANDBERG, S.; RUTTER, M.; PICKLES, A.; MCGUINNESS, D. & ANGOLD, A (2001). Do high-threat life events really provoke the onset of psychiatric disorder in children? *Journal of Child Psychology and Psychiatry*, 42: 523-532.
- SANTROCK, J.W. (2001). *Adolescence*. Boston, MA: McGraw-Hill.
- SIEDENTOP, D. (1994). *Sport education: Quality physical education through positive sport experiences*. Champaign, IL: Human Kinetics.
- SOMCHIT, S. (2004). The relationship among resilience factors, perception of adversities, negative behavior, and academic achievement of 4th-6th-grade children in THAD-THONG, Chonburi, Thailand. *Journal of Pediatric Nursing*, 19(4): 294-303.
- SPSS Inc (2006). *SPSS Version 15 for Windows*. Chicago, IL: SPSS Inc.
- TAYLOR, S.E. (1999). *Health Psychology*. Boston, MA: McGraw-Hill.
- TORGERSON, C.J. & TORGERSON, D.J. (2001). The need for randomized controlled trial in educational research. *British Journal of Educational Studies*, 49(3): 316-328.
- TUSAIE, K. & DYER, J. (2004). Resilience: a historical review of the construct. *Holistic Nursing Practice*, 18(1): 3-10.
- TYLER, J. & LICHTENSTEIN, C. (1997). Risk, protective, AOD knowledge, attitudes, and AOD behavior: Factors associated with characteristics of high-risk youth. *Evaluation and Programme Planning*, 20(1): 27-45.
- WAGNILD, G.M. & YOUNG, H.M. (1993). Development and psychometric evaluation of the resilience scale. *Journal of Nursing Measurement*, 1: 165-178.
- WALLSTON, K.A. (2005). The validity of the Multidimensional Health Locus of Control Scales. *Journal of Health Psychology*, 10(5): 623-631.
- WALLSTON, K.A.; WALLSTON, B.S. & DEVELLIS, R. (1978). Development of the Multidimensional health locus of control (MHLC) Scales. *Health Education Monograph*, 6(2): 160-170.
- WERNER, E. (1989). High-risk children in young adulthood: a longitudinal study from birth to 32 years. *American Journal of Orthopsychiatry*, 59: 72-81.
- WERNER, E. & SMITH, R. (1992). *Overcoming the odds: high-risk children from birth to adulthood*. New York, NY: Cornell University Press.

Dr. Jimoh Shehu: Physical Education Department, University of Botswana, Private Bag 0022, Gaborone, Botswana. Tel: +267 3552945 (w), +267 3133206 (h), Fax: +267 584096, E-mail: shehu@mopipi.ub.bw

(Subject editor: Dr. K.J. van Deventer)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 107-119.

Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 107-119.

ISSN: 0379-9069

DIE EFFEK VAN 'N AVONTUURGERIGTE ERVARINGSLEERPROGRAM OP DIE PERSOONLIKE FUNKSIONERING VAN JEUGDIGES

Sumari TESNEAR & Charlé du P. MEYER

ABSTRACT

The research focus on the effect of an adventure-based experiential learning programme on the personal functioning of youth. For the purpose of this study twenty-eight (n=18 males and n=10 females) participants between the ages of 17-19 years participated and were tested on three occasions. The effect on personal functioning was determined by means of "The Comprehensive Functioning Inventory: (CFI-Post)". Data analysis was performed using PASWIN 2000. Practical significance was established by means of effect size. For the development of the adventure-based experiential learning programme a complete personal functioning profile was compiled. The conclusion of this study was that an adventure-based experiential learning programme had a positive impact (with an effect size of $d > 0.5$) on the personal functioning of the youth and thus can be used as an intervention tool.

Key words: Youth; Personal functioning; Experiential learning; Adventure education.

INLEIDING

Weens die druk wat die samelewing op jeugdiges plaas, asook die ontwikkelingsprosesse waardeur hulle moet beweeg, gebeur dit dat die gesonde hanteringsmeganismes oorlaai word en dit veroorsaak spanning. Blootstelling aan hierdie stressors kan aanleiding gee tot 'n verhoogde risiko in die ontwikkeling van stresverwante siektes en emosionele skade, soos angstigheid, gedragsprobleme, leerprobleme, alkohol- en dwelmmisbruik, gewelddadige uitbarstings, lae selfkonsep, depressie, gesinsprobleme, onttrekking en selfs selfmoord (Capuzzi & Gross, 1989; Carrell, 1993; Rudenberg *et al.*, 1998).

Verder noem Le Roux (1986), Capuzzi en Gross (1989) asook Mathebula (1995) dat faktore soos sosio-ekonomiese status, omgewing, onstabiele en ontwrigtende huislike omstandighede, fisieke en verstandelike gesondheid daartoe lei dat sommige jeugdige meer vatbaar is vir bogenoemde risiko's. In dié verband noem Suren en Stiefvater (1995); Luckner en Nadler (1997); Weston en Tinsley (1999) dat vandag se jeug meer blootgestel is aan genoemde faktore as vorige geslagte. Volgens Otto (2000) het die jeugdige 'n intense behoefte om iewers te behoort, maar dit word afgeskeep as gevolg van 'n tekort aan emosionele intimiteit, met gevoelens van verlatenheid, innerlike eensaamheid, 'n gebrek aan selfwaarde en selfgeding, frustrasie, wantroue en hulpeloosheid.

Namate die jeugdige egter ouer word, is dit nodig dat hulle meer gevorderde lewensvaardighede aanleer wat hulle sal help om sodoende hulself doeltreffend te organiseer om in die samelewing te kan funksioneer. Van die vaardighede sluit in 'n positiewe selfbeeld, selfbeheersing en onafhanklikheid, positiewe interpersoonlike interaksie, selfvertroue,

selfhandhawing binne 'n groep, hanteringsvaardighede, sosiale verantwoordelikheid, oorlewing en groei, waardebepalings en optimale kognitiewe ontwikkeling (Schoel *et al.*, 1988; Pike *et al.*, 1995; Priest & Gass, 1997; McKenzie, 2000; Garst *et al.*, 2001; Lamb, 2002).

Faul (1995) noem dat klem geplaas moet word op die verbetering van die lewenskwaliteit

asook die persoonlike funksionering van jeugdiges. In die studie van Tesnear (2005) wat verband hou met die assessering van jeugdiges met die oog op die ontwikkeling van 'n intervensieprogram is die volgende probleemareas geïdentifiseer: selfpersepsie, trauma-dinamika, positiewe funksionering wat tevredenheid en toekomspektief insluit asook die besluitnemingsvermoë waarvoor hul beskik. In agnemennd genoemde probleemareas, kan die jeugdige onderwerp word aan 'n avontuurgerigte ervaringsleerprogram (AEP)¹ (Cason & Gillis, 1994) wat gevolglik die verstandelike, fisieke, sosiale en psigologiese welstand van die jeugdige kan bevorder om sodoende die wêreld daarbuite en hul eie rol daarin te verstaan (Anon., 2000; Bukstein, 1998; Davis-Berman & Berman, 1995; Ewert, 1989; Le Coney *et al.*, 2000). Aansluitend hierby reken Crompton en Sellar (1981); Cason en Gillis (1994); Luckner en Nadler (1997); Waltermire (1999) dat die AEP 'n positiewe impak het op die persoonlike funksionering van die jeugdige mits die intervensie (AEP) spesifiek ontwikkel word om die probleemarea aan te spreek om daardeur die jeugdige tereg te wys om dus optimaal binne die samelewing te funksioneer.

Volgens Priest en Gass (1997) moet die AEP op so 'n wyse ontwikkel word dat doelgerigte uitkomst soos persoonlike groei en ontwikkeling verkry kan word. Verwagte uitkomst binne die AEP word gegroeper binne die intrapersoonlike vlak waar emosie en die individu 'n rol speel, én die interpersoonlike vlak waar die aandag op die groep en sosialisering gefokus word (Priest & Gass, 1997). Crompton en Sellar (1981) asook Steyn (2001) noem die volgende uitkomst wat verkry word indien ontwikkeling binne die intrapersoonlike vlak plaasvind: die bewustheid van die self en selfbeoordeling, selfvertroue, selfagting, selfkonsep, hantering van spanning, deursettingsvermoë, aanpassing, selfaktualisering, bereidheid om risiko's te neem en om selfdoeltreffendheid te verbeter. Uitkomst wat van belang is by die interpersoonlike vlak sluit in: groepsbewustheid, groepkohesie, groepafhanklikheid, groeieffektiwiteit, verandering in houdings en persepsies teenoor ander, effektiewe kommunikasievaardighede, vertroue in ander, nuwe maniere van konflikthantering, vermeerdering in gedeelde besluitneming, verbeterde probleemoplossings- en beplanningsvaardighede, moraal en respek (Gass, 1993; Priest & Gass, 1997; Ewert & McAvoy, 2000; Steyn 2001).

Indien die bogenoemde uitkomst bereik word, verbeter die jeugdige se intrapersoonlike en interpersoonlike vlakke en daaropvolgend sal die jeugdige se algehele welstand verbeter en word sy menslike potensiaal bereik, sodat vorige destruktiewe gedrag omgeskakel kan word in positiewe gedrag (Le Roux, 1986). Navorsers soos Wichmann (1991); Gass (1993); Bendoroff en Scherer (1994); Weston en Tinsley (1999); Ewert en McAvoy (2000); Russell *et al.* (2000); Sibthorp (2003); Verster (2005) het in hul onderskeie studies bevind dat 'n AEP wel 'n impak het op die verbetering van bogenoemde uitkomst.

¹ AEP: vir die res van die artikel word die afkorting AEP, wat verwys na avontuurgerigte ervaringsleerprogram gebruik.

Met deelname aan 'n AEP word die jeugdige geleer om emosies op 'n konstruktiewe wyse te hanteer (Gass, 1993; Russell *et al.*, 2000) en indien dit gekombineer word met die verbetering van fisiese gesondheid en welstand, sal persoonlike groei en –ontwikkeling kan plaasvind (Gass, 1993; Bendoroff & Scherer, 1994; Russell *et al.*, 2000; Ewert & McAvoy, 2000).

Die vraag wat eerstens met die navorsing beantwoord wil word, is of 'n ervaringsleerprogram wat gekenmerk word deur buiteluggerigte avontuuraktiwiteite 'n effek toon op die verbetering

van die persoonlike funksionering, met ander woorde die positiewe funksioneringselemente (toekomspektief en tevredenheid), selfpersepsie (gebrek aan selfwaarde, isolasie, angstigheid, verantwoordelikheid vir gevolge teenoor ander en gebrek aan selfgeldende gedrag), trauma-dinamiek (frustrasie, wantroue en stigma) en besluitnemingsvermoë (onafhanklikheid en verantwoordelikheid). Tweedens wil die volhoubaarheid van die AEP (vir 'n tydperk van ses weke na afloop van die intervensie) bepaal word ten opsigte van die dimensies van persoonlike funksionering. Die antwoorde op die vrae sal wys op die noodsaaklikheid van 'n wetenskaplike programontwikkelingsbenadering wat uitkoms gerig is en voldoen aan die behoeftes van die deelnemers.

METODE VAN ONDERSOEK

Ondersoekgroep

Die ondersoekgroep het uit 28 jeugdige (n=18 seuns en n=10 dogters) tussen die ouderdom 17-19 jaar oud bestaan. Die kwasi-eksperimentele navorsingsontwerp is vir die studie gebruik (Thomas & Nelson, 1996) wat 'n voortoets en 'n natoets ingesluit het met 'n retensietoets 6 weke na afloop van die sesdae intervensieprogram (AEP).

Meetinstrumente

Die Omvattende Funksionering Inventaris: (CFI-Post) van Faul en Hanekom (1992) is vir die doeleindes van die studie gebruik en meet die volgende dimensies wat verband hou met die persoonlike funksioneringsvlak van jeugdige: positiewe funksioneringselemente (toekomspektief en tevredenheid), selfpersepsie (gebrek aan selfwaarde, isolasie, angstigheid, verantwoordelikheid vir gevolge teenoor ander en gebrek aan selfgeldende gedrag), trauma – dinamiek (frustrasie, wantroue en stigma) en besluitnemingsvermoë (onafhanklikheid en verantwoordelikheid). Die respondente het die mate van hulle gevoel ten opsigte van sekere stellings aangedui op 'n skaal van nooit, selde, soms, helfte van die tyd, dikwels en altyd. Wat selfpersepsie en trauma-dinamieke betref toon die skaal dat 'n waarde van kleiner as 30% binne die gevaararea val, tussen 30%-36% dui 'n waarskuwingsarea aan en 'n waarde van meer as 36% val binne die gervaararea en toon op 'n behoefte vir verbetering. Wat die positiewe funksionering en besluitneming betref dui 'n waarde van meer as 70% die gewenste area aan, tussen 64%-70% dui die waarskuwingsarea aan en 'n waarde van minder as 64% val binne die gevaararea. Volgens Faul en Van Niekerk (1999) beskik die Omvattende Funksionering Inventaris: (CFI-Post) oor 'n Cronbach Alpha - waarde van 0.83.

Navorsingsprosedures

Die inligting is ingesamel deur nagraadse studente in Rekreasiekunde. Die studente is deeglik opgelei oor die doel en aard van die navorsing, asook administratiewe aspekte betreffende die invul van vraelyste. Toestemming is vanaf die betrokke deelnemers, ouers en personeel van

dié betrokke instansie verkry. Die respondente het die CFI-Post vraelys by drie geleenthede voltooi. Die eerste geleentheid was tydens die aankoms by die Avontuurskool. Die tweede geleentheid was na afloop van die intervensieprogram (die AEP) en die derde geleentheid het ses weke na afloop van die tweede toetsgeleentheid plaasgevind.

Statistiese Prosedures

Die data van die Omvattende Funksioneringsinventaris: (CFI-Post) is verwerk met behulp van die rekenaarprogram PASWIN 2000. Vir meer duidelikheid aangaande watter effek die

verskillende dimensies van positiewe funksionering, selfpersepsie, besluitnemingsvermoë en trauma-dinamika het, is effekgroottes vir praktiese betekenisvolheid bereken. Hattie *et al.*, (1997) het bevind dat die bepaling van effekgroottes meer sinvol is as statistiese betekenisvolheid om verandering te bepaal tydens die verskillende komponente met betrekking tot avontuur. Die SAS System for Windows Release (SAS Institute Inc., 1999) is gebruik om die effekgroottes te verwerk en die praktiese betekenisvolheid te bereken.

Intervensie

Die intervensie het plaasgevind gedurende Julie 2004 deur middel van 'n sesdae avontuurgerigte ervaringsleerprogram (AEP) wat ontwikkel is volgens die sisteembenadering van Peterson en Gunn (1984), Rossman (1995), Peterson en Stumbo (2000) en Edginton *et al.* (2004). Die doel van die AEP is om probleme, of te wel disfunksionele gedrag vanuit 'n spesifieke verwysingsraamwerk aan te spreek. Die AEP poog om die jeugdige se kognitiewe, emosionele en fisiese funksionering aan te spreek deur gebruik te maak van spesifieke, geïntegreerde en gestruktureerde avontuuraktiwiteite. Die ervaringsleer metodologie is hier van toepassing en word beskou as een van die uitgangspunte wat sal bydrae tot die ontwikkeling van die AEP. In dié verband noem Heunis (1997) dat "Avontuurgerigte ervaringsleer 'n interaktiewe gebeurde-proses is waardeur 'n deelnemer kennis, vaardighede en waarde tot deelname aan ervarings wat avontuurbeleving by die deelnemer bewerkstellig, toevoeg".

Vir die ontwikkeling van die AEP is 'n voorgestelde proses gevolg om die gewenste uitkomstes te bereik. Gass (1993), Scheepers (1997) sowel as Priest en Gass (1997) beklemtoon die noodsaaklikheid van die proses en noem dat die jeugdige aan 'n meer aktiewe proses van ervaringsleer moet deelneem om te verseker dat aangeleerde kennis suksesvol van een situasie na 'n ander oorgedra word.

Volgens Peterson en Stumbo (2000) is dit nodig om die volledige intervensieproses asook die spesifieke prosedures te bestudeer om sodoende 'n volledige uiteensetting te kan maak vir die ontwikkeling van die AEP. Met verwysing na die ontwikkeling van die intervensieprogram is die avontuurbeleving gekombineer met die ervaringsleermodel wat bekend is as die mikroproses (Heunis, 1997) van Kolb (1984). In dié fase van die proses is die spesifieke programinhoud (intervensie) gestruktureer volgens die unieke behoeftes/probleme/uitkomstes (Petrini, 1990; Huszco, 1990; Gass *et al.* 1991) van die deelnemers, soos geïdentifiseer tydens die vooraf assesseringsproses (Tesnear, 2005). Elke kontak geleentheid is gestruktureer volgens drie fases, naamlik die inligtingsverskaffende fase (berei die deelnemers voor vir die aktiwiteitsfase), die aktiwiteitsfase (deelname aan die aktiwiteit) en die nabetractingsfase wat insluit die prosessering van die aktiwiteitservaring wat oordra van leer laat plaasvind.

RESULTATE EN BESPREKING

Tabel 1 verwys na die praktiese betekenisvolheid van die intervensieprogram op die totale groep ten opsigte van persoonlike funksionering, besluitnemingsvermoë, selfpersepsie, en trauma-dinamika terwyl Tabel 2 en Tabel 3 die effek toon van die intervensieprogram betreffende verskillende geslagte. Vir die doeleindes van hierdie studie word daar op die voortoets en natoets, asook die natoets en retensietoets gefokus om 'n aanduiding van die volhoubaarheid van die AEP te toon.

TABEL 1. EFFEKGROOTTES VAN DIMENSIES VAN POSTIEWE FUNKSIONERING OP DIE TOTALE GROEP

VERANDERLIKES	N	Natoets-Voortoets			Retensietoets-Voortoets			Retensietoets-Natoets		
		\bar{x}	SA	d	\bar{x}	SA	d	\bar{x}	SA	d
Selfpersepsie	28	7.25	12.03	0.60*	6.43	11.35	0.57*	0.82	6.62	0.12
Selfwaarde	28	11.14	18.75	0.59*	5.07	18.11	0.28	6.07	11.14	0.55*
Isolasie	28	6.86	15.26	0.45*	0.54	13.81	0.04	6.32	9.30	0.68*
Verantwoordelik vir ander	28	6.21	17.23	0.36	18.86	19.94	0.95	-12.64	14.05	0.90**
Selfgelling	28	2.86	12.11	0.24	1.43	15.78	0.09	1.43	13.01	0.11
Trauma-dinamika	28	5.11	7.78	0.66*	2.75	6.10	0.45	2.36	4.68	0.50*
Frustrasie	28	3.43	15.75	0.22	-2.68	18.52	0.15	6.11	9.34	0.65*
Wantroue	28	2.54	10.77	0.24	0.25	11.14	0.02	2.29	7.99	0.29
Stigma	28	3.30	16.04	0.21	1.32	16.33	0.08	2.04	10.79	0.19
Persoonlike funksionering	28	-5.43	10.28	0.53*	-5.86	13.17	0.45	0.43	7.31	0.06
Tevredenheid	28	-6.32	13.94	0.45	-4.5	18.22	0.25	-1.82	12.47	0.15
Toekomstperspektief	28	-1.64	15.06	0.11	-3.75	13.75	0.27	2.11	11.39	0.19
Besluitnemingsvermoë	28	-8.21	11.86	0.69*	-5.32	11.04	0.48	-2.89	11.01	0.26
Onafhanklikheid	28	-9.90	11.39	0.87**	-6.82	14.03	0.49	-3.07	10.87	0.28
Verantwoordelikheid	28	-10.41	13.84	0.75	-6.15	11.33	0.54*	-3.5	10.65	0.33

N = aantal persone

SA = standaardafwyking

* = mediumeffek

\bar{x} = gemiddelde afname

d = effekgrootte

** = groot effek

In Tabel 1 word die verskil tussen die voortoets en die natoets en die verskil tussen die natoets en die retensietoets vir die totale groep bereken. Wat die hoofkomponente van persoonlike funksionering betref het die intervensieprogram 'n medium effek getoon wat dui op 'n moontlike praktiese betekenisvolheid te opsigte van selfpersepsie ($d=0.60$), trauma dinamika ($d=0.66$), persoonlike funksionering ($d=0.53$) en besluitnemingsvermoë ($d=0.69$). Die data wys verder daarop dat al die sub-komponente 'n klein tot geen effek op die deelnemers gehad het nie met die uitsondering van onafhanklikheid ($d=0.87$) wat 'n groot effek getoon het en daarom van praktiese belang is. Word daar oorhoofs na die data gekyk is dit duidelik dat die intervensieprogram 'n funksie vervul het, maar dit is wel beperkend. Wat die volhoubaarheid

van die effek van die intervensieprogram betref dui die gemiddeldes daarop dat die effek as matig beskou kan word omrede die veranderinge as nie konstant voorkom. Slegs verantwoordelikheid vir ander ($d=0.90$) het die grootste verandering getoon wat dui op 'n praktiese betekenisvolheid in die praktyk.

Met die verdeling van die totale groep volgens geslag, met verwysing na die effek groottes van dimensie van positiewe funksionering, het die intervensieprogram gewys op effek verskille ten opsigte van geslag.

Tabel 2 verwys na die effekgroottes van die verskillende dimensies van positiewe funksionering op die seunsgroep tydens die voortoets en die natoets asook die natoets en die retensietoets ten einde die volhoubaarheid te bepaal. Uit Tabel 2 blyk dit dat slegs dimensies

soos selfpersepsie ($d=0.60$), persoonlike funksionering ($d=0.56$), en besluitnemingsvermoë ($d=0.76$) 'n matige effek getoon het met 'n moontlike praktiese betekenisvolheid in die praktyk. Dit wil dus voorkom asof die intervensieprogram wel 'n rol gespeel het, maar tog beperkend.

