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# TOP SCHOLAR



NEW ZEALAND QUALIFICATIONS AUTHORITY  
MANA TOHU MĀTAURANGA O AOTEAROA

## Scholarship 2009 Physical Education

2.00 pm Tuesday 1 December 2009  
Time allowed: Three hours  
Total marks: 24

### ANSWER BOOKLET

Check that the National Student Number (NSN) on your admission slip is the same as the number at the top of this page.

Choose any **THREE** questions from Question Booklet 93501Q to complete.

Each question is worth 8 marks.

Write **ALL** your answers in this Answer Booklet.

Start each answer on a **NEW** page. Number each answer carefully.

Check that this booklet has pages 2–18 in the correct order and that none of these pages is blank.

**YOU MUST HAND THIS BOOKLET TO THE SUPERVISOR AT THE END OF THE EXAMINATION.**

Obesity is defined as an excessive amount of body fat which negatively impacts the ability to lead an <sup>active</sup> healthy lifestyle by the Oxford English Dictionary. In New Zealand, obesity is considered an 'epidemic', an idea constantly pressed onto us by the media and the government. But are we really experiencing a pandemic or is obesity simply being hyped up the media? //

According to the Ministry of Health 26.4% of New Zealanders are obese. These statistics are derived from the Body Mass Index which calculates individual ~~mass~~ <sup>weight</sup> and height, the individual data found from a BMI chart puts people into one of four categories:

Underweight, Normal Weight, Overweight and Obese (a BMI of more than 30). According to New Zealand BMI statistics 1 in ~~4~~ 3 adults are overweight and one in ~~4~~ are obese. These statistics appear frightening and the idea that obesity is an epidemic seems plausible however it is unlikely that every New Zealander ~~was~~ ~~looked at~~ ~~during~~ ~~the~~ participated in the BMI test and many limitations are known such as the fact it doesn't account for mesomorphic body shapes, <sup>culture</sup> genetics or muscle mass. The inaccuracies are clearly shown through <sup>some of</sup> the All Blacks Richie McCaw

being considered obese. The definition stating "obesity negatively affects the ability to lead an active healthy lifestyle" is contradicted through one of our most recognised athletes being considered obese// —

The media is a major influence in the idea that obesity is an epidemic, both print and electronic use the inaccurate statistics gained from BMI to scare the public into thinking there is a serious problem. Obesity is portrayed negatively in the media which can have serious consequences on the self esteem of society. ~~Also~~ The media only shows 2% of the world's population meaning a limited amount of body shapes and sizes are portrayed. Society ~~get the idea that~~ make the assumption that being skinny is being healthy ~~and~~ and the manipulation of the media is shown through the fact that an ~~average~~ New Zealand girl <sup>aged</sup> between 14 and 18 years old is on average, size 12. The media are portraying that a size 14/16 is obese where it is more around a size 22. The media can effect social havora and make people both embarressed and self-conscience about their body weight// —

Obesity causes are very wide-spread - there

is not one cause but rather a number of contributing factors. Firstly diet and exercise are main influences of body weight. Eating unhealthy foods with low fibre, low vitamins, high in salts, fats and tropical oils cause the body to turn these foods into triiglycerides and they are stored as fat cells in ~~the~~ tissues. An unhealthy diet is generally influenced by lifestyle - New Zealand has become a lazy society due to technology advances and an 'i-want-it-now' attitude. Approximately 20 hours a week is the average time a 14-18 year old boy spends in front of the television and fast food outlets and quick, unhealthy food has become more common. There are 144 McDonalds restaurants in New Zealand alone. Unhealthy food is easily accessible and cheap making it ideal for low economic areas of society. It is a common theme that in poorer areas, people are physically heavier due to overconsumption of fatty foods. The eating of fast-foods is simply enhanced by the media who try to portray it as nutritional. McDonalds uses Sarah Ulmer and Hamish Carter in their adverts and immediately society links their physical body shapes with McDonalds and feels it is alright for them to eat there. Uneducation about obesity and only learning

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incorrectly

about it through the media is yet another reason for <sup>the</sup> obesity statistics we have in New Zealand. ~~the~~ //