TABEL 2. EFKEKGROOTTES VAN DIMENSIES VAN POSITIEWE FUNKSIONERING OP DIE SEUNS

VERANDERLIKES	N	Natoets-Voortoets			Retensietoets-Voortoets			Retensietoets-Natoets		
		\bar{x}	SA	d	\bar{x}	SA	d	\bar{x}	SA	d
Selfpersepsie	18	6.44	10.77	0.60*	5.72	9.86	0.58*	0.72	5.78	0.13
Selfwaarde	18	7.06	15.51	0.46	2.50	17.87	0.14	4.56	9.64	0.47
Isolasie	18	5.89	16.48	0.36	-1.44	15.69	-0.09	7.33	10.22	0.72**
Verantwoordelik vir ander	18	6.22	15.63	0.40	18.39	21.17	0.87**	-12.17	14.37	0.85**
Selfgelding	18	3.17	11.66	0.27	2.22	13.31	0.17	0.94	12.41	0.08
Trauma-dinamika	18	2.83	5.90	0.48	1.39	5.03	0.28	1.44	2.96	0.49
Frustrasie	18	-1.83	13.65	-0.13	-8.94	17.90	-0.50*	7.11	8.57	0.83**
Wantroue	18	3.06	9.17	0.33	1.44	11.58	0.13	1.61	5.37	0.30
Stigma	18	0.00	16.41	0.00	-0.44	16.52	-0.03	0.65	10.74	0.06
Persoonlike funksionering	18	-5.83	10.48	-0.56	-7.78	14.44	-0.54*	1.94	7.72	0.25
Tevredenheid	18	-2.22	13.68	-0.16	-2.22	19.25	-0.12	0.00	11.33	0.00
Toekomspektief	18	-4.78	14.33	-0.33	-7.11	11.79	-0.60*	2.33	10.75	0.22
Besluitnemingsvermoë	18	-7.56	9.94	-0.76*	-4.06	11.76	-0.35	-3.50	11.29	0.31
Onafhanklikheid	18	-9.17	10.99	-0.83**	-5.89	14.88	-0.40	-3.28	12.34	0.27
Verantwoordelikheid	18	-8.65	13.26	-0.65*	-5.88	11.61	-0.51*	-1.67	10.71	0.16

N = aantal persone

SA = standaardafwyking

* = mediumeffek

\bar{x} = gemiddelde afname

d = effekgrootte

** = groot effek

Soos aangedui deur die afname in die gemiddeldes van die natoets en retensietoets het 'n geringe verbetering in dié tydverloop wel plaasgevind met slegs: verantwoordelik vir ander ($d=0.85$) en frustrasie ($d=0.83$) wat 'n effek getoon het en daarom van praktiese belang is. Die inligting (Tabel 2) dui dus aan dat die respondente minder geïsoleerd voel in hul situasies, minder verantwoordelik vir ander se gevolge voel, minder probeer om ander uit die moeilikheid te hou en hul omstandighede as minder frustrerend ervaar. Indien die inligting in Tabel 2 bestudeer word, word waargeneem dat die AEP die grootste volhoubaarheid getoon het op dimensie soos, verantwoordelikheid vir ander, frustrasie en isolasie, terwyl die ander dimensies nie as sulks betekenisvol was nie.

TABEL 3. EFKEKGROOTTES VAN DIMENSIES VAN POSITIEWE FUNKSIONERING OP DIE DOGTERS

VERANDERLIKES	Natoets-Voortoets	Retensietoets-Voortoets	Retensietoets-Natoets
---------------	-------------------	-------------------------	-----------------------

	N	\bar{x}	SA	d	\bar{x}	SA	d	\bar{x}	SA	d
Selfpersepsie	10	8.70	14.55	0.60*	7.70	14.16	0.54*	1.00	8.27	0.12
Selfwaarde	10	18.50	22.51	0.82**	9.70	18.54	0.52*	8.80	13.56	0.65*
Isolasie	10	8.60	13.48	0.64*	4.10	9.23	0.44	4.50	7.52	0.60*
Verantwoordelik vir ander	10	6.20	20.73	0.30	19.70	18.57	1.06**	-13.50	14.17	0.95**
Selfgelding	10	2.30	13.51	0.17	0.00	20.22	0.00	2.30	14.71	0.16
Trauma-dinamika	10	9.20	9.32	0.99**	5.20	7.30	0.71*	4.00	6.68	0.60*
Frustrasie	10	12.90	15.39	0.84**	8.60	14.27	0.60*	4.30	10.83	0.40
Wantroue	10	1.60	13.71	0.12	-1.90	10.56	-0.18	3.50	11.59	0.30
Stigma	10	8.90	14.46	0.62*	4.50	16.35	0.28	4.40	11.03	0.40
Persoonlike funksionering	10	-4.70	10.40	-0.45	-2.40	10.30	-0.23	-2.30	5.91	0.39
Tevredenheid	10	-13.70	11.64	-1.18	-8.60	16.33	-0.53*	-5.10	14.33	0.36
Toekomsperspektief	10	4.00	16.86	0.24	2.30	15.54	0.15	1.70	13.05	0.13
Besluitnemingsvermoë	10	-9.40	15.25	-0.62*	-7.60	9.77	-0.78*	-1.80	10.98	0.16
Onafhanklikheid	10	-11.20	12.57	-0.89**	-8.50	12.94	-0.66*	-2.70	8.15	0.33
Verantwoordelikheid	10	-13.40	15.00	-0.89**	-6.60	11.43	-0.58*	-6.80	10.24	0.66*

N = aantal persone
SA = standaardafwyking
* = mediumeffek

\bar{x} = gemiddelde afname
d = effekgrootte
** = groot effek

Tabel 3 dui aan tot watter mate die intervensieprogram as prakties betekenisvol beskou kan word vir die dogters ten opsigte van dimensies van positiewe funksionering asook die volhoubaarheid daarvan. Tydens die voortoets en natoetsmeting dui die effekgroottes van dimensies soos selfwaarde (d=0.82), trauma-dinamika (d=0.99), frustrasie (d=0.84), tevredenheid (d=1.18), onafhanklikheid (d= 0.89) en verantwoordelikheid vir ander (d=0.89) 'n groot waarde te hê en is die resultate prakties betekenisvol en van groot praktiese belang. Dimensies wat 'n medium effek toon by die dogters is selfpersepsie (d=0.60), isolasie

(d=0.64), stigma (d=0.62) en besluitnemingsvermoë (0.62). Uit die inligting is dit dus duidelik dat die avontuurgerigte intervensieprogram 'n impak/verskil gemaak het op die positiewe funksionering van die dogters.

Wat die volhoubaarheid van die onderskeie dimensies van persoonlike funksionering betref by die dogters, het selfwaarde (d=0.60), isolasie (d=0.60), trauma-dinamika (d=0.60) en verantwoordelikheid (d=0.66) verbeter, wat dui dat die intervensieprogram 'n matige effek toon en nie as konstant voorgekom het nie. Slegs die verantwoordelikheid vir ander dimensie (d=0.95) het konstant gebly tydens die natoets en die retensietoets wat daarop dui dat dié dimensie as die standhoudendste voorgekom het. Wat Tabel 2 en Tabel 3 ('n vergelyking tussen die seuns en dogters se dimensies) betref is dit opmerklik dat die intervensieprogram 'n groter impak gehad het op die dogters as op die seuns met die uitsondering van die verantwoordelikheid vir ander (dogters (d=0.95) en seuns (d=0.85))_dimensie wat as die volhoubaarste dimensie voorgekom het vir beide geslagte.

Indien oorhoofs na Tabel 1, Tabel 2 en Tabel 3 gekyk word, is dit opmerklik dat na aanleiding van die resultate van die natoets die AEP vir die verskillende dimensies van persoonlike

effektiwiteit voorsiening maak. Na afloop van die AEP het die respondente hulself in 'n positiewe lig gesien ($d=0.60$), hulself as waardevol geag ($d=0.59$), die vaardigheid ontwikkel om onafhanklik besluite te neem ($d=0.69$) en verantwoordelikheid vir hul besluite ($d=0.75$) te aanvaar. Tussen die natoets en die retensietoets het die “verantwoordelikheid vir ander” ($d=0.90$) dimensie verbeter, terwyl dimensies soos selfwaarde ($d=0.55$), isolasie ($d=0.68$), trauma-dinamika ($d=0.50$) en frustrasie (0.65) 'n medium effek getoon het. Die inligting toon dat verantwoordelikheid vir ander die standhoudendste dimensie is aangesien dit dui op 'n praktiese betekenisvolheid in die praktyk.

GEVOLGTREKKING EN AANBEVELINGS

Literatuur aangaande ervaringsleer en die buiteligugomgewing is in hierdie studie ondersoek, aangesien dit as deel van die onderbou van die AEP beskou word. Die intervensieprogram is toegepas binne die konteks van groeointervensie met uitgesoekte aktiwiteite spesiaal ontwerp vir die individu, asook geïdentifiseerde groepsprobleme aan die hand van 'n proses van vooraf-assessering.

Die afleiding wat gemaak kan word met dié studie is dat die AEP wat ontwerp is, na aanleiding van vasgestelde beginsels wat gebaseer is op die ervaringsleer metodologie, 'n effek getoon het op die persoonlike funksionering (selfpersepsie, positiewe funksioneringsareas, trauma-dinamika, verhoudings- en besluitnemingsvermoë) van die ondersoekgroep. Die afleiding word ondersteun deur Weston en Tinsley (1999); Ewert en McAvoy (2000); Rosol (2000); Russell *et al.* (2000) en Sibthorp (2003) dat deelname aan 'n AEP wel 'n impak het op persoonlike funksionering en wel ten opsigte van die verbetering van selfpersepsie en gesinsaanpasbaarheid, vertrouensbou, kommunikasie, emosionele herstel, selfdoeltreffendheid, groepkohesie, selfbemagtiging, lokus van kontrole, hulpeloosheid, passiwiteit en gevoel van 'n verlaagde selfwaarde.

Die gevolgtrekking van hierdie studie kan dus onder die volgende punte saamgevat word:

- Hedendaagse jeugdige lewe onder geweldige spanning, wat daartoe kan lei dat hul persoonlike funksionering versteur kan word;
- Vir die AEP om suksesvol te wees moet die intervensie op 'n wetenskaplike gefundeerde grondslag ontwikkel word;
- Vooraf-assessering word beskou as 'n noodsaaklikheid vir die ontwikkeling en implementering van die AEP;
- 'n Afsonderlike AEP vir seuns en dogters moet ontwikkel word, aangesien die resultate daarop dui dat probleemareas as verskillend ervaar word.
Desnieteenstaande 'n tekortkoming wat in hierdie studie gevind is soos die lae getal respondente wat kon bygedra het dat sommige dimensies (soos selfwaarde, selfgeding, wantroue, stigma, tevredenheid, toekomspektief, onafhanklikheid en verantwoordelikheid vir die self) geen praktiese betekenisvolheid getoon het nie, kan die volgende aanbevelings ten opsigte van die AEP as intervensieprogram voorgestel word:
- Vir die AEP om 'n duidelike effek op jeugdige se persoonlike funksionering te toon, moet die AEP spesifiek ontwikkel word wat gerig is op die dimensie waarin verandering verlang word.
- Die AEP behoort as medium van ontwikkeling op intrapersonlike, interpersoonlike en groepsgedrag rakende jeugdige erken en gebruik te word.
- Die AEP behoort in organisasies en skole geïmplementeer te word om spesifieke ontwikkelingsareas aan te spreek.

- Die inhoud en metodologie van die AEP moet wetenskaplik verantwoordbaar wees.

Soortgelyke studies word gevolglik aanbeveel wat op verskillende kulture fokus om sodoende meer inligting te verkry oor die persoonlike funksioneringsprofiel van blank-, swart-, kleurling jeugdige om daardeur 'n bydrae te kan lewer tot die verbetering van lewenskwaliteit van jeugdige in Suid-Afrika.

SUMMARY

THE EFFECT OF AN ADVENTURE-BASED EXPERIENTIAL LEARNING PROGRAMME (AEP) ON THE PERSONAL FUNCTIONING OF YOUTH

The aim of this research was to develop of a scientific based experiential learning programme using the elements of personal functioning (positive functioning, self-perception, trauma-dynamics, relationships and decision making) of youth in society. The methodology based on experiential learning, wilderness and adventure programming was investigated to research the impact of the adventure-based experiential learning programme (AEP) on the youth. This information was used to develop an AEP as an intervention to enhance the personal function of the youth.

Twenty-eight (n=18 males and n=10 females) youth between the ages of 17-19 years were participants of the study, and were assessed on three occasions, firstly on arrival at the Adventure School, secondly directly after the 7 days intervention programme and thirdly six weeks there after.

The Comprehensive Functioning Inventory (Post-Metric) questionnaire was used to determine the effect of the AEP on the following dimensions of personal functioning: positive functioning (satisfaction and future perspective), decision-making abilities (independency and responsibility), self-perception (lack of self worth, isolation, responsible for others and lack

assertiveness) and trauma-dynamics (frustration, mistrust and stigma). The data received was processed in conjunction with PASWIN 2000. The SAS system for Windows Release was used to determine the effect sizes (practical significance) and to calculate the sustainability of the effect.

The results of the pre-test identified the following dimensions as problem areas: positive functioning, self-perception, trauma-dynamics and decision-making abilities. The pre-post-test results of the total group show that the AEP has a medium impact on positive functioning (d=0.53), self-perception (d=0.60), trauma-dynamics (d=0.66) and decision-making abilities (d=0.69), while the sub-component independence (d=0.87), experienced practical significant improvements. Measuring the sustainability of the intervention programme, the post-results show that responsibility to others (d=0.90) is the only sub-component which has practical meaning.

When the total group was divided by gender, few significant differences on the effect of intervention programme was found. The boys' results for the pre-post test show that positive functioning along with its sub-components, responsibility for others (d=0.85) and frustration (d=0.83) is practical significant (d>0.5). Furthermore, the post-retention test shows that the AEP is sustainable in dimensions like responsibility for others, frustration and isolation. However, in the results of the girls' pre-post test practical significance was observed in

dimensions like self value ($d=0.82$), trauma-dynamics ($d=0.99$), frustration ($d=0.84$), satisfaction ($d=1.18$), independence ($d=0.89$) and responsibility for others ($d=0.89$). The post-retention test for the girls shows responsibility for others ($d=0.95$) as the only sustainable dimension. Comparing the results of the boys and girls, it shows that the AEP has a bigger impact on the positive functioning of the girls with an exception of the responsibility for others (girls ($d=0.95$) and boys ($d=0.85$)) dimension, which was sustainable for both genders. Furthermore, the results show that the dimensions responsibility to others, self value, frustration and trauma-dynamics measured a medium to a large effect ($d>0.5$), thus confirming the positive effect of the AEP on the personal functioning of youth. It also has a sustainable effect on the changes that took place in the personal functioning of the youth.

It can be concluded that the implementation of the AEP may have advantages for youth's personal functioning, especially for the enhancement of self perception and family adaptability, trust, communication, self-efficiency, locus of control, passivity, helplessness, a feeling of devalued self value, emotional healing and group cohesion. The results therefore recommend that, for any AEP to be successfully implemented, the AEP must be scientifically developed with experiential learning, wilderness and adventure programming as methodology. The results of this study confirm the view of Peterson and Stumbo (2000:84) that youth assessment prior to the intervention is necessary for the AEP to address the specific problem areas of the youth. Also, separate AEP for both genders are recommended as the results show that boys and girls experience difficulties in their personal functioning differently. In order to gather accurate and useful information about the youth's functioning profile, it is recommended that more studies with the use of different youth population groups to be studied.

VERWYSINGS

- ANON. (2000). Experiential learning comes of age. Hyperlink [http://www.findarticles.com/cf_0/m4467/3_54/61649765/print.jhtm]. Retrieved 22 February 2002.
- BANDOROFF, S. & SCHERER, D.G. (1994). Wilderness family therapy: an innovative treatment approach for problem youth. *Journal of Child and Family Studies*, 3(2):175-191.
- BUKSTEIN, O. (1998). Summary of the practice parameters for the assessment and treatment of children and adolescents with substance use disorder. Hyperlink [http://www.findarticles.com/cf_0/m2250/n1_v37/20383095/print.jhtm]. Retrieved 18 February 2002.
- CAPUZZI, D. & GROSS, D.R. (1989). *Youth at risk: a resource for counsellors, teachers and parents* (3rd ed.). Alexandria, VA: American Association for Counseling and Development.
- CARRELL, S. (1993). *Group exercises for adolescents: a manual for therapists*. Newbury Park, CA: SAGE.
- CASON, D. & GILLIS, H.L. (1994). A meta-analysis of outdoor adventure programming with adolescents. *The Journal of Experiential Education*, 17(1): 40-47.
- CROMPTON, J.L. & SELLAR, C. (1981). Do outdoor education experiences contribute to positive development in the affective domain? *The Journal of Environmental Education*, 12(4): 21-29.
- DAVIS-BERMAN, J. & BERMAN, D.S. (1995). Adventure as psychotherapy: a mental health perspective. Hyperlink [<http://www.lin.ca/resource/html/vol22/v22n2a4.htm>]. Retrieved 14 January 2002.
- EDGINTON, C.R.; HUDSON, S.D.; DIESER, R.B. & EDGINTON, S.R. (2004). *Leisure programming: a service-centered and benefits approach* (4th ed.). New York, NY: McGraw-Hill.
- EWERT, A.W. (1989). *Outdoor adventure pursuits: foundations, models and theories*. Washington, OH: Publishing Horizons.

- EWERT, A. & McAVOY, L. (2000). The effects of wilderness settings on organized groups: a state-of-knowledge paper. *USDA Forest Service Proceedings: RMRS-P*, 15(3): 13-26.
- FAUL, A.C. & HANEKOM, B. (1992). Perspective training college. Hyperlink [<http://www.perspektief.co.za>]. Retrieved Augustus 2001.
- FAUL, A.C. (1995). Scale development in social work. Ongepubliseerde PhD-proefskrif. Johannesburg: Randse Afrikaanse Universiteit.
- FAUL, A.C. & VAN NIEKERK, C. (1999). The assessment of vulnerable children with standardized measure instruments. *Social Work Practitioners' Researcher*, 11(3): 89-106.
- GARST, G.; SCHEIDER, I. & BAKER, D. (2001). Outdoor adventure program participation impacts on adolescent self-perception. *The Journal of Experiential Education*, 24(1): 41-49.
- GASS, M.A. (1993). *Adventure therapy: therapeutic applications of adventure programming*. Dubuque, IA: Kendall/Hunt.
- GASS, M.; GOLDMAN, K. & PRIEST, S. (1991). Constructing effective corporate adventure training programs. *The Journal of Experiential Education*, 15(1): 35-42.
- HATTIE, J.A.; MARSH, H.W.; NEILL, J.T. & RICHARDS, G.E. (1997). Adventure education and Outward Bound: out-of-class experiences that make a lasting difference. Hyperlink [<http://www.wilderdom.com/abstracts/Hattieetal1997AdventureEducationMetaanalysis.htm>]. Retrieved 18 August 2004.
- HEUNIS, C. DU P. (1997). Avontuurgerigte spanbou in 'n eicityse samelewing: 'n Menslike Bewegingskunde perspektief. Ongepubliseerde DPhil-proefskrif. Pretoria: Universiteit van Pretoria.
- HUSZCZO, C.E. (1990). Training for team building. *Training and Development Journal*, 44(2): 34-37.
- KOLB, D.A. (1984). *Experiential learning: experience as the source of learning and development*. Englewood Cliffs, NJ: Prentice-Hall.
- LAMB, I. (2002). An adventurous approach to life. *Horizons*, (20): 6-10.
- LE CONEY, S.; DEVINE, M.; BUNKER, H. & MONTGOMERY, S. (2000). Utilizing the therapeutic recreation process in community settings: the case of Sue. Hyperlink [http://www.findarticles.com/cf_0/m1145/5_35/63090613/print.jhtml]. Retrieved 10 August 2001.
- LE ROUX, J. (1986). Die milieu as medebepaler vir intelligensie aktualisering, selfkonsepvorming en skoolprestasie van die kind in die sekondêre skool. Ongepubliseerde MEd-tesis. Port Elizabeth: Universiteit van Port Elizabeth.
- LUCKNER, J.L. & NADLER, R.S. (1997). *Processing the experience: strategies to enhance and generalize learning* (2nd ed.). Dubuque, IA: Kendall/Hunt.
- MATHEBULA, M.J. (1995). An analysis of the determinants of the self-regulated learning abilities of students from an environmentally-deprived community. Ongepubliseerde PhD-proefskrif. Potchefstroom: Potchefstroomse University for Higher Christian Education.
- McKENZIE, M.D. (2000). How are adventure education program outcomes achieved?: a review of literature. *Australian Journal of Outdoor Education*, 5(1): 19-26.
- OTTO, E. (2000). Ons tieners se nagmerriewêreld. *Rooi Rose*: 96-98, 30 Augustus 2000.
- PETERSON, C.A. & GUNN, S.L. (1984). *Therapeutic recreation program design: principles and procedures* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- PETERSON, C.A. & STUMBO, N.J. (2000). *Therapeutic recreation program design: principles and procedures* (2nd ed.). Englewood Cliffs, NJ: Prentice-Hall.
- PETRINI, C.M. (1990). Over the river and through the woods. *Training and Development Journal*, 44(5): 25-36.
- PIKE, L.T.; THOMPSON, A.I. & THOMPSON, L.J. (1995). The youth challenge project: models, measurements and mentors. Hyperlink [<http://www.education.curtin.edu.au/ier/ier5/pike.html>]. Retrieved 21 August 2003.
- PRIEST, S. & GASS, M.A. (1997). *Effective leadership in adventure programming*. Champaign, IL:

Human Kinetics.

- ROSOL, M. (2000). Wilderness therapy for youth-at-risk. *Journal of Parks and Recreation*, 35(9): 42-55, September.
- ROSSMAN, J.R. (1995). *Recreation programming: designing leisure experiences* (2nd ed.). Champaign, IL: Sagamore.
- RUSSEL, K.C.; HENDEE, J.C. & PHILIPS-MILLER, D. (2000). How wilderness therapy works: an examination of the wilderness therapy process to treat adolescents with behavioural problems and addictions. In S.F. McCool; D.N. Cole; W.T. Borrie & J. O'Loughlin (Eds.). *Wilderness science in a time of change conference* (207-217). Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
- RUNDENBERG, S.L.; JANSEN P. & FRIDJHAN, P. (1998). The effect of exposure during an ongoing climate of violence on children's self-perception, as reflected in drawings. *South African Journal of Psychology*, 28(2): 107-115.
- SAS INSTITUTE (1999). *SAS Institute Inc. SAS OnlineDoc. Version 8*. Cary, NC: SAS Institute Inc.
- SCHEEPERS, M.J. (1997). *Development of an adventure based counselling model for the rehabilitation of black male juvenile delinquents*. Ongepubliseerde Magister-tesis. Johannesburg: Rand Afrikaans University.
- SCHOEL, J.; PROUTY, D. & RADCLIFF, P. (1988). *Islands of healing: a guide to adventure based counselling* (2nd ed.). Hamilton, MA: Project Adventure.
- SIBTHORP, J. (2003). An empirical look at Walsh and Golin's adventure education process model: relationships between antecedent factors, perceptions of characteristics of an adventure education experience, and changes in self-efficacy. *Journal of Leisure Research*, 35(1): 80-106.
- STEYN, R. (2001). Die ontwerp en evaluering van 'n buitemuurse ervaringsleeringreep. Ongepubliseerde DPhil-proefskrif. Potchefstroom: Potchefstroomse Universiteit vir Christelike Hoër Onderwys.
- SUREN, A. & STIEFVATER, R. (1995). On the path to solving at-risk behaviour among youth. *Parks and Recreation*, 30(8): 14-22.
- THOMAS, J.R. & NELSON, J.K. (1996). *Research methods in physical activity*. Champaign, IL: Human Kinetics.
- TESNEAR, S. (2005). Die effek van 'n avontuurgerigte ervaringsleerprogram op die persoonlike funksionering van jeugdiges. Ongepubliseerde Magister-tesis. Potchefstroom: Noordwes-Universiteit.
- VERSTER, Y. (2005). Die impak van 'n avontuurgerigte ervaringsleerprogram op die selfpersepsie van jeugdiges. Ongepubliseerde Magister-tesis. Potchefstroom: Noordwes-Universiteit.
- WALTERMIRE, M.E. (1999). A kaleidoscope of opportunity: teaching life skills. Hyperlink [<http://www.findarticles.com>]. Retrieved 8 September 2004.
- WESTON, R. & TINSLEY, H.E.A. (1999). Wilderness adventure therapy for at-risk youth. *Parks and Recreation*, 34(7): 30-39.
- WICHMANN, T. (1991). Of wilderness and circles: evaluating a therapeutic model for wilderness adventure programs. *Journal of Experiential Education*, 14(2): 43-48.

Dr. Charlé du P. Meyer: Skool vir Biokinetika, Rekreasie en Sportwetenskap, Noordwes-Universiteit (Potchefstroom Kampus), Privaatsak X6001, Potchefstroom 2520, Republiek van Suid-Afrika. Tel: +27 (0)18 299 1809, Faks: +27 (0)18 299 1808, E-pos: charle.meyer@nwu.ac.za

(Vakredakteur: Prof. H.J. Bloemhoff)

South African Journal for Research in Sport, Physical Education and Recreation, 2008, 30(2): 121-130.
Suid-Afrikaanse Tydskrif vir Navorsing in Sport, Liggaamlike Opvoedkunde en Ontspanning, 2008, 30(2): 121-130.
ISSN: 0379-9069

DIE WARE REDE AGTER NIELS BUKH SE BESOEK AAN SUID-AFRIKA IN 1939

Floris J.G. VAN DER MERWE

*Departement Sportwetenskap, Universiteit Stellenbosch, Stellenbosch,
Republiek van Suid-Afrika*

ABSTRACT

“Gymnastics and politics: Niels Bukh and male aesthetics” is an excellent work by Hans Bonde (2006) and depicts the full and interesting life of Niels Bukh, creator of the Danish Primary Gymnastics. On reading this fascinating book it becomes easy to connect Bukh with Afrikaner nationalism, since the time period corresponds and Bukh’s goal was the creation of a “perfect body” and a “perfect human race” (p.83). He was also highly active in right-wing Danish politics and was a Nazi supporter. As the Afrikaners were anti-British and therefore pro-German, it was easy for Bonde to create the impression that right-wing radicals in South African education circles were behind the invitation to Bukh to visit the country with his team of gymnasts in 1939: “... providing the European population with a symbol of a pure white strong physique” and “needed not to generate and lose its physical power in relation to the ‘inferior’ races” (p.226). However, in-depth research reveals a somewhat different picture. Although physical education was made compulsory in South African schools in 1934, the period 1936-1939 was of great importance in the developmental history of the subject. The poor white problem and the urbanisation after the First World War left a large component of the European minority in a poor state of health. Apart from this there was the poor performance record at the 1936 Olympic Games in Berlin. In order to resolve this problem the government founded the National Advisory Council for Physical Education in April 1938. One of its primary tasks was to make propaganda for physical education in South Africa. As a result of this Bukh

and his team were invited to present his form of gymnastics across the entire country and not only in the “regions dominated” by the Afrikaners (p.227).

Key words: Niels Bukh; Danish gymnastics; Primary gymnastics; South African physical education history.

INLEIDING

Niels Bukh het van jongs af die Sweedse Gimnastiek van Per Henrik Ling beoefen. Sy vader was ’n onderwyser aan ’n Volkshoërskool waar hulle, soos al die skole in Denemarke, besiel was met die idealistiese drang om die Dene, veral die boerebevolking, op te hef uit die vervalde toestand waarin hulle verkeer het sedert die swaar nederlaag wat hulle in 1864 teen die Duitsers gelei het (Knudsen, 1939: 25). Dit was hierdie agtergrond wat hom later in sy lewe simpatiek met Afrikanernasionalisme sou laat.

As boer in Denemarke het hy ook onderrig aan boerseuns in gimnastiek gegee, voordat hy later sy plaas verkoop en hom as gimnastiekinstrukteur bekwaam het. Hy het in 1920 sy eie

skool in Ollerup gestig en ook leerlinge van buite Denemarke onderrig – selfs Suid-Afrikaners (Van der Merwe, 1999: 282-283; Bonde, 2006).

Bewegingsopvoeders is goed bekend met Niels Bukh en sy Primêre Gimnastiek wat ten doel gehad het om foute in die liggaamsbou reg te stel en soepelheid te bevorder. Hierdie stelsel het hy deur middel van toere in Europa en elders in die wêreld, onder andere Noord- en Suid-Amerika, die Ooste en Suid-Afrika, bekendgestel (Postma, 1977: 21-23; Bonde, 2006).

BUKH EN AFRIKANERNASIONALISME

Wat egter tot onlangs nie so bekend was nie, was Niels Bukh se private lewe wat uitstekend deur Hans Bonde in *Gymnastics and politics: Niels Bukh and male aesthetics* (2006) beskryf word. In hierdie biografie leer ons Bukh ook ken as ’n regsgeesinde radikaal en ’n Nazi-ondersteuner. Sedert Hitler se magsoorname in 1933 was Bukh gefassineer deur die Nazi-dogma en was hy vanaf 1933 tot 1943 met alle erns by Deense politiek betrokke (Bonde, 2006:11). Ten tyde van sy wêreldtoere het hy die meeste ondersteuning (waardering/erkenning) ontvang in lande wat onder diktatorskap gebuk gegaan het. Dit het Bonde genoop om die gevolgtrekking te maak dat “...the gymnasts through their synchronised movements almost fused together into one organism [which] could be used by the various regimes as a symbol of order, discipline and popular unity, for the youth of countries such as Japan, Germany and South Africa” (Bonde, 2006: 326-327).

Volgens Bonde (2001: 150-151; 2006: 226-227) het die inisiatief om Bukh na Suid-Afrika te nooi van die Afrikanerleiers (“Afrikaner authorities”) gekom en het dit moontlik regse politieke bybedoelings gehad. Hierdie indruk word gewek deur Bonde se verwysing na dr. S.H. Pellissier (Vrystaatse Direkteur van Onderwys) wat as “lid van die Broederbond” die Nasionale Adviserende Raad vir Liggaamlike Opvoeding (NARLO) ooreed het om die Deense span oor te nooi. Pellissier het Niels Bukh se skool in 1934 besoek en het hulle in 1939 vir ’n groot gedeelte van die toer deur Suid-Afrika vergesel.

Bonde voer aan dat Niels Bukh met sy toer deur Suid-Afrika in 1939 juis getoon het hoe dissipline en liggaamskultuur kon bydra dat die wit ras nie agteruitgaan en sy fisieke dominansie oor die ondergeskikte rasse verloor nie. “The position of power occupied by the

white ruling population was to be justified not only by its ‘spiritual superiority’ but also by exhibiting its youth possessed with the physical and psychological signs of progress, strength and fearlessness” (Bonde, 2006: 226). Sy gimnastiek het die indruk gewek dat hy die perfekte liggaam vir die perfekte ras wou skep (Bonde, 2006: 83). Dit is te verstane as in ag geneem word dat die Dene dieselfde agtergrond as die Afrikaners gehad het. Beide het ’n landelike afkoms en is gedissiplineerde en godsdienstige mense. Die Deense media het die indruk gewek dat Bukh en sy vertoonspan ’n positiewe bydrae gelewer het tot die regverdiging van “apartheid” in Suid-Afrika, alhoewel die woord toe nog nie bestaan het nie. Bukh het selfs ná die Tweede Wêreldoorlog nog steeds na die Afrikaners as sy “bosom companions” verwys (Bonde, 2006: 227).

Bukh se besoek aan Suid-Afrika het weliswaar saamgeval met die hoogtepunt in Afrikanernasionalisme. Laasgenoemde kan teruggevoer word tot die Anglo-Boereoorlog wat in 1902 ten einde geloop het. Daarmee is ’n einde gemaak aan die Afrikaners se droom van politieke onafhanklikheid (Archer & Bouillon: 1982: 25), maar die stryd het voortgeduur. In

1914 is die Afrikaner Nasionale Party gestig en in 1918 die Broederbond, ’n geheime organisasie wat hom vir die bevordering van Afrikanerbelange beywer het. Dit was eers in die 1930’s dat Afrikanernasionalisme momentum verkry het (Archer & Bouillon: 1982: 30; Nauright, 1997: 88). In 1938 is ’n landwye eeufeesviering van die Groot Trek gehou en die seremonie in Pretoria alleen is deur 100 000 Afrikaners bygewoon. Uit hierdie euforie is ’n massa-organisasie, genaamd die Ossewa-Brandwag, gebore. Hierdie organisasie het die Afrikanerdom aan politieke nasionalisme gekoppel (Patterson, 1957: 38-39).

Die Broederbond het goed gebruik gemaak van hierdie eeufeesvierings om Afrikanernasionalisme te bevorder (Archer & Bouillon: 1982: 30). Die Federasie van Afrikaanse Kultuurverenigings is gestig waarby amper 300 kultuurliggame teen 1937 geaffilieer was. Dit het onder andere kerkrade, jeug- en studenteverenigings en opvoedkundige groepe ingesluit. Die Federasie het sy bes gedoen om die Afrikanerjeug van die Engelssprekendes weg te hou (Harrison, 1981: 96), iets waarin hulle uitstekend geslaag het. Dit was veral merkbaar voor en tydens die Tweede Wêreldoorlog toe ’n groot aantal Afrikaners nie die oorlogspoging wou ondersteun nie. Hul nasionalisme het gegrens aan anti-Brits-wees (D’Oliveira, 1978: 45, 48). Die skerp en bitter twis in Suid-Afrikaanse politiek wat gevolg het op die Smutsregering se besluit om op 4 September 1939 oorlog teen Nazi-Duitsland te verklaar, het ook die wêreld van onderwys en sport binnegedring (Van der Merwe, 2002: 385-389).

Dit is dus baie maklik en amper logies vir Bonde om die afleiding te wil maak dat die Deense toer regse sentiment, oftewel Afrikanernasionalisme, ondersteun het. Agnar Sôgaard Jørgensen, wat die toer as mediakorrespondent meegemaak het, het later in sy boek *Through South Africa with Niels Bukh* (in Deens) geskryf dat “There appears to be no other people in the world who resemble the Danes more than the Dutch” (bedoelende die Afrikaners) (Bonde, 2001: 151, 153).

WARE REDE VIR UITNODIGING

’n Nuwe ondersoek na die ware rede agter Bukh se uitnodiging het egter ’n heel onskuldige motief aan die lig gebring.

Dit was in die dertigerjare dat liggaamlike opvoeding as skoolvak sy beslag in Suid-Afrika gekry het. Die jare 1936-1939 was van die uiterste belang in die ontwikkeling van die vak in Suid-Afrika (Anon., 1948: 6). Talle buitelandse vakkundiges is uit ’n verskeidenheid lande in

Europa ingevoer. Een van hulle was dr. Anton Obholzer van Oostenryk. Hy het dr. Ernst Jokl (van Duitsland) in Augustus 1937 op Stellenbosch as die hoof van die oudste departement van liggaamlike opvoeding aan 'n universiteit in Suid-Afrika opgevolg (vir meer inligting oor hulle sien Boshoff, 1981). Beide was medici en Obholzer het na sy aankoms in Suid-Afrika gevind dat die gesondheidstoestand van die volk kommerwekkend was. Een van die hoofredes hiervoor was dat liggaamlike opvoeding so verwaarloos was (*Burger*, 1937b: 10; Obholzer, 1939: 9).

Alhoewel liggaamlike opvoeding sedert 1934 'n verpligte skoolvak was (Van der Merwe, 1999: 289), was daar steeds nie 'n eenvormige stelsel in die land nie (KAB, 1939: 30). Die regering het in die laat dertigerjare daadwerklik gepoog om liggaamlike opvoeding in die land te vestig en te bevorder (Jokl, 1940: 4). Die primêre doel hiermee was om die gesondheidsstandaard van die nasie te verhoog (*Burger*, 1937a: 1). Dié swak toestand kan

toegeskryf word aan die toenemende verstedeliking as gevolg van die armlankevraagstuk asook die feit dat die swartmense die meeste handarbeid verrig het (Boshoff, 1981: 113; NARLO, 1940: 6). Na 'n groot oorlog, soos die Eerste Wêreldoorlog in hierdie geval, volg daar gewoonlik 'n tydperk van hongersnood en ekonomiese depressie. Die volkstelling van 1921 het steeds toenemende verstedeliking aan die lig gebring. Dit het nie net die armer en ongeskoolde plattelandse blankes behels nie, maar ook die swartes wat nie meer 'n bestaan op die platteland kon maak nie. Die wêreldwye depressie van 1930 het in Suid-Afrika ook met die grootste droogte in die geskiedenis gepaardgegaan, sodat groot plattelandse gebiede teen 1932 in armoede verkeer en baie boere armlanke geword het. 'n Kwart van die blanke bevolking is as armlanke beskou. Die ekonomie het eers weer in 1934 'n opswaai getoon en die vernuwing in die onderwys het deel daarvan uitgemaak. Daar was ook 'n herlewing in kulturele aktiwiteite en meer jong Afrikaners het die onderwys as beroep gekies (Van der Walt *et al.*, [1965]: 506, 523, 529, 540).

Dr. Ernst Jokl en dr. E.H. Cluver het sedert 1937 'n omvattende nasionale opname oor liggaamlike geskiktheid in Suid-Afrika geloods. Een van hul belangrikste bevindinge was dat die arbeidsvermoë van 'n "enorme aantal blanke en nie-blanke Suid-Afrikaners só laag was dat hulle nie tot ongeskoolde arbeid in staat is nie" en dat "hierdie mans en vrouens werk óf met aansienlike verlaagde geskiktheid óf hulle kan geen werk gegee word nie". Jokl (1941: 8) skryf dat dit die hoofsaak van liggaamlike opvoeding was om hierdie toedrag van sake reg te stel.

In 'n ander studie het Jokl (1942: 9) genoem dat die agteruitgang van die bevolking ("population erosion") Suid-Afrika se grootste nasionale probleem was:

Ons kom vandag teenoor 'n toestand te staan waarin die afstammeling van 'n groot verskeidenheid van rasse- en sosiale groepe, wat voorheen op 'n betreklike hoë liggaamlike en ekonomiese peil gelewe het, binne 'n aansienlike kort tydjie agteruitgegaan het. Baie lede van vroeëre Europese setlaar-families in Suid-Afrika het armlanke geword; byna een-vyfde van die teenswoordige blanke bevolking word in hierdie kategorie ingesluit. Die nakomeling van baie geharde Bantoe-gemeenskappe van krygsmanne en landbou-arbeiders is vandag te swak om in die goudmyne van die Witwatersrand te werk.

Hierdie toestand is ook deur Suid-Afrika se prestasies by die 1936 Olimpiese Spele in Berlyn blootgelê. Uiterste teleurstelling is deur die publiek, sportliggame en die regering uitgespreek

toe Suid-Afrika niks beter as net een silwermedalje kon presteer nie (South African Olympic and British Empire Games Association, 1936: 3). Dit was duidelik dat ons sportlui baie onfkis was (South African Olympic and British Empire Games Association, 1937b: 4) en dit het as 'n wekroep gedien (South African Olympic and British Empire Games Association, 1937a: 2). Iets moes gedoen word om “die algemene standaard van die fisiek van die volk te verhoog en om onderrig te gee in die reëls van gesondheid en voeding” (NARLO, 1939a: 16).

Tydens die Olimpiese Spele het 'n kongres oor liggaamlike opvoeding in Berlyn plaasgevind. Dr. O.L. Shearer van Suid-Afrika het dit bygewoon en daarna 'n memorandum getiteld “Modern civilization and leisure” aan die Suid-Afrikaanse Olimpiese Spele-vereniging voorgelê. Die voorsitter, A.V. Lindbergh, het dit as 'n basis beskou vir 'n groot nasionale beweging om liggaamlike opvoeding in Suid-Afrika uit te bou. Hy het dit kort daarna met 'n

kabinetsminister [waarskynlik Jan Hofmyer] in Kaapstad bespreek en goeie terugvoering ontvang. Die minister het hom daarna versoek om 'n skema aan die kabinet voor te lê waarin liggaamlike opvoeding op nasionale vlak vanaf laerskool- tot en met universiteitsvlak aandag sou geniet. Die idee is intussen hartlik deur die kabinet ontvang, sodat die Olimpiese-vereniging onmiddellik 'n subkomitee aangewys het om só 'n skema uit te werk (South African Olympic and British Empire Games Association, 1937a: 1-8).

Hierdie subkomitee (oftewel kommissie) is deur Hofmyer as Minister van Onderwys na Brittanje gestuur om die stand van hul liggaamlike opvoeding te ondersoek. Dit het gelei tot die *Report of the South African Olympic and British Empire Games Association on Physical & Health Education in the Union of South Africa* (Augustus 1937). Hierdie verslag is deur Ira Emery (sekretaris van die Olimpiese-vereniging) en dr. Ernst Jokl (onafhanklike adviseur vir die Olimpiese-vereniging) opgestel. Een van die voorstelle was dat 'n nasionale adviserende raad vir liggaamlike opvoeding in die lewe geroep moes word. Dit moes op die “Supreme Supervising Body for Physical and Health Education” van Groot-Brittanje geskoei wees. Dit moes 'n omvattende skema verskaf waarmee die Suid-Afrikaanse regering 'n doelgerigte en stelselmatige poging kon aanwend om deur fisieke opleiding (“physical training”) die standaard van gesondheid en fisieke fiksheid in die land te verhoog (South African Olympic and British Empire Games Association, 1937c: 2-7). So het die Nasionale Adviserende Raad vir Liggaamlike Opvoeding (NARLO) in April 1938 tot stand gekom (KAB, 1937: 47; 1939: 31). Een van hul primêre take was om 'n eenvormige leerplan en stelsel vir liggaamlike opvoeding in Suid-Afrika saam te stel (Anon., 1948: 6).

Die regering het jaarliks £50 000 bewillig vir die bevordering van liggaamlike opvoeding en die Raad was oortuig dat goeie propaganda nodig was om die Suid-Afrikaanse publiek te oortuig van die waarde van só 'n stelsel (*Burger*, 1939b: 5). Die motivering vir dié propaganda was soos volg:

Dit moet onthou word dat liggaamsopvoeding en die noodsaaklikheid daarvan, by die oorgrote meerderheid van ons volk 'n nuwigheid is wat nie ten volle besef word nie, en teneinde te verseker dat gebruik gemaak sal word van beskikbare en addisionele fasiliteite en dat uit eie beweging 'n aanvang gemaak sal word, is dit nodig dat stelselmatig propaganda gemaak sal word om die nodige geesdrif op te wek. Hier moet nie uit die oog verloor word dat daar aan deelname aan so 'n beweging weinig eer en geen verdienste verbonde is nie. Wanneer die skema 'n geruime tyd in swang is en op doeltreffende wyse in die skole, universiteite, ens., toegepas is, sal die nuwe geslag wat ons sal opvolg, besiel wees met die regte opvatting en dus outomaties deelneem aan

liggaamskultuur. Voordat hierdie stadium bereik is, sal dit egter noodsaaklik wees om propaganda te maak met 'n werk [sic] en dit sodanig te ontwikkel dat dit 'n erfstuk vir ons nageslag word wat sonder meer aanvaar sal word. Middels wat aangewend kan word om propaganda te maak, lê voor die hand, en sluit o.a. in: nuusblaaië, radio, pamflette, ens., ens. Die Nasionale Adviserende Raad het egter by sy eerste vergadering in Mei 1938 reeds gevoel dat die doeltreffendste wyse om sy doel te bereik, sou wees om die heer Niels Bukh van Denemarke uit te nooi om met twee spanne van sy studente na Suid-Afrika te kom en vertonings in die groter sentra te gee (NARLO, 1939b: 8).