Lack of physical exercise is another contributing factor - 50% of children aged 14-17 use transport to get to school rather than walking, 55% of students are sedentary. Sports and Recreation New Zealand states that at least 30 minutes of exercise a day is required to be healthy and without this, size is increasing. ~~Many~~ ~~the~~ ~~the~~ The lack of physical activity (physical movement that is more <sup>energy consuming</sup> than daily everyday activity) in New Zealand and the obesity statistics because of it has encouraged the government to ~~put~~ implement many actions such as 30 seconds a day campaign and \$2,000,000 for Mission On campaign to encourage people to get active. Economically, it is impacting ~~the~~ <sup>society</sup> ~~country~~ as <sup>their</sup> money is being used to fund physical initiatives. The media also encourages physical activity but their focus is to 'reduce weight' rather than 'to become physically healthy'. Gym Memberships in 2008 were held by 11% of the country proving that <sup>physical</sup> action is taking place and gyms made over \$275 million last year. It is positive to see so many people

to get active. Economically, it is impacting

involved in physical activity but it is very costly to join gyms and many people cannot afford memberships, namely the people who require physical activity. //

Obesity in New Zealand is also influenced through genetics and lifestyle with some people being born physically larger than others. A person whose parent is obese is more than 40% likely to be obese themselves and a person with both their parents being obese are 80% likely to be obese themselves. This makes sense because parents are usually in control of what their child eats and the lifestyle they are surrounded by. Obesity <sup>being expressed through the media as an epidemic</sup> is negatively impacting on society because New Zealanders feel it is a growing problem, literally. The term 'epidemic' ensures that it is spreading rapidly and therefore can be caught. New Zealand is being viewed <sup>as unhealthy and lazy</sup> ~~as unhealthy and lazy~~ by other countries since it was announced in a 2009 World Health Survey that we are "the third fattest country" in ~~the~~ the developed world. Immediately this impacts on us as governments feel spending more <sup>taxpayer</sup> money on physical activity schemes and ~~encouraging~~ encouraging the 'epidemic' idea to scare people into change is

~~Obesity is a~~ mandatory - in a way this is a positive impact. It should make society want to change and even give them opportunities through Mission On or Push Play to change but the reason behind it (fear) is not correct. New Zealanders should not be afraid of social outcast or perceived as lazy because they are <sup>an</sup> obese <sup>shape</sup> - they should be encouraged to change their diet and do more exercise to reap the physical benefits. Obesity in New Zealand is an issue, but the media is not allowing an environment where it is socially acceptable - people need to change to help themselves rather than fit in with society. //

I personally think that <sup>the</sup> "obesity epidemic" is an inconsiderate way to portray this issue, it should be ~~seen~~ as an obesity problem instead. I accept that there are statistics to prove we are a growing nation but improvements to this issue should be made through education <sup>about obesity</sup> at a younger age and substantial changes made to lifestyle - less technology usage, quick meals and particular focus on getting healthier rather than getting thinner. Obesity negatively and positively impacts New Zealand Society although

it should be ~~seen~~ as an obesity problem



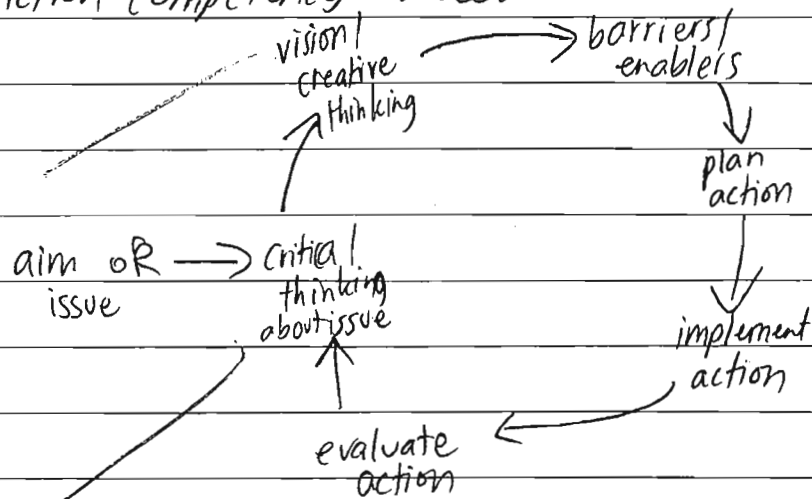
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action needs to be taken to stop obesity  
statistics rising. //



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#### ④ Action Competency model =



- self empowerment - individual
- behavioural change - victimising
- collective action - community/group

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Health Promotion is empowering action <sup>physically</sup> either through classrooms, whole schools, individuals and communities to increase knowledge and have a better well-being overall. Health promotion is about connecting with a target audience and in this case - year nine school students. Using the Action Competence Learning Process, it is easy to see whether this Year 13 class covered all of the necessary points of Health Promotion to be successful and have an effect on their Year Nine Students. //