Dit was een van die nuwe raadslede, dr. S.H. Pellissier (Direkteur van Onderwys in die Vrystaat), wat voorgestel het dat Bukh en sy gimnaste na Suid-Afrika genooi moes word (Anon., 1939b: 40). Bukh se besoek moes derhalwe die nodige aansporing (alias propaganda) verskaf wat die Raad se werk op nasionale vlak 'n sukses kon maak (*Burger*, 1939b: 5).

Bukh en sy span gimnaste, bestaande uit 16 mans en 15 dames, het op 24 Augustus 1939 met die Windsor Castle in Kaapstad aangekom (*Burger*, 1939a: 5). Dr. Obholzer was 'n oudstudent van Niels Bukh en op sy uitnodiging het die toer Vrydag, 25 Augustus in Stellenbosch afgeskop. Getrou aan Bukh se leerstelling het Obholzer, wat die eerste tydskrif vir liggaamlike opvoeding (getiteld *Liggaamsopvoeding/Physical Education*) in April 1939 geloods het, hom ook beywer om vaderlandsliefde by sy studente in te skerp (Boshoff, 1981: 111-113).

SAMEVATTING

Voor die Tweede Wêreldoorlog het baie Suid-Afrikaanse studente onderrig in die buiteland ontvang. Veral Engeland, Skotland, Duitsland en Denemarke was gewilde bestemmings. Dit en die immigrasie van leerkragte het meegebring dat die Suid-Afrikaanse sisteem deurweek was met invloede uit die Sweeds/Deense vormende gimnastiek, Duitse *turnen* (kompetisie-gimnastiek), Britse sport en spele, Oostenrykse natuurlike liggaamlike opvoeding en Amerikaanse funksionele en rekreasie liggaamlike opvoeding (Thomson, 1949: 7). Daar is egter steeds gesoek na 'n eg Suid-Afrikaanse model.

Daarom was die onmiddellike doelstellings van die pasgestigte NARLO drieledig, naamlik die opvoeding van die algemene publiek; die daarstelling van 'n eenvormige stelsel en leerplan vir die hele land; en die oplossing van onmiddellike organisatoriese en tegniese probleme. Met betrekking tot die eerste punt het die raad beseft dat 'n "aanwakkering" in die algemene belangstelling in liggaamlike opvoeding dringend nodig was en dit was as gevolg van hierdie behoefte dat besluit is om die Deense span te nooi. Dit is duidelik gestel dat die raad nie hiermee bedoel het om die Deense stelsel in te voer nie, maar bloot dat die Dene propaganda vir liggaamlike opvoeding in Suid-Afrika moes maak. Daar was nietemin nuttige elemente in die Deense stelsel wat met groot voordeel toegepas sou kon word (Anon., 1941: 6-9, 34; KAB, 1939: 32).

Bukh se besoek was uiters geslaagd en het as 'n groot stimulus vir die vak, liggaamlike opvoeding, in Suid-Afrika gedien. Die aanskoulike vertonings het die vaktense sowel as die breë publiek se belangstelling geprikkel (Nel, 1939: 33). In sy jaarverslag het die Minister van Onderwys geskryf "for the first time educational gymnastics, as contrasted with competitive athletics and sports, made a popular appeal to the people of South Africa" (KAB, 1938: 48). Drie lede van die toer het ook in Suid-Afrika agtergebly om onderrig in liggaamlike

opvoeding te gee (Thomson, 1949: 7).

Ernst Jokl, wat in 1940 as hoof van die Departement Liggaamsoefeninge aan die Witwatersrandse Tegnieese Kollege die eerste leerplan vir Suid-Afrikaanse skole opgestel het, het onder andere die volgende oor Bukh se besoek geskryf:

Daar kom vir Suid-Afrikaanse onderwysers geen beter prikkel as mnr. Bukh se besoek gewees het nie. Deur die oorkoms van die Deense span te reël, het NARLO die saak 'n

groot diens bewys. Suid-Afrikaanse 'deskundiges' in Liggaamlike Opvoeding sal heelparty van hulle opvattinge in herooringe moet neem. Party van hulle sal besef dat Liggaamsopvoeding 'n lewende iets is, 'n dinamiese onderwerp wat gevoel sowel as verstaan moet word, 'n onderdeel van onderwys wat nie uit boeke, roosters en artikels in tydskrifte geleer kan word nie; dat dit 'n onafhanklike oordeel vereis, 'n deeglike kennis van die mens se gees en die laaste, maar nie die minste nie, 'n konstruktiewe waardering van die noodsaaklikste sosiale aspekte van opvoeding: 'n ware menslike belangstelling in sowel as 'n deeglike kennis van die liggaamlike, emosionele en sosiologiese behoeftes van die jeugdige persoonlikheid, maar ook van die samelewing wat eindelik van die wyse waarop ons die individu opvoed, afhang (Jokl, 1940: 229, 231).

'n Verdere bewys van hul gewildheid, was die feit dat die toer verleng is. Nadat hulle aanvanklik op 13 Oktober sou vertrek het (Anon., 1939a: 56; NARLO, 1939b: 13), was dit die nuwe liberale regering van Jan Smuts wat hulle by monde van Jan Hofmeyr (Minister van Onderwys en Finansies) versoek het om die toer te verleng (Bonde, 2006: 227). Hulle het Suid-Afrika dus eers op 2 November verlaat (Anon., 1939b: 40). Waar die indruk geskep is dat die Dene oorspronklik deur die regse konserwatiewe Afrikaners genooi is, was dit nou die liberale Britsgesinde regering wat hulle versoek het om langer te bly. Terloops, Hofmeyr was ook die Minister van Onderwys in die Hertzog-regering. Sy dienstermyne het van Maart 1933 tot September 1938 (toe hy bedank het) en weer van September 1939 tot Mei 1948 geloop (In memoriam, 1948: 5; Krüger, 1972: 318; Furlong, 1991: 84).

Omdat die meeste Afrikaners anti-Britsgesind was – en daarom pro-Duits (maar nie noodwendig pro-Nazi nie) – was dit maklik vir Bonde om die indruk te kry dat regse radikale in Suid-Afrikaanse onderwyskringe agter die uitnodiging aan Niels Bukh gesit het. Bonde se stelling dat “The initiative for Bukh’s tour had come from the Afrikaners” spruit uit Pellissier se voorstel. Volgens Bonde (2001: 150) was hy “undoubtedly a member of the *Broederbond*”, alhoewel hy geen bewys daarvoor kon voorlê nie.

In Ernst Jokl se *South African reminiscences* (1988: 19) beweer hy “A few months prior to World War II, I suggested to Minister Hofmeyr that he invite a team of European gymnasts to visit South Africa. The choice fell upon the school of the Danish educator Niels Bukh”. Dit mag selfs wees dat Pellissier se keuse van Bukh op grond van Jokl se voorstel gedoen is.

In die eerste artikel van die nuwe tydskrif *Liggaamsopvoeding/Physical Education* (wat in April 1939 verskyn het), het die Sekretaris van Verdediging, A.H. Broeksmas, dit beklemtoon dat die skepping van NARLO niks met militarisme te doen gehad het nie, maar dat die enigste doel die opheffing en normale ontwikkeling van die Suid-Afrikaanse seuns was, met ander woorde nasiebou (Broeksmas, 1939: 5). Bonde (2006: 227) sê verder dat die toergroep net in die gebiede opgetree het waar die Afrikaners dominant was. Dit is egter nie waar nie. Die span het ook in Port Elizabeth, Grahamstad, Oos-Londen, Cookhouse, Durban, Pietermaritzburg en

Ladysmith opgetree – almal sterk Britsgeoriënteerde plekke. Enige verskuilde Nazi-agendas kon nie opgespoor word nie.

Die politiek-geïnspireerde beeld wat Bonde aan die verwikkelinge gee, is nie vergesog nie en kan heel moontlik ’n element van waarheid bevat, maar na aanleiding van die nuwe feite wil

dit tog voorkom asof daar ’n meer onskuldige rede agter die uitnodiging aan die Deense gimnaste was.

SUMMARY

THE TRUE REASON BEHIND NIELS BUKH’S VISIT TO SOUTH AFRICA IN 1939

Gymnastics and politics: Niels Bukh and male aesthetics is an excellent work by Hans Bonde (2006) and depicts the full and interesting life of Niels Bukh, creator of the Danish Primary Gymnastics. On reading this fascinating book it becomes easy to connect Bukh with Afrikaner nationalism, since the time period corresponds and Bukh’s goal was the creation of a “perfect body” and a “perfect human race” (Bonde, 2006: 83). He was also highly active in right-wing Danish politics and a Nazi supporter. As the Afrikaners were anti-British and therefore pro-German, it was easy for Bonde to create the impression that right-wing radicals in South African education circles were behind the invitation to Bukh to visit the country with his team of gymnasts in 1939: “... providing the European population with a symbol of a pure white strong physique” and “needed not to generate and lose its physical power in relation to the ‘inferior’ races” (Bonde, 2006: 226).

However, in-depth research reveals a somewhat guileless motive. Although physical education was made compulsory in South African schools in 1934, the period 1936-1939 was of great importance in the developmental history of the subject. The primary objective was to improve the physical condition of the population. The poor white problem resulting from the increasing urbanisation after the First World War left a large component of the European minority in a poor state of health. Apart from this there was the poor performance record at the 1936 Olympic Games in Berlin where South Africa managed to win only one silver medal. It was clear that our sportsmen were very unfit and this was a major wake-up call. Something had to be done to improve the general physical fitness level of the population and to teach the rules of health and nutrition. During the Games a physical education conference was held in Berlin. Dr. O.L. Shearer of South Africa attended it and later submitted a memorandum, *Modern civilization and leisure*, to the South African Olympic Games Association. The chairman, A.V. Lindbergh, regarded it as the basis for a comprehensive national movement to develop physical education in South Africa. Shortly afterwards he discussed it with a cabinet minister in Cape Town and received favourable feedback. The minister subsequently requested him to submit to the cabinet a scheme addressing physical education on national level from primary school to university level. The cabinet welcomed the idea and the Olympic Association immediately appointed a sub-committee to develop such a scheme. Hofmeyr as Minister of Education sent this commission to Britain to investigate the situation regarding their physical education. This resulted in the *Report of the South African Olympic and British Empire Games Association on Physical & Health Education in the Union of South Africa* (August 1937). The report was compiled by Ira Emery (secretary of the Olympic Association) and Dr. Ernst Jokl (independent adviser to the Olympic Association). One of the proposals was that a national advisory council of physical and health education be formed, modelled on the Supreme Supervising Body for Physical and Health Education of Great Britain. It had to provide a

comprehensive scheme whereby the South African government could make a concerted and systematic effort to raise the standard of health and physical fitness in the country through physical training.

Thus the National Advisory Council for Physical Education (NACPE) was established in April 1938. One of its primary tasks was to compile a uniform curriculum and system for physical education in South Africa. Part of this was the creation of propaganda for physical education in South Africa. It was one of the new council members, Dr. S.H. Pellissier (Director of Education in the Free State), who suggested that Bukh and his gymnasts be invited to South Africa. Bukh's visit therefore had to provide the necessary incentive (i.e. propaganda) to ensure the success of the Council's work on national level. As the Afrikaners were anti-British – and therefore pro-German – it was easy for Bonde to conclude that right-wing radicals in South African educational circles were behind the invitation to Niels Bukh. Bonde's statement that "the initiative behind the tour originated from the Afrikaner authorities" (Bonde, 2006: 227) is derived from Pellissier's suggestion. According to Bonde he was "undoubtedly a member of the *Broederbond*" (Bonde, 2001: 150), although he could not prove it. As a result of this Bukh and his team were invited to present his form of gymnastics across the entire country and not only in the "regions dominated" by the Afrikaners (Bonde, 2006: 227).

VERWYSINGS

- ANON. (1939a). Algemeen. *Liggaamsopvoeding*, 1(1): 56-59, April.
- ANON. (1939b). Algemeen: Einde van Niels Bukh se toer, *Liggaamsopvoeding*, 1(4): 40, November.
- ANON. (1941). Verrigtinge van die Nasionale Adviserende Raad vir Liggaamsopvoeding. *Liggaamsopvoeding*, 2(2):6-9, 34, Junie.
- ANON. (1948). An outline of Physical Education in South Africa. *Vigor*, 2(1): 6, December.
- ARCHER, R. & BOUILLON, A. (1982). *The South African game. Sport and racism*. London: Zed.
- BONDE, H. (2001). The White Man's body: Danish Gymnastics in South Africa, 1939. *South African Historical Journal*, 44: 150-151, May.
- BONDE, H. (2006). *Gymnastics and politics: Niels Bukh and male aesthetics*, Copenhagen: Museum Tusulanum Press.
- BOSHOFF, A.L. (1981). Die geskiedenis van die Departement van Liggaamlike Opvoedkunde aan die Universiteit van Stellenbosch. Ongepubliseerde Magistertesis. Stellenbosch: Universiteit van Stellenbosch.
- BROEKSMAN, A.H. (1939). Die Departement van Verdediging en Liggaamsopvoeding, *Liggaamsopvoeding*, 1(1):5, April.
- BURGER, DIE (1937a). Oefeninge vir volk soos in Brittanje, 6 Augustus.
- BURGER, DIE (1937b). 12 November.
- BURGER, DIE (1939a). Liggaamsoefening se uitwerking op vroue, 25 Augustus.
- BURGER, DIE (1939b). Skitterende vertonings deur Deense gimnaste, 26 Augustus.
- D'OLIVEIRA, J. (1978). *Vorster – die Mens*. Johannesburg: Perskor.
- FURLONG, P.J. (1991). *Between crown and swastika*. Johannesburg: Witwatersrand University Press.
- HARRISON, D. (1981). *The white tribe of Africa: South Africa in perspective*. London: BBC.
- IN MEMORIAM (1948). Wyle Mnr. J.H. Hofmyer. *Vigor*, 2(1): 5, Desember.
- JOKL, E. (1940). *Liggaamsoefeninge. Leerplan vir Suid-Afrikaanse skole*. Pretoria: J.L. van Schaik.
- JOKL, E. (1941). 'n Opmeting van liggaamlike geskiktheid in Suid-Afrika. *Liggaamsopvoeding*, 2(4): 8, November.

- JOKL, E. (1942). Die omgewingsbasis van liggaamlike geskiktheid/the invironmental basis of physical fitness. *Liggaamsopvoeding*, 4(4): 9, November.
- JOKL, E. (1988). *South African reminiscences*. [Lexington, KY]: Ernst Jokl.
- KAAPSE ARGIEFBEWAARPLEK (KAB) (1937). SRP 1/2/159, Union of South Africa. Report of the Union Department of Education for the calendar year 1937.
- KAAPSE ARGIEFBEWAARPLEK (KAB) (1938). SRP 1/2/162, Union of South Africa. Report of the Union Department of Education for the calendar year 1938. Chapter Six: Physical Education.
- KAAPSE ARGIEFBEWAARPLEK (KAB) (1939). SRP 1/2/165, Union of South Africa. Report of the Union Department of Education for the calendar year 1939. Chapter Six: Physical Education.
- KNUDSEN, K.A. (1939). Niels Bukh. *Liggaamsopvoeding*, 1(3): 25-34, September.
- KRÜGER, D.W. (1972). *Suid-Afrikaanse biografiese woordeboek, deel II*. Kaapstad: Tafelberg.
- NASIONALE ADVISERENDE RAAD VIR LIGGAAMLIKE OPVOEDING (NARLO) (1939a). Die Nasionale Skema vir Liggaamsopvoeding in Suid-Afrika. *Liggaamsopvoeding*, 1(2): 16-20, Junie.
- NASIONALE ADVISERENDE RAAD VIR LIGGAAMLIKE OPVOEDING (NARLO) (1939b). Die Nasionale Skema vir Liggaamsopvoeding in Suid-Afrika. *Liggaamsopvoeding*, 1(3): 8, 13, September.
- NASIONALE ADVISERENDE RAAD VIR LIGGAAMLIKE OPVOEDING (NARLO) (1940). Mnr. Niels Bukh oor liggaamsopvoeding. *Liggaamsopvoeding*, 2(1): 3-6, 49, April.
- NAURIGHT, J. (1997). *Sport, cultures and identities in South Africa*. Cape Town: David Philip.
- NEL, J.T. (1939). Oor vertonings. *Liggaamsopvoeding*, 1(4): 33-34, November.
- OBHOLZER, A. (1939). 'n Eie stelsel vir Suid-Afrika. *Liggaamsopvoeding*, 1(1): 9-14, April.
- PATTERSON, S. (1957). *The last trek. A study of the Boer people and the Afrikaner nation*. London: Routledge & Kegan Paul.
- POSTMA, J.W. (1977). *Inleiding tot die liggaamlike opvoedkunde*. Cape Town: A.A. Balkema.
- SOUTH AFRICAN OLYMPIC AND BRITISH EMPIRE GAMES ASSOCIATION (1936). Annual report for the year ended December 31.
- SOUTH AFRICAN OLYMPIC AND BRITISH EMPIRE GAMES ASSOCIATION (1937a). Minutes of the Annual General Meeting, February 23.
- SOUTH AFRICAN OLYMPIC AND BRITISH EMPIRE GAMES ASSOCIATION (1937b). Minutes of the meeting of August 13.
- SOUTH AFRICAN OLYMPIC AND BRITISH EMPIRE GAMES ASSOCIATION (1937c). *Report of the South African Olympic and British Empire Games Association on Physical & Health Education in the Union of South Africa*. [Johannesburg]: SAO&BEGA, August.
- THOMSON, M.N. (1949). A survey of physical education for girls and women in South Africa. *Vigor*, 3(1): 7, December.
- VAN DER MERWE, F.J.G. (1999). *Sportgeskiedenis. 'n Handleiding vir Suid-Afrikaanse studente*. Stellenbosch: FJG Publikasies.
- VAN DER MERWE, F.J.G. (2002). Rugby and Afrikaner nationalism during World War II. In K. Szikora; P. Nagy; S.J. Bandy; G. Pfister & T. Terret (Eds.). *Sport and Politics. Proceedings of 6th International ISHPES congress (385-389), Budapest, Hungary, 14-19 July 1999*. Budapest: Semmelweis University.
- VAN DER WALT, A.J.H.; WIID, J.A. & GEYER, A.L. ([1965]). *Geskiedenis van Suid-Afrika*. Kaapstad: Nasou.

PERCEPTIONS OF LIFE ORIENTATION TEACHERS REGARDING THE IMPLEMENTATION OF THE LEARNING AREA IN GRADES 8 AND 9: A SURVEY IN SELECTED WESTERN CAPE HIGH SCHOOLS

Karel J. VAN DEVENTER

Department of Sport Science, Stellenbosch University, Stellenbosch, Republic of South Africa

ABSTRACT

In an attempt to break the cycle aimed at maintaining social and ideological control the new South African (SA) government has established a new legal and policy framework for education and training. The result was Outcomes-based Education (OBE). As a reform OBE promised to improve the quality of education for all in SA. This article, which focuses on the Senior Phase (SP), is part of a larger study that studied Life Orientation (LO) teachers' perceptions on the implementation of LO in Grades R-11. The main problem was to determine the perceptions of LO teachers in the SP regarding the implementation of LO with specific reference to the Learning Outcome, Physical Development and Movement (PDM) in selected Western Cape high schools. Quantitative and qualitative data captured by a questionnaire typifies the research design as a survey. In the survey N=124 high schools were randomly selected of which n=30 LO teachers in the SP returned questionnaires. Summary statistics using frequency tables and histograms were utilised. The data were analysed by Statistica 8.0 (STATSOFT, 2007). For the purpose of this article no comparisons were drawn between the different grades of the National Curriculum Statement (NCS). Every aspect as stipulated by the NCS seemed to be in place for the presentation of LO in the SP. However, the teachers were not fully qualified to teach LO in the sense that the majority of LO teachers were not qualified in Physical Education (PE) to present PDM. Notwithstanding the status of LO, the situation holds specific implications for the growth and development of SP learners. It is recommended that the Department of Education (DoE) should take the initiative and lead in this regard to urgently provide specialist LO teachers for the SP. However, Higher Education Institutions (HEI's) should become more involved in training initiatives for prospective teachers in LO.

Key words: Outcomes-based Education; National Curriculum Statement; General Education and Training Band; Life Orientation; Physical Education; Teacher Training.

INTRODUCTION

An acute awareness of historical notions about education and race is needed to come to terms with new educational policy and laws since prejudice and mindsets have sunk deep and settled firmly in the South African psyche (Manganyi, 2001). Educational transformation in SA aims to break the cycle aimed at maintaining social and ideological control (Welton, 2001; Prinsloo, 2007). Naturally, changes in the education system deeply affected teachers (Christiaans, 2006).

The new government has established a new legal and policy framework for education and training. According to the DoE significant gains regarding the establishment of necessary implementation systems and on improving teaching are visible (DoE, 2004). However, the DoE recognises that aside from societal challenges there are specific educational problems that have to be addressed. The DoE (DoE, 2004:1) specifically states that:

To remain globally competitive, it is imperative that the system produces more young people with high levels of knowledge and skills in mathematics, science and technology.

Although the learning areas mentioned in the quote above are important in the face of globalisation they alone cannot lead to social transformation in the South African context. Although the DoE acknowledges that culture, language and values are vital to building societies with social cohesion and entrenching a commitment to culture, religious and linguistic diversity (DoE, 2004), it remains unfortunate that many South African communities are at risk. At-risk communities can be defined as communities in which poverty, alcohol and drug abuse, family violence, child and sexual abuse are social issues that reign supreme (Bock-Jonathan, 2008).

As a reform, OBE promised to improve the quality of education in SA by guaranteeing success for all by developing ownership through decentralised curriculum development, by empowering learners through a learner-centred ethos, by displacing the emphasis on content coverage by outcomes and by making schools more accountable and responsible (Jansen, 1998; Botha, 2002; Fiske & Ladd, 2004; Todd & Mason, 2005). However, OBE relies on tenets that are regarded controversial (Botha, 2002) and problematic especially with reference to the status of South African schools (Jansen, 1998). Given the historical and situational constraints, the potential of OBE to enhance learning in South African schools is limited (Todd & Mason, 2005; Vambe 2005). Another concern is the widening gap between privileged and disadvantaged schools (Jansen, 1999; Fiske & Ladd, 2004; Todd & Mason, 2005; Vambe, 2005). Mason (1999:140) purports that: Apartheid's legacy is both a desperately under-educated population and a schooling system lying in tatters.

Life Orientation's significance to the broader vision of education in SA is underscored by all the cardinal issues dealt within LO (Rooth, 2005). The phrase LO contains what it intends to do and that is to guide and prepare learners for life and its possibilities. The central theme of LO is life-in-society. Life Orientation concerns itself with the self, the environment, responsible citizenship, a healthy and productive life, social engagement, recreation and physical activity and career choices in an attempt to equip "learners for meaningful and successful living in a rapidly changing and transforming society" (DoE, 2002b:4; DoE, 2008).

To face life's challenges LO needs to equip learners with the knowledge, skills, attitudes and values to meet these challenges in an informed, confident and responsible way (DoE, 1997; Jansen, 1998; Botha, 2002; DoE, 2002a; DoE, 2002b; Fiske & Ladd, 2004; Hendricks, 2004; Vambe, 2005; Christiaans, 2006). However, LO seems to be beset with problems and complexities that may be normative as part of the transitional period that characterises curriculum change. Nevertheless, a problem that might arise from the initial difficulties in implementing LO may be of a more serious and permanent nature (Rooth, 2005; Christiaans, 2006).

Against this background, it was necessary to investigate the implementation of LO in the SP

(Grades 8 & 9).

PROBLEM STATEMENT

The main problem of the study was to determine the perceptions of LO teachers in the SP regarding the implementation of LO with specific reference to the Learning Outcome, *Physical Development and Movement*, in selected Western Cape high schools.

The following sub-problems were addressed:

- To determine whether schools have qualified PE teachers at their disposal to teach PDM.
- To determine whether the LO teachers in the SP have in-service training needs.
- To determine whether schools have sufficient and suitable facilities and equipment to present PDM.

METHODOLOGY

Research design

A pilot study conducted during 2006 determined the content validity of the self-designed questionnaire used in the current study. The schools were not selected randomly for the pilot study since the researchers relied on Bachelor of Education (BEd) and Postgraduate in Education Certificate (PGCE) students to collect the data during their school visits. The data collected with the pilot study was not used in the current study.

Quantitative and qualitative data captured by the questionnaire typifies the research design of the current study as a survey.

Sample

In the current survey conducted in 2007, 124 secondary schools (Grades 8-11) were randomly selected throughout the Western Cape region. Grade 12 was not included in the current study as LO would only be introduced to Grade 12 in 2008. The official address list of the Western Cape Education Department (WCED) was used to ensure that the sample was representative. Of the 124 schools, 30 LO teachers in the SP returned questionnaires.

Questionnaire

The LO teachers in the SP had to complete the questionnaire that had four sections. The first related to *demographic information* which mostly focused on the school community. The main section of the questionnaire related to the *curriculum* in which various factors ranging from teaching qualifications to the NCS were covered. The third section related to *extra mural activities* with the focus on the available facilities and the sporting activities presented at the school. In the fourth section, the focus was on *general issues* related to the major problems encountered by LO teachers in the implementation of LO.

Statistical calculation

The Centre for Statistical Consultation of Stellenbosch University performed the statistical calculations. Frequency tables and histograms were used for summary statistics. The data were analysed by Statistica 8.0 (STATSOFT, 2007). In the following sections the results are presented in relation to the four sections of the questionnaire.

DISCUSSION OF RESULTS

Demographic information

Although a random sample of Western Cape high schools was selected the majority of questionnaires returned came from schools that primarily served the Coloured community, followed by the White and Black communities. An equal amount of questionnaires were returned from schools in urban and rural school settings. The main religious denomination found in the schools was Christianity. The size of most schools fell in the range of 500 to 999 learners in total. The average number of learners per class ranged between 30 and 40 in Grade 8 and in Grade 9 it ranged between 40 and 50.

Curriculum information

According to the LO teachers 100% of the schools presented LO as a Learning Area and 100% of the teachers understood the principles of OBE. Ninety-seven percent (97%) of the LO teachers indicated that they gained their understanding of the OBE principles through departmental in-service training sessions whereas 20% gained their knowledge of OBE through training at Higher Education Institutions (HEIs). Ninety-nine percent (99%) of the LO teachers indicated that all five the Learning Outcomes of LO were presented in the SP.

The LO teachers in the SP had to rate the importance that their schools attached to LO on a five-point Lickert type scale where 1 = least important and 5 = very important. By adding together the percentage value of 4 = important and 5 = very important, hence 30% and 37% respectively, it can be stated that 67% of the LO teachers rated LO as important (Figure 1).

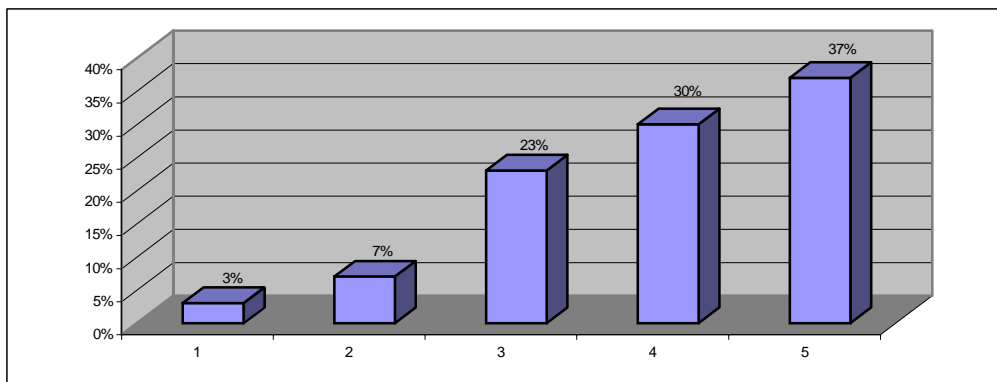


FIGURE 1: IMPORTANCE ATTACHED TO LIFE ORIENTATION IN THE SENIOR PHASE

Although 100% of the LO teachers indicated that the schools in the sample presented LO, 93% of the LO teachers indicated that they presented the Learning Outcome *Physical development and Movement* (PDM). In relation to the above-mentioned question a subsequent question was asked to determine whether the LO teachers were qualified PE teachers who could facilitate the Learning Outcome, PDM, or whether someone from “outside” was paid to facilitate it during school hours. The data indicated that 86% of the LO teachers who presented PDM in the SP were not qualified PE teachers (Figure 2). Regarding “outside” persons or

organisations, 93% of the teachers indicated that they did not make use of such persons or organisations to present PDM.

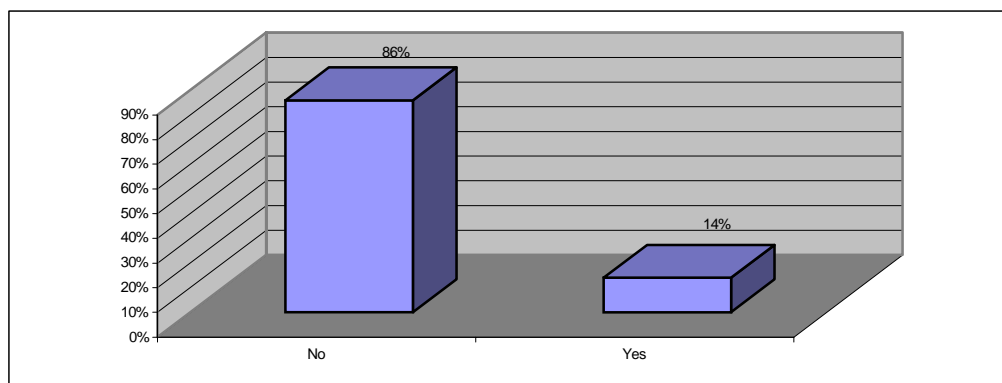


FIGURE 2: LIFE ORIENTATION TEACHERS QUALIFIED IN PHYSICAL EDUCATION

The fact that the majority of the LO teachers were not fully qualified to teach LO corresponds with the research done by Rooth (2005), Christiaans (2006) and Prinsloo (2007). By placing teachers in situations where they lack expertise or find themselves outside their league do not only created stressful situations for the teachers, but raise a number of questions for the learners. Learners are able to sense the *incompetence* of unqualified teachers and will question the value attached to LO when presented with unqualified teachers or shifted from one teacher to the next from year to year. According to Rooth (2005) and Christiaans (2006) the epistemology and skills of the teachers who teach a learning area determines the status thereof. For a new Learning Area like LO it is not an ideal situation, especially with the negative baggage of its past constituents.

Rooth (2005) found a range of proficiencies which made it difficult to determine the level of expertise of LO teachers. Although some teachers indicated that they were qualified to teach LO, it seemed that being qualified or a specialist LO teacher had different meanings for different people. Being qualified in LO ranged from attending a three-day HIV and AIDS course, or a two-hour LO workshop, to being an ex-Guidance, ex-Religion, or ex-PE teacher. A reality check, with LO being a new Learning Area within a curriculum in rapid transition, would show that it is unrealistic to expect thoroughly trained and experienced LO teachers in all schools (Rooth, 2005; Prinsloo, 2007).

If learners do not or cannot experience the importance of LO because schools attach little value to it by appointing generalist teachers, how can learners add value to it and their lives?

How can learners face the challenges that offer both problems and possibilities for successful living and learning in the 21st century? (Hendricks, 2004; Rooth, 2005; Theron & Dalzell, 2006; Prinsloo, 2007). This argument is in line with Christiaans's (2006) concern that school principles are not conducive to the successful implementation of LO and with Rooth's (2005) argument that teachers do not have the same conceptualisations of LO. The bottom line is that the importance of LO can only be brought to the fore by a teacher best suited to teach it (Prinsloo, 2007).

According to the LO teachers, integration between the different learning outcomes of LO in

the SP took place in 90% of the schools. The LO teachers who indicated that they did not make use of integration had the opportunity to provide reasons in an open-ended section of the question. They stated that LO is viewed as an inferior subject and that teachers are not seeing the bigger picture yet.

In response to a question whether integration took place between LO and the different learning areas in the SP, 86% of the LO teachers indicated that it did take place. Reasons why integration did not take place between LO and the different learning areas in the SP were provided in an open-ended section of the question. The teachers commented that planning for each teacher differs and that they did not have time for it due to their heavy workloads.

The findings regarding integration within LO and between LO and other learning areas is contradictory to the finding that most of the teachers in the sample are not fully qualified in LO. It is doubtful whether these LO teachers are knowledgeable enough about the subject matter of PE to be able to integrate this subject matter with health promotion, social development, personal development and orientation to the world of work, as well as with other learning areas.

Regarding a question whether enough time was allocated to the Learning Outcome, PDM, within the framework of LO, 60% of the teachers indicated that the allocated time was sufficient (Figure 3).

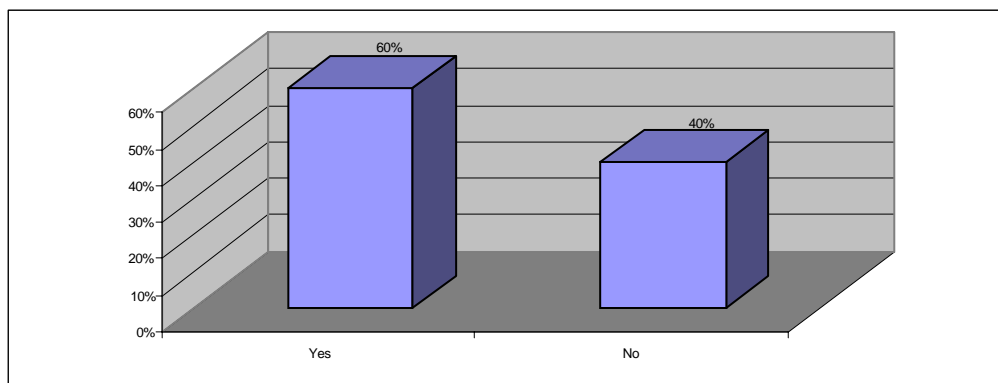


FIGURE 3: TIME ALLOCATED FOR PDM WITHIN LIFE ORIENTATION

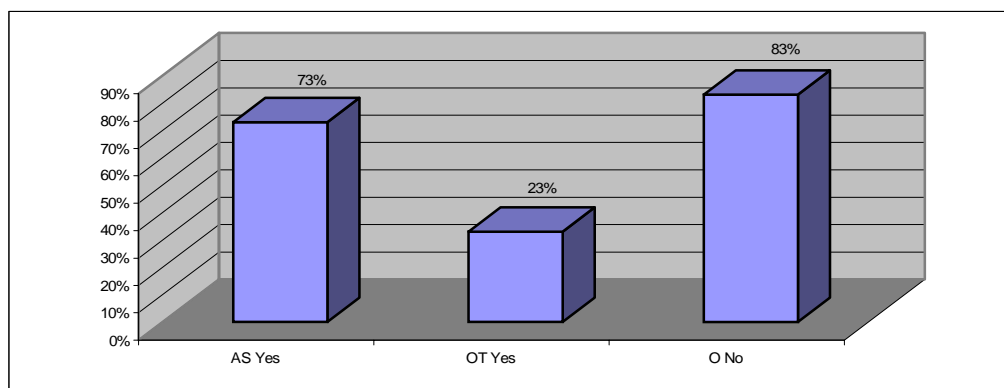
The teachers who indicated that the time allocated to the Learning Outcome PDM was insufficient had the opportunity to provide their reasons. These teachers believed that the

periods allotted for LO were not sufficient because it only allows coverage of the theoretical work, that the time provided for physical activity was not enough and that PDM was presented with limited knowledge.

According to the NCS, 30% of the time allocated for LO per week should be set aside for PDM (DoE, 2003). This 30% roughly adds to 40 minutes per week. Regarding the time allocation for PDM within the framework of LO, most of the teachers felt that the time allocation was sufficient. However, Rooth (2005) warned that precise time allocation was not a straightforward factor to ascertain due to the diffuse definitions and understanding of what LO constitutes amongst LO teachers. From some of the comments made by LO teachers in the current study it could be deduced that PE, or PDM was presented with limited knowledge

which adds to the confusion regarding sufficient time allocation for LO. The misconception regarding sufficient time on the school timetable for PDM can therefore be ascribed to the fact that the LO teachers in the SP were not knowledgeable regarding the subject matter of PE because the majority of the LO teachers were not qualified in PE. To be able to sufficiently address the growth and development of the child in experiential learning experiences 40 minutes per week is not sufficient.

According to the data, 100% of the teachers made use of themes and sub-themes for presenting the learning outcomes of LO. The teachers had to specify whether the themes or sub-themes were determined according to the assessment standards of the different learning outcomes, whether the teachers developed their own themes or sub-themes, or whether other approaches were followed. The data indicated that 73% of the teachers made use of the assessment standards to determine their themes and sub-themes, while 23% made use of their own themes and sub-themes. In the “other” category of the question 83% of the teachers indicated that they did not make use of other methods (Figure 4).



Note: AS=Assessment Standards; OT=Own Themes; O=Other

FIGURE 4: THEMES AND SUB-THEMES IN LIFE ORIENTATION

In the planning and presentation of LO, teachers did make use of themes and sub-themes that were mostly based on the assessment standards as prescribed by the NCS. The fact that LO teachers did not make use of their own themes creates the impression that once again they were either not qualified or that there was a deficiency in teacher training curricula at HEI's. Teachers should be creative and innovative in designing learning programmes that interest

learners and that are learner friendly. This tendency of LO teachers confirms that they were spoon fed during their pre-service training programmes at HEI's.

Team planning sessions for LO and the presentation thereof in the SP were a reality in 60% of the schools. In an open-ended section of the question, the LO teachers had the opportunity to provide reasons for why they did not make use of team planning sessions and to specify how they structured the team planning sessions if they did make use of them. The reasons for not making use of team planning sessions seemed to be that teachers' individually do their own planning and the lack of qualified LO teachers. The team planning sessions were structured either on a weekly, term or yearly basis. Figure 5 indicates that 61% of the LO teachers knew how to assess PDM.

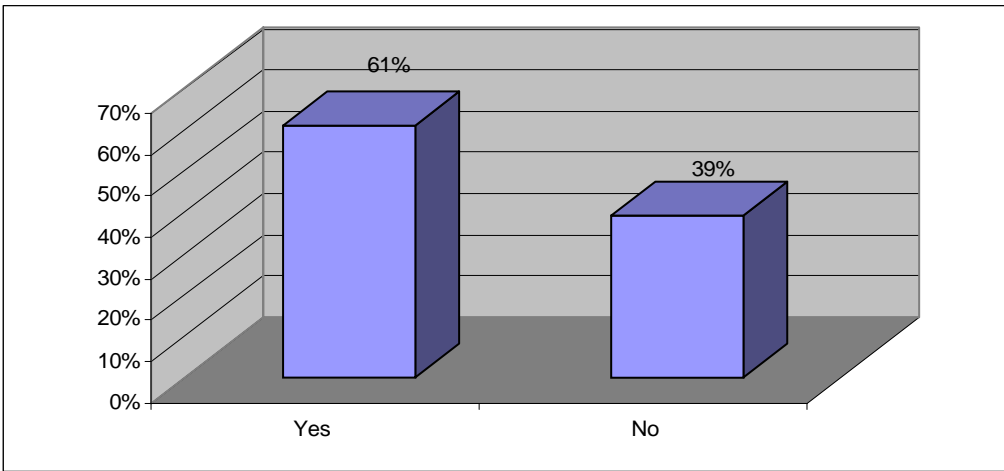
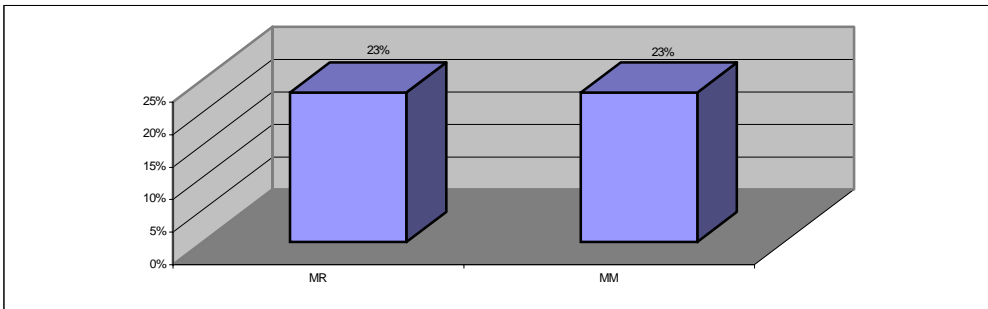


FIGURE 5: ASSESSMENT OF THE MOVEMENT CONTENT OF LIFE ORIENTATION

Regarding the development of movement rubrics and movement matrixes 23% of the LO teachers indicated in both cases that they did not know how to develop these instruments (Figure 6).



Note: MR=Movement Rubrics; MM=Movement Matrixes

FIGURE 6: ASSISTANCE NEEDED IN ASSESSMENT METHODS

Most LO teachers reported that they knew how to assess the movement content of LO and only a few teachers indicated that they did not know how to develop movement rubrics and movement matrixes. This finding is incompatible with the fact that the majority of LO teachers were not qualified in PE. It makes sense that teachers who are not knowledgeable about the subject matter of PE will not be able to assess the different movement forms. However, LO teachers might have been involved in in-service education and training courses presented by the WCED where they were trained how to assess DPM.

In response to a question whether teachers had specific guidelines on how to record and report learner achievement, the data indicated that 96% of the teachers did have such guidelines. According to the data it also seemed as if the learners were presented with feedback regarding their achievements. All the schools (100%) indicated that they provided feedback. Although this finding can be contrary to the finding that the LO teachers were not qualified in PE, these

skills that relate to PDM could also have been obtained through in-service education and training programmes provided by the WCED.

Regarding resources (e.g., learning material, text books, computers) to teach LO, 71% of the LO teachers indicated that it was sufficient (Figure 7).

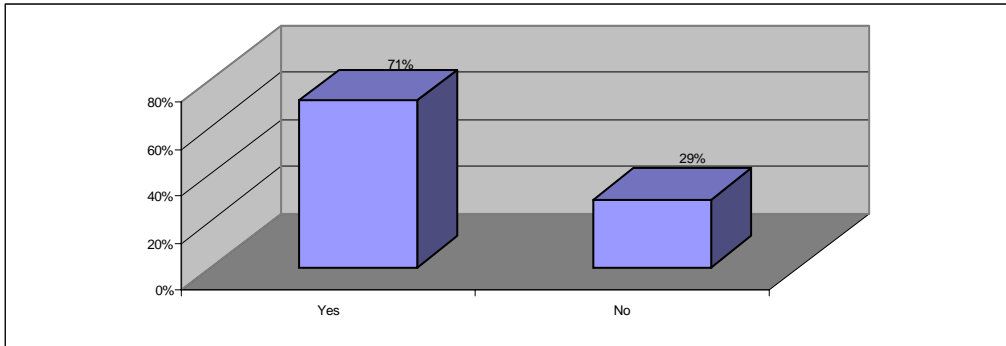


FIGURE 7: RESOURCES TO PRESENT LIFE ORIENTATION

Figure 8 indicates the resource shortcomings and needs needed to teach LO in the SP. In the “other” category the LO teachers indicated the following additional shortcomings and needs: “Insufficient apparatus for PE” and “Equipment”.