I have to start by making an assumption that the year thirteens chose the year nine students because they were lacking in health and physical activeness, their aim is to improve the activity levels amongst the students and there first must be a target group to influence. During my 'Take Action' programme I also did year nine students because statistics in my school showed that <sup>according to the Ministry of Health</sup> only 32% of ~~the~~ students did physical activity and that in New Zealand 55% of students were sedentary with 70% of active students dropping sports during the ages of 13-17 years (SPARC statistics) - my target group needed to experience health promotion as I assume these year nine students did also. //

Undertaking a survey of the students was highly beneficial to the year thirteens, they are able to get their information directly from the students they hope to sign up. Immediately accurate information is gained and the likelihood of success is increased through this inquiry. The survey showed that most people wanted to play basketball - a team sport. Social interaction is a key enabler in any physical activity with 70% of people in New Zealand saying it is their main reason for participating in sport according to SPARC NZ. Basketball is a game that enables many people to be active at once, thus encouraging more participation. In my own Take-Action plan touch rugby was most popular and allowed a team situation again. More students find physical participation easier if their friends are doing it, their peers act as an enabler. //

Another assumption I am making is that their survey ~~included~~ gave them the indication of time frame for their basketball at lunchtime. Different skill levels, especially between active and sedentary kids will be substantial in deducing how long the games should be before ~~a~~ substantial

improvements will be made. If most of the students are athletic then it will take longer for ~~them~~ their heart rates to be worked and the games themselves and overall competition will have to be longer. In my own Take-Action programme my students were sedentary and therefore doing 30 minutes of exercise (as recommended by SPARK as the minimum) was effective in pushing them physically. Another ~~enabler~~ <sup>enabler</sup> of joining a sports team is to reap the physical benefits <sup>(such as larger muscles, better lung capabilities)</sup> and the year nine students will need to be suited to the games length and overall competition for this to occur.

Doing the competition at lunchtime is minimising the barrier of physical activity being time consuming (my main barrier during my own Take-Action plan), the time being at lunchtime means it is easily accessible to students and they are not having to give up any prior commitments. Lunchtime is generally over 30 minutes which allows the assumption that the games will be for longer than that and every student will be available to attend. The time I did my programme was afterschool and I found that my students have difficulty making that,

especially around mock exam time when they have their practise exams and these became a priority over touch games. I think the year thirteens of this programme did ~~critically~~ evaluate to some extent their ~~is~~ aim to promote health to year nines and did do creative thinking to impliment a survey and collate the data. ~~At this step of the~~ I also believe that some thought was put into the barriers and enablers that would help or hinder the success. ~~At this~~ ~~step~~ At this step, the programme would have been successful in teaching health promotion. //

Unfortunately, after that step their programme changed, and started to become unlikely to be successful according to the Action Competency Model. The students changed the sport from basketball to netball - immediately the information they had gained from the students was overridden. People are less likely to participate in something they don't want to - these year nine students did not want to do netball and immediately the attitude towards participating would have decreased - an assumption I can make after looking at the participation levels.

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Doing netball acted as a barrier because fun and enjoyment ~~was~~ were <sup>slightly</sup> diminished - a prime motivator in getting people involved. The change from an indoor venue to an outdoor venue also brought about a barrier because the influence of weather could effect their programme. The physical activity was still in place but they would have lost their target group through this sport change. ~~Results~~  
In my own programme, my ~~training~~ touch rugby games were done outside and one day training had to be cancelled because of the weather - negatively impacting on my health promotion.

Implementing the action, the next step of the Action Competency Model showed that 20 students showed up for the first game and only 9 for the second - immediately I have to make the assumption that the netball first session was too competitive and not social enough. Over competitiveness is a common barrier in physical ~~education~~ activity and losing the enabler of fun and enjoyment was detrimental to the program. The year nine students are influenced by both their peers and their enjoyment levels ~~and~~ during physical

~~education~~ games and these would have been contributing factors in why participation levels did not stay high. Cancelling the programme was a bad decision in my opinion because even minimal change is helpful to health promotion. Of the nine that turned up on the second game, 2 of them could have been sedentary and interested in becoming more physically active - the cancellation prevented this. In my own Take-Action programme, I measured my success on how many sedentary kids continued their physical activity - it proved I had changed their attitude towards being active for the better. Out of the 12 students I ~~taught~~ had in the touch games - 4 joined social Saturday morning soccer teams and 2 trialled for junior touch teams. I only changed 50% of my students BUT health promotion was achieved through my programme. Health promotion has to want to be learnt by the students to be successful, proved in my programme and I think the year thirteens made a huge mistake in disregarding their nine loyal students. //

Overall, critically evaluating their programme, the last step in the ~~Take-Action~~ Action



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Competency Model should have uncovered that they had the opportunity to be successful in teaching health promotion. ~~This scenario~~ but they brought in too many barriers and were too focused on a community based model where EVERYONE is encouraged to change.