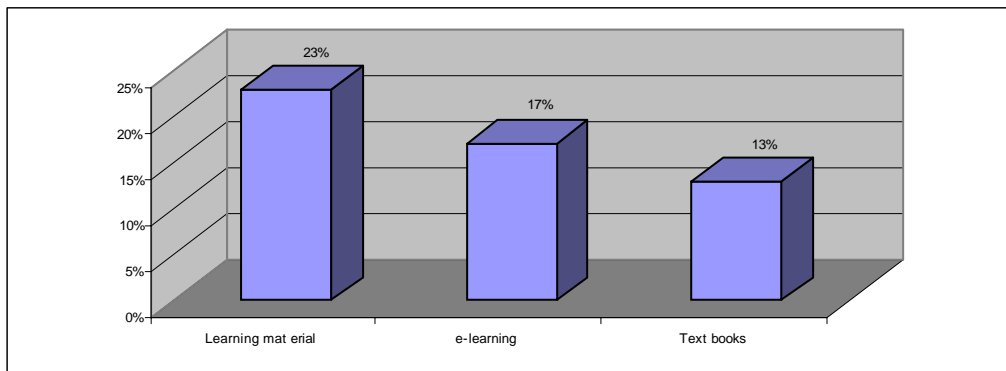


FIGURE 8: SHORTCOMINGS IN RESOURCES TO PRESENT LIFE ORIENTATION

Inclusion in the Learning Outcome PDM was a reality in 60% of the schools, as opposed to 40% who indicated that they did not provide for inclusion (Figure 9).

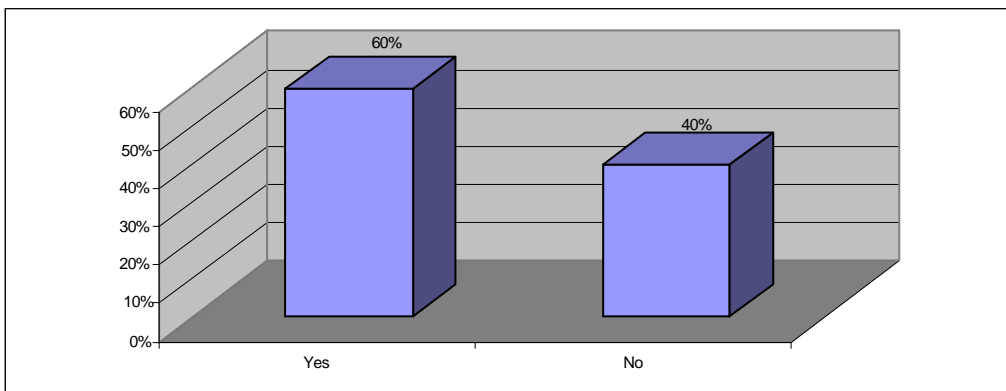


FIGURE 9: INCLUSION IN LIFE ORIENTATION

In an open-ended question, the SP teachers had to specify learners with special needs they encountered in their schools. The following "cases" were reported: "Learners with learning disabilities"; "Obesity"; "Cerebral palsy, ataxia telangiectasia"; and "Learners with physical disabilities". However, the data indicated that 90% of the schools did not employ teachers with special qualifications in the SP to assist learners with special needs in LO.

In response to a question whether LO teachers would be interested in attending an in-service training workshop to learn more about recent developments within LO, 90% reacted positively. This question referred to LO in general and not only PDM. Although this finding correlated with the fact that the majority of teachers were not qualified in PE, it is also true that by nature professional people are inquisitive and would therefore be interested in attending in-service training workshops to learn more about recent developments in LO. In an open-ended question, the teachers could indicate suitable times to attend in-service training workshops. In general, it seemed as if school day afternoons, holidays and weekends were the best times.

In the SP, 83% of the LO teachers indicated that PE, in the "old" format, was not presented in the schools. The schools (17%) who did present PE in the "old" format had to indicate in which grades the status quo was maintained (Figure 10).

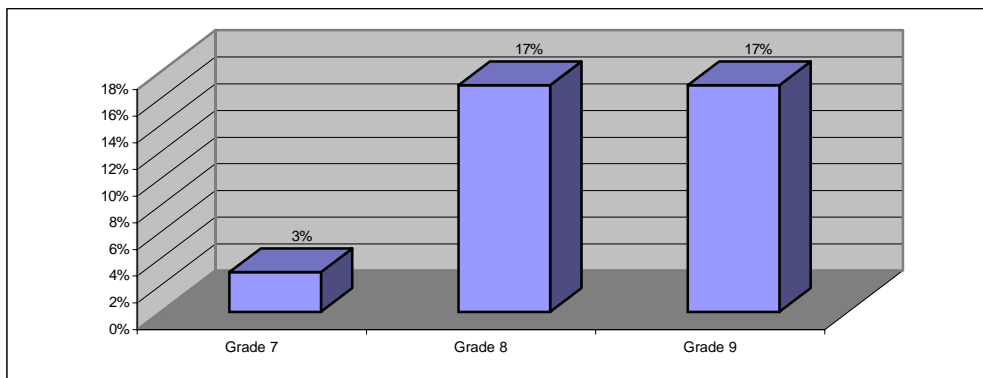


FIGURE 10: GRADES IN WHICH PHYSICAL EDUCATION WAS PRESENTED IN THE "OLD" FORMAT

In an open-ended question the teachers could state how they managed the curriculum with regards to subject matter in the schools where PE was presented in the "old" format. The responses indicated that the prescriptions of the curriculum (NCS) were followed where PE was presented in the "old" format. The LO teachers contradicted themselves because the majority of the LO teachers who indicated that PE was not presented in the "old" format anymore abide to the same curriculum (NCS) as those LO teachers who indicated that they presented PE in the "old" format. This finding again confirms that some LO teachers are not knowledgeable about PE.

Extra mural activities and facilities

In response to an open-ended question related to whether the LO teachers thought that there was a link between the presentation of regular PE classes during formal school time and sport achievement in general amongst learners, the reactions were very positive regarding the

educational value of regular participation in physical activity, sport and recreation.

The LO teachers also reacted positively to an open-ended question related to whether achievement in sport was important at their schools. Although the reactions were overwhelmingly positive it must be emphasised that these teachers, although the majority were not qualified PE teachers, emphasised participation in sport and not winning.

Figure 11 contains the first five extra mural sports that were presented at the schools as reported by the LO teachers. They were athletics, rugby, netball, cricket and tennis.

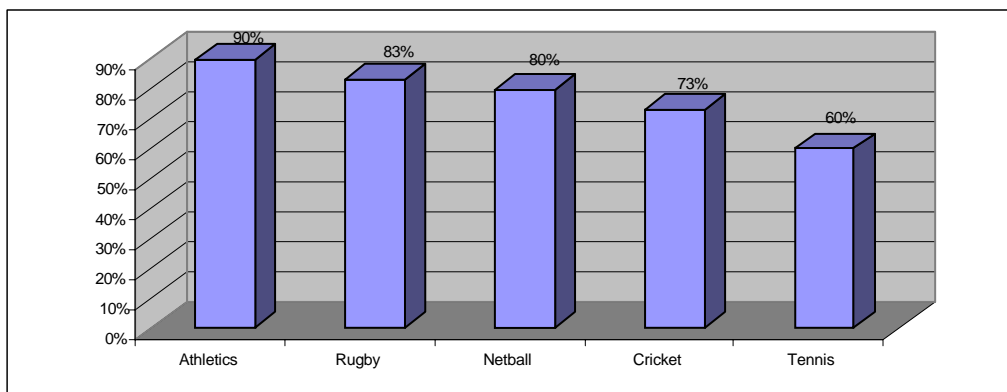


FIGURE 11: EXTRA MURAL SPORT PRESENTED AT THE SCHOOLS

In the open-ended section of the above-mentioned question the LO teachers indicated that the following extra mural activities were also presented: Table tennis; Golf; Chess; Cross country; Water polo; Triathlon; Biathlon; Pentathlon; Squash; Tug-of-war; and Darts.

In response to a question whether the schools had sufficient facilities and equipment to present PE, sport and recreation, 72% of the LO teachers reacted negatively. However, LO teachers listed the following facilities, amongst others, to present PE, sport and recreation. The first five facilities listed were a netball court, a hall, an open space outside, a rugby field and a tennis court (Figure 12).

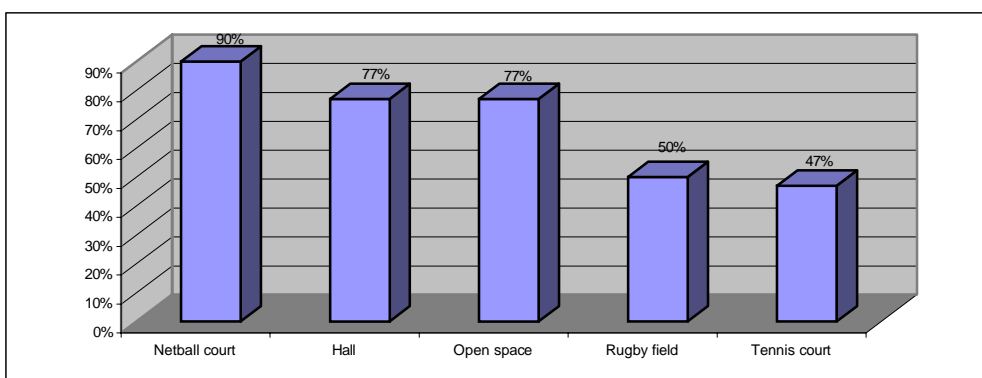


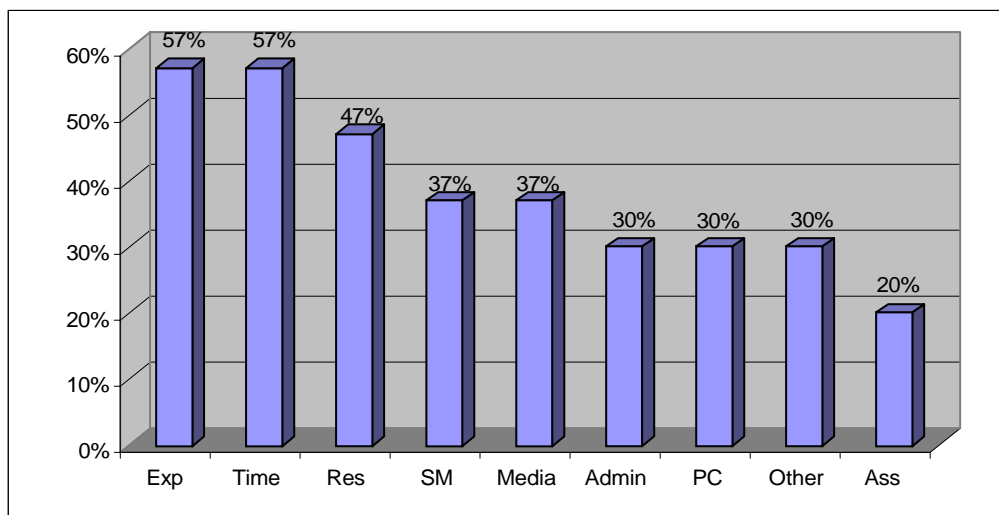
FIGURE 12: FACILITIES AVAILABLE AT THE SCHOOLS

In the open-ended section of the above-mentioned question the LO teachers indicated that their schools also had the following facilities: “Athletics equipment and athletics field and arena”; “Shooting range – currently not in use”; and “A Gymnasium”.

The response to a question related to where learners go to participate when schools did not present sports as extra mural activities, 20% of the LO teachers indicated that the learners had to fend for themselves, 13% indicated that they participated in sports at community centres, while 10% indicated that learners participated in sports at other schools.

General issues

In Figure 13 it is clear that the major problems encountered with the implementation and presentation of LO in the SP were: experts in LO (57%); time on the timetable (57%); resources (47%); subject material (37%); media (37%); administration (30%); computers (30%); and “other” (30%) (e.g., “apparatus for sport such as hurdles”; “time for assessment is not sufficient”; “Learners in Grade 8 cannot do basic movements e.g. forward roll and handstand. I would rather teach them general gymnastics with music or rhythmic gymnastics”; “We have two coaches from an outside organisation, but they are not helpful because we are on our own knowing nothing about sport. We would like to have training on sport so that we can give learners different games”) and in 20% of the schools it is assessment.



Note: Exp=Experts in LO; Time=time on the timetable; Res=Resources; SM=Subject matter; Admin=Administration; PC=Computers; Other=anything else; Ass=Assessment

FIGURE 13: PROBLEMS ENCOUNTERED WITH THE IMPLEMENTATION OF LIFE ORIENTATION

The responses to an open-ended question related to the extent that religion had impacted on participation in PDM classes and extramural sporting activities, the LO teachers made the following comments: “Very little. Only in cases of Islam children who are not allowed to participate on certain days”; and “Muslims – during Ramadaan fast, but not otherwise”.

RECOMMENDATIONS

If LO is regarded as an important Learning Area in the NCS, as postulated by the DoE (DoE, 2002b), Hendricks (2004), Rooth (2005), Theron and Dalzell (2006), Van der Walt and De Klerk (2006) and Prinsloo (2007), actions need to be taken to address the current situation regarding specialists to present LO. The research of Rooth (2005), Christiaans (2006) and Van der Walt and De Klerk (2006) support the fact that the state and status of a learning area depends very much on the teachers that present it and how it is managed by school management.

The introduction to this article it stated that due to the imbalances of the past most communities within SA are classified as being at-risk (Bock-Jonathan, 2008). Another concern is the widening gap between privileged and disadvantaged schools (Jansen, 1999; Fiske & Ladd, 2004; Todd & Mason, 2005; Vambe, 2005). If LO aims to equip learners for meaningful and successful living in a rapidly changing and transforming society as claimed by the NCS, then the at-risk nature of contemporary South African youth should be addressed (DoE, 2002b; DoE, 2003). Another factor during early adolescence is that the majority of boys and girls in this time zone are characterised by certain developmental traits and tasks unique to their gender. As with at-risk factors, physical growth and development at schools should be and can only be addressed through LO.

The following recommendations are presented:

- The DoE should immediately address the state and status of LO as a Learning Area in the GET. This is of utmost importance for the health of the youth as well as the future of school and adult sport in SA since the Learning Outcome PDM can be a “breeding-ground” for talent identification.
- The situation regarding specialist LO teachers in the SP needs to be addressed urgently and the authority responsible for education in SA, the DoE, should take the lead in this regard.
- The DoE should initiate actions regarding in-service education and training (INSET) as well as pre-service education and training (PRESET) programmes.
- The DoE should identify service providers who could assist them in this massive task.
- Higher Education Institutions could and should play a major role in these initiatives.
- Higher Education Institutions should become more involved in INSET as part of their community interaction strategy.
- Regarding the PRESET of prospective teachers, HEI’s should be more flexible regarding the undergraduate programmes that they present. In certain instances these programmes are so fixed that it is impossible for students to have the necessary modules at graduate level in order to present at least two school subjects in the Postgraduate Certificate in Education. In certain instances students who really want to teach are kept out of the profession due to this reason.
- It is not business as usual anymore. Doing PE the old way does not fit into the new educational system anymore. Regarding teacher training HEI's need to adapt.
- To have a real impact more time per week should be allocated to the Learning Outcome, PDM. Only then will learners be able to realise the benefits associated with regular exercise.

It is unfortunate to purport that the DoE does not have the capacity to deal with the situation regarding appropriately qualified teachers for LO in all the grades of the NCS alone. Various factors, such as politics and finances, could have hampered the process of training existing teachers to become specialised in teaching all the learning outcomes of LO. It must, however,

be stated that at the beginning of 2008 INSET workshops were held for LO Learning Area Advisors country wide. This should be the first step in the right direction to correct the wrongs of the recent past. However, the process should be taken a step further by providing INSET for all teachers involved in LO. In this regard the following anonymous quote speaks volumes: If you can solve the education problem you do not have to do anything else. If you do not solve it nothing is going to matter all that much.

REFERENCES

- BOCK-JONATHAN, B. (2008). The effects of participation in movement programmes on the movement competence, self-esteem and resiliency of adolescent girls. Unpublished PhD dissertation. Stellenbosch: Stellenbosch University.
- BOTHA, R.J. (2002). Outcomes-based education and educational reform in South Africa. *International Journal of Leadership in Education*, 5(4): 361-371.
- CHRISTIAANS, D.J. (2006). Empowering teachers to implement the Life Orientation learning area in the Senior Phase of the General Education and Training Band. Unpublished MEd thesis. Stellenbosch: Stellenbosch University.
- DoE (DEPARTMENT OF EDUCATION) (1997). Curriculum 2005. Pretoria: Department of Education.
- DoE (DEPARTMENT OF EDUCATION) (2002a). Revised National Curriculum Statement Grades R-9 (Schools). Overview. Pretoria: Department of Education.
- DoE (DEPARTMENT OF EDUCATION) (2002b). Revised National Curriculum Statement Grades R-9 (Schools). Life Orientation. Pretoria: Department of Education.
- DoE (DEPARTMENT OF EDUCATION) (2003). Revised National Curriculum Statement Grades R-9 (Schools). Teacher's guide for the development of learning programmes policy guidelines. Life Orientation. Pretoria: Department of Education.
- DoE (DEPARTMENT OF EDUCATION) (2004). The development of education. Country report of South Africa. 47th International Conference on Education, 8-11 September 2004.
- DoE (DEPARTMENT OF EDUCATION) (2008). National Curriculum Statement Grades 10-12 (General). Learning programme guidelines. Life Orientation. Pretoria: Department of Education.
- FISKE, E.B. & LADD, H. (2004). *Equity. Education reform in post-apartheid South Africa*. Washington, DC: Brookings Institution Press.
- HENDRICKS, P.C. (2004). The role of physical education in South African primary schools. Unpublished MEd thesis. Cape Town: University of the Western Cape.
- JANSEN, J.D. (1998). Curriculum reform in South Africa: A critical analysis of outcomes-based education. *Cambridge Journal of Education*, 28(3): 321-331, November.
- JANSEN, J.D. (1999). Globalisation, curriculum and the Third World State: In dialogue with Michael Apple. *Current Issues in Comparative Education*, 1(2): 42-47, April.
- MANGANYI, N.C. (2001). Public policy and the transformation of education in South Africa. In Y. Sayed & J. Jansen (Eds.). *Implementing education policy. The South African experience (25-37)*. Cape Town: UCT Press.
- MASON, M. (1999). Outcomes-based education in South African curricular reform: A response to Jonathan Jansen. *Cambridge Journal of Education*, 29(1): 137-143.
- PRINSLOO, E. (2007). Implementation of life orientation programmes in the new curriculum in South African schools: perceptions of principals and life orientation teachers. *South African Journal of Education*, 27(1): 155-170.
- ROOTH, E. (2005). An investigation of the status and practice of Life Orientation in South African schools. Unpublished PhD thesis. Cape Town: University of the Western Cape.
- STATSOFT (2007). *Statistica for Windows: General conventions and statistics*. Tilsa, OK: Statsoft.
- THERON, L. & DALZELL, C. (2006). The specific Life Orientation needs of Grade 9 Learners in the Vaal Triangle region. *South African Journal of Education*, 26(3): 397-412.

- TODD, A. & MASON, M. (2005). Enhancing learning in South African schools: strategies beyond outcomes-based education. *International Journal of Educational Development*, 25(2005): 221-235.
- VAN DER WALT, J.L. & DE KLERK, J. (2006). Die effektiwiteit van die Lewensoriënteringsprogram volgens 'n groep Suid-Afrikaanse onderwysers - ruimte vir verbetering? *Tydskrif vir Christelike Wetenskap*, 42(1&2): 175-193.
- VAMBE, M.T. (2005). Opening and transforming South African education. *Open Learning*, 20(3): 285-293, November.
- WELTON, J. (2001). Building capacity to deliver education in South Africa? In Y. Sayed & J. Jansen (Eds.). *Implementing education policy. The South African experience* (174-187). Cape Town: UCT Press.

INVESTIGATING SPORT CELEBRITY ENDORSEMENT AND SPORT EVENT SPONSORSHIP AS PROMOTIONAL CUES

Neels VAN HEERDEN, Angelique KUIPER & Honorata M. SAAR
*Department of Marketing and Communication Management, University of Pretoria, Pretoria,
Republic of South Africa*

ABSTRACT

*When detailed product information is not available to consumers inferences are made using product cues to reduce uncertainty and to form perceptions of products. Advertisers can make use of sport sponsorship and sport celebrity endorsement as extrinsic cues to influence consumers' pre-purchase attitudes. These cues are expensive forms of advertising. Managers need to establish whether they provide a satisfactory return on investment. This study explored consumers' attitudes and the effect of sport event sponsorship and sport celebrity endorsement on key brand/manufacture related variables such as brand quality, product uniqueness, manufacturer esteem and corporate citizenship. A total number of 201 respondents participated in the study. A non-probability sample was used. Results indicate that **sport event sponsorship** was perceived by participants as a product uniqueness, manufacturer esteem and corporate citizenship cue, significantly enhancing responses on product related variables. The **sport celebrity endorsement** cue had a significant effect on uniqueness and esteem, but did not significantly influence brand quality. Using these results managers can substantiate the use of sport event sponsorship to increase consumers' pre-purchase attitudes of product uniqueness, manufacturer esteem and corporate citizenship; and sport celebrity endorsement to increase their pre-purchase attitudes of product uniqueness and manufacturer esteem; thus positively affecting consumers' pre-purchase attitudes that may influence buyer behaviour.*

Key words: Sport sponsorship; Celebrity endorsement; Brand quality; Product uniqueness; Manufacturer esteem and corporate citizenship.

INTRODUCTION

South Africans will always be passionate about sport and there is no better association for a company's brand than an association with sport (Etzman & Penstone, 2001:14). Performances in the 2007 International Cricket Council (ICC) World Cup, the 2006 FIFA World Cup™ and the 2007 Twenty Cricket World Cup, and the 2007 Rugby World Cup in France, captures the imagination and even below-par results will not reduce this passion. Marketers can capitalise on this passion for sport for instance, by utilising sport event sponsorship and/or sport celebrity endorsement. These aspects can be very closely be monitored as promotional cues.

Cues can be classified as either intrinsic (physical product attributes) or extrinsic (intangible product attributes such as brand name, price and packaging). Richardson *et al.* (1994:30) are

of the view that consumers focus highly on extrinsic cues in quality assessment. Companies should therefore incorporate extrinsic cues into their advertising.

Two widely used extrinsic cues used by marketers are event sponsorship and celebrity endorsement. However, they are expensive forms of advertising and managers have to justify the use of extrinsic cues such as event sponsorship and celebrity endorsement investments (Jowdy & McDonald, 2002b:248) in terms of profitability and a positive return on investment.

A problem that managers face is how to measure the effectiveness of extrinsic cues. Advertising moves consumers through the following phases of the consumer decision-making process: awareness; knowledge; liking; preference; conviction and purchase) and these extrinsic cues may have an influence on the decision-making process and consumer buying behaviour (Belch & Belch, 2001:210).

Complete product information is rarely available to consumers (Dean, 1999:2) and consumers infer information where relevant product information is absent to form an integrated, overall evaluation (Huber & McCann, 1982:324-333). Dean (1999:2) concludes that product cues in advertising are important to consumers in making inferences, reducing uncertainty and forming product preferences. Dean (1999:2) further posits that sport event sponsorship and sport celebrity endorsement cues are designed to strongly and positively affect consumer and brand perceptions.

OBJECTIVE OF THE STUDY

The study focused on the effect of event sponsorship and celebrity endorsement on perceptions of key brand related variables, namely: brand quality; product uniqueness; manufacturer esteem; and corporate citizenship. The main objective is to establish whether event sponsorship and celebrity endorsement affect brand/manufacturer evaluation in a selected target market.

LITERATURE REVIEW

Advertising and sponsorship cues

Cue utilisation theory provides a way to assess consumer perceptions of product quality. According to this theory, products consist of an array of cues that serve as surrogate indicators of quality to shoppers (Richardson *et al.*, 1994:29). The concept of cueing is very important in advertising because much of past experience is filed in memory as a visual element (Pettersson, 1991:2) and these experiences provide a framework of meaning that can be used to interpret messages (Moriarty, 2003:1).

Advertising, with its highly condensed message formats, uses a shortened form of information processing. Through association, the message depends upon cues to elicit the associated meanings. In other words, cueing drives the process of association (Moriarty, 2003:1).

Meenaghan (2001:95) proposed that sponsorship works differently on the consumer than does other forms of advertising and promotion in that it engages the consumer by bestowing benefit

on an activity with which the consumer has an intensely emotional relationship. McDaniel

1999:180) is of the view that it appears that consumers may indeed have memory-based expectations of advertised brand/ sport relationships.

Sport event sponsorship

Corporate sponsorship of sports and other events is one of the fastest growing forms of marketing communications used to reach target audiences. The rate of growth in sponsorship expenditures is greater than for traditional media advertising and sales promotion (Roy & Cornwell, 2004:185).

Gardner and Shuman (1998:44) define sponsorship as an investment in an event or cause in order to support the company's corporate objectives, such as an enhancement of corporate image or an increase in brand awareness. Sponsorship offers a platform to communicate emotionally with consumers who are passionate about sport by "developing brand associations, creating brand exposure, demonstrating new products and services, and building the corporate image" (Penstone, 2001:19). Cornwell and Maignan (1998:22) also suggest that two of the most common reasons why companies enter into sponsorship arrangements, are: "(1) to increase brand awareness, and (2) to establish, strengthen, or change brand image".

In South Africa the total sponsorship spending increased from R1 986 million in 2000 to R4 066 million in 2005 (Du Plessis *et al.*, 2005:327) growing at an average rate of 23% per annum since 1986. Sport sponsorship attracts approximately 70% of all sponsorship expenditure in South Africa (Du Plessis *et al.*, 2005:321). One of the problems in sport sponsorship is that it cannot accurately be measured and that it can become unfocused and difficult to track. Return on investment can be indirectly measured in TV time, media coverage and increased sales. However, there is no scientific formula that calculates exact benefits such as increase in sales or market share.

Sponsorship evaluation

Several theories have been developed to address the issue of evaluating sponsorships. One of them is the balance theory, which states that the evaluation of an object is affected by how the evaluation will fit with other related attitudes held by the consumer (Heider, in Dean, 2002:77). The theory is useful in the explanation of attitude formation and change. The balance theory is relevant to event sponsorship as it envisions a relationship between the endorser, the object and the endorsement as the three points of a triangle. The theory focuses on balance between the elements in the triad and believes that consumers will alter their perceptions in order to maintain this consistency. The disadvantage of this theory is that consumers may alter their attitude negatively in order to achieve this balance. The theory deduces that a linkage is formed between the sponsor and the event.

Osgood and Tannenbaum (1955:42-55) provide direction for attitude change and specifies degrees of positive or negative evaluation of elements. The theory posits that attitudes may be held weakly or strongly in either a favourable or unfavourable direction. The theory also postulates that the presence of incongruity may prompt attitude change toward both the other elements in the triad.

Dean (1999:4) suggests that a "halo" effect occurs when consumers believe that the sponsor's products are superior to those of competitors because of the feeling of goodwill created by the

linkages suggested by the balance and congruity theories. The shortcomings of the above theories are that the duration of the linkages created is temporary and they must be reinforced consistently.

Poon and Prendergast (2006:471) argue that the relevance of a sponsor's product effect on consumer responses (in terms of quality perceptions, attitude towards the brand and purchase intention) should be researched.

Celebrity endorsement

Celebrity endorsement is frequently used in advertisements to enhance the effectiveness of persuasive communication. With the increasing number of global sporting events, marketing and advertising practitioners may be more willing to spend millions of dollars on employing celebrity athletes to improve their promotional strategies in an attempt to associate their product images with those athlete endorsers (Kim & Na, 2007:310). Research has found supporting evidence that celebrity endorsements impact on audience attention, recall, evaluations and purchase intentions (Hsu & McDonald, 2002:19). The use of sports stars might work in order to draw the attention towards an ad, but it is not successful in terms of attitudinal effects (Dudzik & Gröppel-Klein, 2005:64).

According to Henriks (1996:130), celebrity endorsements can assist an organisation to differentiate a product or service and is also a way to build instant name recognition. Celebrity endorsement entails associating a product or service with a person whose name and face are already well known. It has been asserted that "...firms have been juxtaposing their brands and themselves with celebrity endorsers (e.g. athletes, actors) in the hope that celebrities may boost effectiveness of their marketing and/or corporate communication attempts for at least a century" (Erdogan & Kitchen, 1998:17).

For large companies with well-established brand equity and image, the value of partnering with high profile athletes may be most effective. Jowdy and McDonald (2002a:186) state that companies have traditionally selected high profile athletes from major sports to endorse all types of products. According to Lyons and Jackson (2001:97), endorsements by African-American superstar athletes such as Michael Jordan, Bo Jackson, Michael Johnson, and Cynthia Cooper have made Nike a household name within the African-American community. Moreover, the Nike logo appears on the jerseys, pants, and hats of thousands of professional athletes. Small firms can probably best afford celebrity endorsements by concentrating on local or regional stars.

Several studies have compared the use of a celebrity endorser versus a non-celebrity endorser. Block (as quoted by Till, 2001:36) found that the use of a celebrity as a endorser for beer led to the advertisement being evaluated as being more "interesting", "stronger" and more "effective", while the beer was evaluated as more "pleasant", "superior" and "enjoyable". Petty *et al.* (as quoted by Till, 2001:36) found that the use of a celebrity endorser led to higher brand evaluations than the use of average citizens as endorsers.

Dependent variables

The main presupposition of the study is that the two extrinsic cues of interest (celebrity endorsement and event sponsorship) would affect key brand/manufacturer related variables of

perceived **product quality**, perceived **product uniqueness**, manufacturer **esteem** and perceived corporate **social responsibility**. Perceived quality and uniqueness are pivotal drivers of shopping behaviour and product choice Dean (1999:10). In his study Dean (1999:2) used these variables to simultaneously construct consumers' pre-purchase attitudes while Aaker (as quoted in Dean, 1999:2) argues that all four variables are sub-constructs under the higher level construct of customer-based brand equity and are all associated with future sales, profits and sustainable competitive advantage. Therefore marketers may be interested in developing promotion programmes that can stimulate favourable responses on these variables.

These four dependent variables were chosen for their hypothesised ability to be affected by the extrinsic cues chosen for this study, and for their relationship to consumer perceptions and behaviours of interest to the marketers.

Perceived product quality can be defined as a consumer's overall judgement of a brand's superiority in its performance in relation to another competing brand (Du Plessis & Rousseau, 1999:148) and is the main driver for loyalty (Martensen *et al.*, 2000:544). Gwinner and Eaton (1999:54) suggest that brand positioning goals may be partially accomplished through event sponsorship. Silvera and Austad (2004:1520) found a positive correlation between a likable endorser and a favourable attitude towards the product being endorsed.

Perceived product uniqueness can be compared to brand differentiation and can be defined as the degree to which consumers feel the product is different from a competing product (Dean, 1999:2). If customers perceive a brand to have unique benefits that satisfy their needs and wants, the product will be given a value added and will be favourable towards competitors' products (Creutz & Senning, 2006:13). Amis *et al.* (1999:250) argue that sponsorship provides a significant increase to the perceived customer value of the product or service. Celebrities enhance product recall, which explains that celebrity endorsements enhance consumer perceptions of product value (Clark & Horstmann, 2003:1).

Manufacturer esteem is defined as the degree to which the brand is held in high regard, trusted and respected by its customers relative to alternate brands in the same product category (Dean, 1999:2). The fact of associating your product with a well known individual acts to increase the positive view of the consumer (Daneshvary & Schwer, 2000:212). Madrigal (2001:145) concludes that companies have increasingly turned to sponsorship as a marketing communications vehicle in the hope that the goodwill that consumers feel toward an event, cause, or sports team will rub off on their brands. Seno and Lukas (2007:122) state that comparatively little research has been conducted on the equity effects of celebrity product endorsement.

Perceived corporate citizenship can be referred to as corporate social responsibility, which can be defined as the responsibility a organisation has to interact with non-profit organisations, communities and other stakeholders to improve the conditions of society as a whole. Dean (2002:77) argues that it is not uncommon for businesses to sponsor events that benefit local charities and service organisations. The intent of such sponsorship is to generate goodwill and to enhance the image of the business (sponsor). Corporate citizenship therefore refers to how the organisation fulfils its perceived societal obligations and the perceived status of the organisation in respect to these obligations (Belch & Belch, 2001:598; Marx *et al.*, 1998:130). The argument here is that sponsors "plough back" money into those sporting

events attended by their customers as a “token” of good-will, although altruism is probably mostly overshadowed by the marketing effects generated through involvement in sport sponsorship.

RESEARCH HYPOTHESES

South Africa is gaining status as a host country for future high profile sporting events, for instance, the, 2010 FIFA World Cup™ and not much research on this topic has been conducted specifically with a South African focus. This study focuses on the ability of extrinsic cues in print advertising to drive consumer responses on these variables.

The balance and congruity theories demonstrate the effect of event sponsorship on corporate responsibility. The “halo” effect indicates the effect of event sponsorship on consumers’ perceptions of the superiority of the sponsor’s product. This superiority can be described by two dependent variables under investigation in this study, namely, product uniqueness and manufacturer esteem. Based on the three theories the following hypothesis was formulated:

- H₁:** Consumers exposed to a sport event sponsorship claim about a brand, will show higher scores on measures of uniqueness, esteem and citizenship than consumers’ not exposed to a sport event sponsorship claim for the same brand.

Based on the discussion of sport celebrity endorsement, the following hypothesis was derived:

- H₂:** Consumers exposed to a sport celebrity’s endorsement claim about a brand, will show higher scores on measures of quality, uniqueness and esteem than consumers’ not exposed to a sport celebrity’s endorsement claim for the same brand.

The last hypothesis was based on H₁ and H₂ and states:

- H₃:** Sport event sponsorship has a greater effect on consumers’ pre-purchase attitudes than sport celebrity endorsement.

METHOD

An adaptation of a study conducted by Dean (1999) in the United States of America was used. This research study adds value to Dean’s study as it was adapted within a South African context and focused specifically on a selection of university students and sporting events and celebrities. Dean’s study used popularity as a third independent variable, whereas this research takes a different approach and investigates a comparison between sport celebrity endorsement and sport event sponsorship.

The study investigated sport celebrity endorsement as an independent variable instead of third party endorsement. It also specifically investigated sport event sponsorship as an independent variable instead of event sponsorship. Dean (1999:4) hypothesised that event sponsorship would only have a positive effect on corporate citizenship. However, this study assumed that event sponsorship would influence perceptions of product uniqueness, manufacturer esteem and corporate citizenship.

Sampling

Non-probability sampling was used to select 201 students from a large tertiary institution in

Gauteng, South Africa to participate in the survey. Their use is acceptable when the dependent variables and or the intended generalisations are compatible with the population of interest and are acceptable when the subjects and target market are similar in terms of the relationship under study (Patzer, 1996: 55). Not only are students an important market segment (Ferreira & Armstrong, 2004:197), but Corder *et al.* (in Laroche *et al.*, 2004:63) stated that university students can be appropriate as they are more likely to be homogenous on certain demographic features and when they are familiar with the product, idea, or brand.

Measurement

The quantitative method used for data collection was a self-administered questionnaire with a fieldworker present to address any respondent queries. A 5-point Likert scale (with anchors strongly disagree = 1 and strongly agree = 5) was used to measure the level of attitudinal favourableness, and the scores were summated to measure the respondent's attitude (Cooper & Schindler, 2001:234).

Data collection

The respondents were divided into three groups of 67 and each group viewed an advertisement with a different stimulus as a slogan. Stimuli were presented individually to participants containing a mock print advertisement and a questionnaire. A black and white advertisement contained an image of a sports watch and the listing of three product features commonly found in such sports watches. These were intrinsic cues and were not under investigation. Notably absent was any mention of the brand, store or sale price. The upper half of the advertisement contained one slogan (corresponding to the extrinsic cues) placed at an angle. The three sub-samples of 67 respondents were each presented with a different stimulus in the advertisement attached to the questionnaire. The slogan (stimuli) stated in the advertisement was either:

- 1) Rated by Ernie Els as the best sports watch (Group A).
- 2) Proud Sponsor of the South African Olympic Team (Group B).
- 3) New Sports Watch (Group C).

The slogans either represented sport celebrity endorsement (Group A), sport event sponsorship (Group B), or a neutral slogan (Group C) as a testing variable. Slogan 3 represented a neutral stimulus that was used to benchmark responses. Each sub-group was exposed to different stimuli. One advertisement contained only the sport celebrity endorsement slogan, another only the sport sponsorship slogan and the third only the neutral slogan. The responses were then compared to evaluate the differences in the effect of these intrinsic cues on the variables under study that together construct the pre-purchase attitudes of respondents. The mean of each variable constructing pre-purchase attitude was calculated and the three groups were then compared to test differences in their responses.

Data analysis

All three hypotheses that were tested compared the differences between groups. The assumption of normality was not met and the use of an independent sample t-test (Mann-Whitney U test) was used (Pallant, 2001:260-261).

RESULTS

Importance of brand manufacturer variables

Participants were asked to rank, in order of importance, the four brand/manufacture variables (product uniqueness, manufacturer esteem, brand quality and corporate citizenship) constructing pre-purchase attitudes before purchasing a product. Table 1 below provides the weighted scores and the rankings of each variable.

TABLE 1: RANKING OF THE FOUR BRAND/MANUFACTURER VARIABLES USING WEIGHTED SCORES

	Product uniqueness	Brand quality	Manufacturer esteem	Corporate citizenship
Number of times ranked first	28	148	17	8
Number of times ranked second	94	38	57	12
Number of times ranked third	58	9	104	30
Number of times ranked fourth	21	6	23	151
Total	531	730	470	279
Rank	2	1	3	4

From Table 1 it can be seen that brand quality was rated as the most important brand/manufacture variable, followed by product uniqueness, manufacturer esteem and corporate citizenship. A speculative deduction is that corporate citizenship (social responsibility) may not be important to respondents at this stage of their life cycle, but may only become important when they are older.

Reliability

The scale measured the effect of sport event sponsorship and sport celebrity endorsement in terms of the four brand/manufacture variables. The respondents were divided into three groups and each group viewed an advertisement with a different stimulus as a slogan. The slogans either represented sport event sponsorship, sport celebrity endorsement or a neutral slogan as a testing variable. Respondents were then asked to indicate their level of agreement with statements about the advertisement. The Likert scale used to measure pre-purchase attitudes was tested for its internal consistency reliability by calculating Cronbach’s alpha. There were 12 questions and three questions were used to test each variable. In Table 2 the results of the reliability analysis are reflected. The Cronbach’s alpha scores of Dean’s study (1999:6) are also listed. It is beyond the scope of this paper to speculate on differences in the scores between the two studies. The decision to use a 5-point Likert scale in this study in stead of a 7-point semantic differential scale as used by Dean (1999:12), differences in sample size, and differences in the advertising cues used in the advertisement might have contributed to that.

TABLE 2: MEASURING VARIABLES AND RELIABILITY ANALYSIS

Measuring variable	Statement in questionnaire	Mean	SD	CRONBACH ALPHA (this study)	CRONBACH ALPHA Dean (1999)
Corporate citizenship	The company that makes the advertised sports watch cares about its customers.	3.08	1.03	0.79	0.89
	The company that makes the advertised sports watch is socially responsible.	2.43	0.92		

	The company that makes the advertised sports watch is a good "corporate citizen".	2.99	0.96		
Manufacturer Esteem	I can trust the company that makes the advertised sports watch.	3.56	0.92	0.76	0.83
	Compared to other sports watches, I hold the manufacturer of the advertised watch in high regard.	2.82	1.10		
	The company that makes the advertised sports watch does not deserve my respect. (r)	3.13	0.98		
Brand quality	Compared to other sports watches, the advertised watch is a superior product.	2.56	1.04	0.74	0.86
	The advertised sports watch is the best compared to other sports watches in this product class.	2.37	0.95		
	The advertised sports watch will perform better than other sports watch brands.	2.90	0.98		
Product Uniqueness	Compared to other sports watches, the advertised watch is unique.	2.53	1.09	0.63	0.76
	The advertised sports watch "stands out" from other sports watch brands.	2.65	1.16		
	The advertised sports watch is very similar to other sports watches. (r)	2.64	0.86		

n= 201, SD = standard deviation; (r) = reverse statements

The Cronbach reliability coefficient for three variables was above the cut-off point of 0.70 except for one variable, namely, product uniqueness. The scale could not be made more reliable because there were only three questions in this sub-dimension and none of the questions could have been deleted. Therefore it was accepted, but must be seen as a limitation.

Testing of hypotheses

Abbreviations for the sub-dimensions of dependent variables included: brand quality was referred to as TOTAL (quality); product uniqueness was referred to as TOTAL (unique); manufacturer esteem was referred to as TOTAL (esteem); corporate citizenship was referred to as TOTAL (corpe); and the respondents' pre-purchase attitudes was referred to as TOTALL. A level of significance of 0.05 was chosen for all hypotheses.

Hypothesis 1

The first hypothesis (H_1) focused on the effect that a sport event sponsorship claim, has on respondents' pre-purchase attitudes of uniqueness, esteem and citizenship. The null hypothesis is stated below:

$H_{1(\text{null})}$: Subjects exposed to a sport event sponsorship claim about a brand, will show no difference in scores on measures of uniqueness, esteem and citizenship to subjects not exposed to a sport event sponsorship claim for the same brand.

Hypothesis 1 was divided into three sub-hypotheses and each variable was tested separately. The two groups (B: respondents exposed to the sport event sponsorship claim and C: respondents exposed to a neutral advertising cue) were measured on the same measures of uniqueness, esteem and citizenship and the groups were compared on each of these measures separately as sub-hypotheses.

$H_{1(\text{unique})}$: Measured sport event sponsorship's effect on uniqueness.

$H_{1(\text{esteem})}$: Measured sport event sponsorship's effect on esteem.

$H_{1(\text{corpc})}$: Measured sport event sponsorship's effect on corporate citizenship.

The hypothesis measured the differences between two groups (Group B and Group C) on the same variable (TOTALunique).

The first sub-hypothesis, $H_{1(\text{unique})}$, tested the following:

$H_{1(\text{null}(\text{unique}))}$: Subjects exposed to a sport event sponsorship claim about a brand will show no difference in scores on measures of uniqueness to subjects not exposed to a sport event sponsorship claim for the same brand.

It was assumed that an independent sample t-test should be used but it was first necessary to determine whether the underlying assumptions of an independent sample t-test were satisfied. This was done using a Kolmogorov-Smirnov test to test for normality and the results are depicted in Table 3.

TABLE 3: RESULTS OF A KOLMOGOROV-SMIRNOV TEST FOR NORMALITY CONDUCTED FOR GROUPS B AND C ON SPORT EVENT SPONSORSHIP'S EFFECT ON TOTAL(UNIQUE)

		Kolmogorov-Smirnov ^(a)			Shapiro-Wilk		
	Group	Statistic	df	Sig.	Statistic	df	Sig.
TOTAL (unique)	Group B	0.122	67	0.015	0.954	67	0.014
	Group C	0.161	67	0.000	0.909	67	0.000

^a Lilliefors Significance Correction

The p-value for the Group B sub-sample was 0.015 and for the Group C sub-sample it was 0.000. This indicated that Group B and Group C were both substantially lower than 0.05 and indicated a non-normal distribution for both groups. Therefore the Mann-Whitney U test was chosen as a non-parametric alternative.

For a Mann Whitney U test the test scores are converted into ranked scores. The test then evaluates whether the mean ranks for the two groups differ significantly from each other. In Table 4 the mean rank scores of the sub-samples of Group B and Group C are given.

TABLE 4: DESCRIPTIVE STATISTICS FOR THE GROUP B AND GROUP C SUB-
142

SAMPLES INDICATING THE EFFECT OF SPORT SPONSORSHIP ON TOTAL(UNIQUE)

	Group	n	Mean Rank	Sum of Ranks
TOTAL (unique)	Group B	67	81.51	5461.50
	Group C	67	53.49	3583.50
	Total	134		

From Table 4 it can be observed that the two groups differ from each other significantly in their mean rank scores. This corresponded with the expectation formulated in $H_{1(\text{unique})}$.

Table 5 illustrates the results of the Mann-Whitney U test showing the 2-tailed p-value that indicates the level of significance of the above assumptions.

TABLE 5: RESULTS OF THE MANN-WHITNEY U TEST INDICATING THE LEVEL OF SIGNIFICANCE FOR THE DIFFERENCES IN THE MEAN RANKS OF TOTAL(UNIQUE) OF GROUP B AND GROUP C

	TOTAL(unique)
Mann-Whitney U	1305.500
Wilcoxon W	3583.500
Z	-4.211
Asymp. Sig. (2-tailed)	0.000

The p-value was smaller than 0.05 ($p < 0.05$) and therefore **the null hypothesis was rejected**.

It was concluded that subjects exposed to a sport event sponsorship claim about a brand showed higher scores on measures of uniqueness than subjects not exposed to a sport event sponsorship claim for the same brand.

Similar tests were done with the other two sub-hypotheses, namely, esteem and corporate citizenship. The null hypotheses were also rejected and it was concluded that respondents exposed to a sport event sponsorship claim about a brand, showed higher scores on measures of esteem and corporate citizenship than subjects not exposed to a sport event sponsorship claim for the same brand. The null hypotheses of all three sub-dimensions of H_1 were rejected and respondents exposed to a sport event sponsorship claim about a brand showed higher scores on measures of uniqueness, esteem and corporate citizenship than respondents not exposed to a sport event sponsorship claim for the same brand. Dean (1999:10) found that a sponsorship cue had little effect on product quality and uniqueness effects but a marked effect on perceived corporate citizenship.

The results of the two studies may imply that advertisers can make use of sport event sponsorship to increase students' pre-purchase attitudes of manufacturer esteem and corporate citizenship. These two variables were ranked lowest in Table 1.

Hypothesis 2

The second hypothesis (H_2) focused on the effect that a sport celebrity endorsement claim has on respondents' pre-purchase attitudes of brand quality, uniqueness and esteem. The null hypothesis is:

$H_{2(\text{null})}$: Subjects exposed to a sport celebrity’s endorsement claim about a brand, will show no difference on measures of brand quality, uniqueness and esteem to subjects not exposed to a sport celebrity’s endorsement claim for the same brand.

Hypothesis two was divided into three sub-hypotheses and each variable was tested separately. The two groups (Group A: respondents exposed to the sport celebrity endorsement claim) and Group C: respondents exposed to a neutral advertising cue) were measured on the same measures of brand quality, uniqueness and esteem and the groups were compared on each of these measures separately as sub-hypotheses.

$H_{2(\text{quality})}$: Measured sport celebrity endorsement’s effect on brand quality.

$H_{2(\text{unique})}$: Measured sport celebrity endorsement’s effect on uniqueness.

$H_{2(\text{esteem})}$: Measured sport celebrity endorsement’s effect on esteem.

The first sub-hypothesis, $H_{2(\text{quality})}$, tested the following:

$H_{2(\text{quality})}$: Subjects exposed to a sport celebrity’s endorsement claim about a brand, will show higher scores on measures of **quality** than subjects not exposed to a sport celebrity’s endorsement claim for the same brand.

A Kolmogorov-Smirnov test was conducted, as in H_1 , to test for normality, and the results are shown in Table 6.

TABLE 6: RESULTS OF A KOLMOGOROV-SMIRNOV TEST FOR NORMALITY CONDUCTED FOR GROUPS A AND C ON SPORT CELEBRITY ENDORSEMENT’S EFFECT ON TOTAL(QUALITY)

	Group	Kolmogorov-Smirnov ^(a)			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
TOTAL (quality)	Group A	0.128	67	0.009	0.969	67	0.087
	Group C	0.169	67	0.000	0.951	67	0.010

^a Lilliefors Significance Correction

The p-value again indicated a non-normal distribution for both groups and the Mann-Whitney U test was used. The mean ranks of the two groups were first determined. The results are depicted in Table 7.

TABLE 7: DESCRIPTIVE STATISTICS FOR THE GROUP A AND GROUP C SUB-SAMPLES INDICATING THE EFFECT OF SPORT CELEBRITY ENDORSEMENT ON TOTAL(QUALITY)

	Group	n	Mean Rank	Sum of Ranks
TOTAL (quality)	Group A	67	72.31	4845.00
	Group C	67	62.69	4200.00
	Total	134		

The above table indicates that Group A and Group C differ from each other in their mean rank scores. This was according to the expectation formulated in $H_{2(\text{quality})}$. Table 8 provides the results of the Mann-Whitney U test conducted.

TABLE 8: RESULTS OF THE MANN-WHITNEY U TEST INDICATING THE LEVEL OF SIGNIFICANCE FOR THE DIFFERENCES IN THE MEAN RANK

SCORES OF TOTAL(QUALITY) OF GROUP A AND GROUP C

	TOTAL(quality)
Mann-Whitney U	1922.000
Wilcoxon W	4200.000
Z	-1.449
Asymp. Sig. (2-tailed)	0.147

The two-tailed p-value of 0.147 was converted to an appropriate one tailed p-value of 0.074. Since this value was larger than 0.05 **the null hypothesis could not be rejected.**

It was concluded that respondents exposed to a sport celebrity's endorsement claim about a brand showed no difference in scores on measures of quality to subjects not exposed to a sport celebrity's endorsement claim for the same brand. Similar tests were undertaken with the other two sub-hypotheses, namely, uniqueness and esteem. The p-value (one tailed) of 0.001 with respect to the variable uniqueness was smaller than 0.05 and **the null hypothesis could not be accepted.** With regard to the esteem variable the p-value was smaller than 0.05 and the null hypothesis could not be accepted.

The null hypothesis of the sub-dimensions of uniqueness and esteem of H₂ was rejected and the null hypothesis of the sub-dimension of quality was accepted. Therefore, it was concluded that Hypothesis 2 is partially true. It can be deduced that respondents exposed to a sport celebrity endorsement claim about a brand showed **higher scores on measures of uniqueness and manufacturer esteem than subjects not exposed to a sport celebrity endorsement claim for the same brand.** However, subjects exposed to a sport celebrity endorsement claim about a brand showed **no difference on measures of brand quality than subjects not exposed to a sport celebrity endorsement claim for the same brand.**

Dean (1999:10) found that third part endorsement may be the most managerially useful in terms of purchase intent as "endorsement was the only cue resulting in significantly elevated responses on perceived quality and uniqueness – both pivotal drivers of shopping behaviour and product choice".

From our study we conclude that only product uniqueness and not product quality was positively affected by a celebrity endorsement cue. Thus advertisers can use sport celebrity endorsement to increase respondents' pre-purchase attitudes of product uniqueness and manufacturer esteem but sport celebrity endorsement might not affect consumers' perceptions on brand quality.

Hypothesis 3

The third hypothesis (H₃) focused on the differences between the effects of sport event sponsorship and sport celebrity endorsement on respondents' pre-purchase attitudes. The null hypothesis stated:

H_{3(null)}: There is no difference in the effect of event sponsorship and celebrity endorsement on respondents' pre-purchase attitudes.

Two groups (Group A and B) were measured on the averages of the four brand/manufacturer variables, namely, TOTAL (quality), TOTAL (unique), TOTAL (esteem) and TOTAL (corp)

to form an overall average labelled TOTALL.

Prior to the use of an independent sample t-test it was first necessary to determine whether the underlying assumptions of an independent sample t-test were satisfied. This was done using a Kolmogorov-Smirnov test to test for normality and the results are shown in Table 9.

TABLE 9: RESULTS OF A KOLMOGOROV-SMIRNOV TEST FOR NORMALITY CONDUCTED FOR GROUPS A AND B ON SPORT CELEBRITY ENDORSEMENT'S AND SPORT EVENT SPONSORSHIP'S EFFECT ON TOTALL

			Kolmogorov-Smirnov ^(a)			Shapiro-Wilk		
	Group	Mean	Statistic	df	Sig.	Statistic	df	Sig.
TOTALL	Group A	2.792	0.105	67	0.065	0.980	67	0.364
	Group B	3.001	0.079	67	0.200(*)	0.970	67	0.106
* This is a lower bound of the true significance.								
^a Lilliefors Significance Correction								

The p-value for Group A sub-sample was 0.065 and for Group B sub-sample it was 0.200 which indicated that both groups had a normal distribution (p-values<0.05). The mean of Group A was 2.792 compared to Group B's mean of 3.001 and was in accordance with the expectation of the formulation of H₃. An independent samples t-test is based on two assumptions: the assumption of normality and the assumption of equality of variances. The assumption of normality was shown in Table 9 and the Levene's test for equality of variances is shown in Table 10.

TABLE 10: RESULTS OF THE LEVENE'S TEST FOR EQUALITY OF VARIANCES AND AN INDEPENDENT SAMPLES T-TEST FOR DIFFERENCES IN THE MEAN SCORES OF THE SUB-SAMPLES, GROUP A AND GROUP B, ON THE TOTALL PRE-PURCHASE ATTITUDE SCALE.

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
TOTAL	Equal variances assumed	1.400	0.239	-1.908	132	0.059	-0.2084	0.10922	-0.42443	0.00765
	Equal variances not assumed			-1.908	130.92	0.059	-0.2084	0.10922	-0.42445	0.00767

It can be observed from Table 10 that the p-value of the Levene's test for equality of variances

was 0.239 and the null hypothesis of equal variances can be accepted ($p > 0.05$). Therefore, it was concluded that the variance of the TOTALL variable in Group A (respondents exposed to the sport celebrity endorsement claim) was the same as the variance of the TOTALL variable in Group B (respondents exposed to the sport event sponsorship claim). It was necessary to look at the results of the t-test assuming equal variances. The p-value of the t-test was 0.59. This was given as a two-tailed p-value that needed to be changed to a one-tailed p-value to reflect the directional hypothesis being tested. Since this value (0.03) was smaller than 0.05 the null hypothesis was rejected. Table 9 shows that the mean of Group B was higher than Group A, which was in accordance with the stated alternative hypothesis.

It can be concluded that sport event sponsorship had a greater effect on respondents' pre-purchase attitudes than sport celebrity endorsement. Thus advertisers should rather make use of *sport event sponsorships to affect consumers' pre-purchase attitudes than sport celebrity endorsement*. This finding may seem to contradict Dean's (1999) conclusion but the latter did not directly compare two respondent groups (A and B) on the two cues (celebrity endorsement

and event sponsorship) as we did. Further analysis is therefore needed and a combination of the methods followed in the two studies may be required.

LIMITATIONS

A convenience sample (non-probability sample) was used and according to Cooper and Schindler (2001:192) this was the least reliable design, which could have increased the chance for sampling error. The target population could have included other non-student groupings. The Cronbach alpha reliability coefficient for the uniqueness sub-dimension was 0.63 and was less than the recommended benchmark of 0.7 used to indicate acceptable internal consistency reliability. However, the scale could not have been made more reliable because there were only three statements in this sub-dimension and none of the questions could have been deleted to improve reliability. Therefore, it was accepted as a limitation of the study. Only three statements were used per variable in the Likert scale that tested the influence of sport event sponsorship and sport celebrity endorsement on the four brand/ manufacturer variables. The study may have been more accurate if more statements were used per variable to test pre-purchase attitudes.

CONCLUSIONS AND RECOMMENDATIONS

The study found that sport event sponsorship was perceived by respondents as a uniqueness, esteem and corporate citizenship cue; significantly enhancing responses on product related variables. The sport celebrity endorsement cue had a significant effect on uniqueness and esteem, but it did not significantly affect brand quality, although experimental conditions may have been inappropriate for the cue to manifest its action. Ernie Els might not have been a good choice and further testing is required on which sport celebrities are regarded as role models.

The study also found that sport event sponsorship is a more effective cue than sport celebrity endorsement when influencing consumers' pre-purchase attitudes and is a more viable option to invest in. It was deduced that respondents exposed to a sport celebrity endorsement claim about a brand showed higher scores on measures of uniqueness and esteem than subjects not exposed to a sport celebrity endorsement claim for the same brand. However, subjects exposed to a sport celebrity endorsement claim about a brand showed no difference on

measures of brand quality than respondents not exposed to a sport celebrity endorsement claim for the same brand. *Thus advertisers can use sport celebrity endorsement to increase respondents' pre-purchase attitudes of uniqueness and esteem, but sport celebrity endorsement will not affect consumers' perceptions on brand quality.*

It was concluded that sport event sponsorship had a greater effect on respondents' pre-purchase attitudes than sport celebrity endorsement. *Thus advertisers should rather make use of sport event sponsorships to affect consumers' pre-purchase attitudes than sport celebrity endorsement.*

An opportunity exists to measure the **degree of the effect** of sport event sponsorship and sport celebrity endorsement on the four brand/manufacture variables.

CONCLUDING REMARKS

Uniqueness, esteem and corporate citizenship are all sub-constructs under the higher level construct of customer-based brand equity and are all associated with future sales, profits and sustainable competitive advantage. Therefore, by using the results of this study, managers can substantiate the use of sport event sponsorship to increase consumers' attitudes of uniqueness, esteem and corporate citizenship and sport celebrity endorsement to increase consumers' attitudes of uniqueness and esteem: thus positively affecting their pre-purchase attitudes that may influence buyer behaviour.

REFERENCES

- AMIS, J.; SLACK, T. & BERRETT, T. (1999). Sport sponsorship as distinctive competence. *European Journal of Marketing*, 33(3/4):250-272.
- BELCH, G.E. & BELCH, M.A. (2001). *Advertising and promotion: An integrated marketing communications perspective* (5th ed.). New York, NY: McGraw-Hill.
- CLARK, C.R. & HORSTMANN, I.J. (2003). Celebrity endorsements. Unpublished manuscript [<http://www.rotman.utoronto.ca/ihorstmann/JEMS.2005-07-07.clark.pdf>]. Downloaded on 18 August 2008.
- CREUTZ, C. & SENNING, L. (2006). Social responsible sponsorship – an easy way to a stronger brand? - a study of consumer based brand equity and consumer packaged food, international marketing & brand management. Unpublished Master thesis. Lund, Sweden: School of Economic and Management, Lund University.
- COOPER, D.R. & SCHINDLER, P.S. (2001). *Business research methods* (7th ed.). New York, NY: McGraw-Hill Irwin.
- CORNWELL, T.B. & MAIGNAN, I. (1998). An international review of sponsorship research. *International Journal of Advertising*, 27(1): 1-22.
- DANESHVARY, R. & SCHWER, R.K. (2000). The association endorsement and consumers' intention to purchase. *Journal of Consumer Marketing*, 17(3): 203-213.
- DEAN, D.H. (1999). Brand endorsement, popularity, and event sponsorship as advertising cues affecting consumer pre-purchase attitudes. *Journal of Advertising*, 28(3): 1-12.
- DEAN, D.H. (2002). Associating the corporation with a charitable event through sponsorship: measuring the effects on corporate community relations. *Journal of Advertising*, 31(4): 77.
- DUDZIK, T. & GRÖPPEL-KLEIN, A. (2005). The efficiency of integrated sponsorship advertising. *International Journal of Sports Marketing & Sponsorship*. October: 7(1): 57-67.
- DU PLESSIS, P.J. & ROUSSEAU, G.G. 1999. *Buyer behaviour. A multi cultural approach*. Halfway House, Johannesburg: Sigma.
- DU PLESSIS, F.; BOTHMA, N.; JORDAAN, Y. & VAN HEERDEN, N. (2005). *Integrated marketing*

- communication* (2nd ed.). Claremont, Cape Town: New Africa Books.
- ERDOGAN, B.Z. & KITCHEN, P.J. (1998). How to get the most out of celebrity endorsers. *Admap*, 33(4): 17-22.
- ETZMAN, L. & PENSTONE, K. (2001). More than a game. *Marketing Mix*, 19 (November/December): 14-17.
- FERREIRA, M. & ARMSTRONG, K.L. (2004). An exploratory examination of attributes influencing students' decisions to attend college sport events. *Sport Marketing Quarterly*, 13: 194-208.
- GARDNER, M.P. & SHUMAN, P. (1988). Sponsorships and small businesses. *Journal of Small Business Management*, 26(4): 44-52.
- GWINNER, K.P. & EATON, J. (1999). Building brand image through event sponsorship: The role of image transfer. *Journal of Advertising*, 28(4), Winter: 47-57.
- HENRIKS, M. (1996). Star search: here's how even the smallest business can win big-name celebrity endorsements. *Entrepreneur*, 24(9): 130-136.
- HSU, C-K. & McDONALD, D. (2002). An examination on multiple celebrity endorsers in advertising. *Journal of Product & Brand Management*, 11(1): 19-29.
- HUBER, J. & McCANN, J. (1982). The importance of inferential beliefs on product evaluation. *Journal of Marketing Research*, 19(August): 324-333.
- JOWDY, E. & McDONALD, M. (2002a). Celebrity endorsers and image matching. *Sport Marketing Quarterly*, 11(3): 186-189.
- JOWDY, E. & McDONALD, M. (2002b). The FUTURES golf tour case study: Sponsorship sales and eduselling. *Sport Marketing Quarterly*, 11(4): 248-250.
- KIM, Y-J. & NA, J-H. (2007). Effects of celebrity athlete endorsement on attitude towards the product: the role of credibility, attractiveness and the concept of congruence. *International Journal of Sports Marketing & Sponsorship*, 8(4): 310-320.
- LAROCHE, M.; UELTSCHY, L.C.; ABE, S.; CLEVELAND, M. & YANNOPOULOS, P.P. (2004). Service quality perceptions and customer satisfaction: evaluating the role of culture. *Journal of International Marketing*, 12(3): 58-85.
- LYONS, R. & JACKSON, E.N. (2001). Factors that influence African-American Gen-Xers to purchase Nikes. *Sport Marketing Quarterly*, 10(2): 96-97.
- MADRIGAL, R. (2001). Social identity effects in a belief-attitude-intentions hierarchy: Implications for corporate sponsorship. *Psychology and Marketing*, 18(2): 145-165.
- MARTENSEN, A.; GRONHOLDT, L. & KRISTENSEN, K. (2000). The drivers of customer satisfaction and loyalty: cross-industry findings from Denmark. *Total Quality Management*, 11(4): 544-553, July.
- MARX, S.; VAN ROOYEN, D.C.; BOSCH, J.K. & REYNDERS, H.J.J. (1998). *Business Management* (2nd ed.). Pretoria: JL van Schaik.
- McDANIEL, S.R. (1999). An investigation of match-up effects in sport sponsorship advertising: The implications of consumer advertising schemas. *Psychology & Marketing*, 16(2): 163-184.
- MEENAGHAN, T. (2001). Understanding sponsorship effects. *Psychology & Marketing*, 18(2): 95-122.
- MORIARTY, S. (2003). An interpretive study of visual cues in advertising [www documents] [URL: <http://spot.colorado.edu/~moriarts/viscueing.html>]. Downloaded 18 August 2008.
- OSGOOD, C.E. & TANNENBAUM, P.H. (1955). The principle of congruity in the prediction of attitude change. *Psychological Review*, 62: 42-55.
- PATZER, G. (1996). *Experiment-research methodology in marketing: types and applications*. Westport, London: Quorum Books.
- PALLANT, J. (2001). *SPSS survival manual: A step-by-step guide to data analysis with SPSS for Windows (Version 10)*. London: Buckingham Open University Press.
- PENSTONE, K. (2001). Going for gold. *Marketing Mix*, 19 (November/December): 18-19.

- PETTERSSON, R. (1991). Image functions. *Visual Literacy Review*, 20 (February): 2-3.
- POON, D.T.Y. & PRENDERGAST, G. (2006). A new framework for evaluating sponsorship opportunities. *International Journal of Advertising*, 25(4): 471-488.
- RICHARDSON, P.S.; DICK, A.S. & JAIN, A.K. (1994). Extrinsic and intrinsic cue effects on perceptions of store brand quality. *Journal of Marketing*, 58: 28-36.
- ROY, D.P. & CORNWELL, T.B. (2004). Effects of consumer knowledge on responses to event sponsorships. *Psychology & Marketing*, 21(3): 185-207.
- SENO, D. & LUKAS, B.A. (2007). The equity effect of product endorsement by celebrities: A conceptual framework from a co-branding perspective. *European Journal of Marketing*, 41(1/2): 121-134.
- SILVERA, D.H. & AUSTAD, B. (2004). Factors predicting the effectiveness of celebrity endorsement advertisements. *European Journal of Marketing*, 38(11/12): 1509-1526.
- TILL, B.D. (2001). Managing athlete endorser image: The effect of endorsed product. *Sport Marketing Quarterly*, 10(1): 35-41.

Prof. CH van Heerden: Department of Marketing and Communication Management, University of Pretoria, Pretoria 2000, Republic of South Africa. Tel.: +27 (0)12-420-31451; Fax: 0866381545, E-mail: neels.vanheerden@up.ac.za.

(Subject editor: Prof. C. Singh)

Example of mock advertisement with the neutral, sport celebrity endorsement and sport sponsorship slogans

**NEW SPORTS WATCH
RATED BY ERNIE ELS
AS THE BEST SPORTS
WATCH.**

**PROUD SPONSOR OF THE
2004 SOUTH AFRICAN
OLYMPIC TEAM**



· WATERPROOF

· LAP TIMING

· ALTIMETER

SPORTS WATCH