Overall this Scenario is not a good example of health promotion - they did not alter the physical lifestyle of any of their year nine students or teach them about well being through exercise. This Scenario did however, have the potential to be a good example as seen through completing the first few stages of the Action Competency Model. Even with the sports change to Netball and the decrease in participation they could have focused on the 9 year nine students and promoted the '9' year 'nine' invaders and promoted health to them. I would consider this Scenario a missed opportunity. //

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## Aquathon training

P.O.T / Methods — <sup>continuous</sup> resistance

- frequency
- intensity
- variety
- law of diminishing returns
- specificity
- time
- type

- pre tests
- post tests

socio cultural factors

- environment
- lifestyle
- society

③

— asian children - gymnasts  
 → naturally more flexible - females  
 different sports need different <sup>than males</sup>  
 body shape/type

different stages

- mero
- ecto
- endo

skill learning

GOLE

some better  
than others

- prior experience
- video analysis
- feedback/int/xt

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Physical Activity Programmes are designed to try and make improvements to physical performance, it is the aftermath of this performance which indicates how effective the programme was and where alterations need to be made.

The purpose of my <sup>training</sup> programme evaluation after completing my aquathon was for me, to individually work out why I had not achieved my goal of running the aquathon in under 41 minutes and 25 seconds but rather had completed it in 43 minutes. The evaluation caused me to look at the effectiveness of my programme and understand where improvements could have been made to ensure my goal was achieved. In my aquathon training programme

Performance Improvement is encouraged by a variety of factors, no matter what level of skill you are, improvement can always be made, and should always be strived for. There is <sup>not</sup> a clear distinction between ~~the~~ ~~these~~ athletes that are born and athletes that are made - both factors can contribute to the success of an athlete. //

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It is fair to state that although a person may be helped by their genetics, they are certainly not born with the skills they require for top level performance. Skills a complex systems which have to be learnt - they are not provided for us. In my own physical activity of Golf, I had to learn four different shots - pitch, putt, chip and drive, none of the skills were given to me naturally, I had to spend a long time learning them before I got them to the stage where I was producing accurate shots. Practise makes perfect - genes do not. //

It is a definite fact that particular body shapes and types - genetically achieved (such as height and bone density, physical shape through metabolism) assist with certain sports. In communist China, coaches are seeking out athletes in villages by targeting very slim and short athletes - their genetic appearance is why they are first contracted into gymnastics - a sport requiring flexibility, stamina, agility. Gymnastics prefer to have short underdeveloped athletes (lack of puberty because of constant training) because they are most successful in this particular sport, they are however, not capable of being good gymnasts without practising and developing skills taught to them by their coaches. They may be able to learn a skill easier (the splits) ~~but~~

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because they have more flexible joints but they cannot do it correctly ~~or~~ with the right technique until they are instructed how to - the split is not a natural movement and therefore it does not come naturally. In golf - a specific body shape is not particularly more advantage than another - with golf it is about understanding the techniques such as having a low centre of gravity or great range in the back swing to build up force summation - none of this is genetically inherited. An understanding of the skill and learning them in first a closed environment and then an open environment is what aided me in improving my golf performance, the repetition of skills and the correct technique taught to me by an expert enabled my drive to go further and land more accurately on the fairway. In my training programme it was internal and external feedback that combined to help me improve performance.. that combined to help me improve performance.. Kinesthetic feedback such as my arm muscles feeling strained across my right arm in my backswing indicated to me that I was holding the club correctly with my arm flexion allowing me more force when swinging down. Kinesthetic feedback was able to be recognised after I had done the skill repetitively and knew the difference between correct and incorrect through external feedback - where the ball landed on the green or the 'POF'

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noise made when <sup>the kids</sup> contacted with the ball. I could physically see my improvements through my shots and it was the coaching of an expert and the feedback within my environment that ~~was~~ encouraged improvement rather than my genetics. //

Another way that performance improvement was ~~seen~~ ~~it~~ lead to in my training program was video-analysis of my golf swings on Silicone Coach. Technological advances such as video-analysis ~~and~~ are being used by top athletes - they need to see what they are doing wrong in order to improve it. Video-analysis of my swing compared me to a professional golfer and the difference was immediately different. She was able to produce her backswing ~~almost~~ ~~to~~ on almost a parallel to the ground and had a lower centre of gravity - in direct comparison I could see that I was too far away from the ball and weak in my backswing. The professional golfer was of similar height to me and did not look particularly more muscular than an athlete would be - her <sup>mesomorphic body type</sup> ~~build~~ was not unobtainable if worked on. Her genetics were not dissimilar to mine physically but the hours of practise, level of skill most

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likely in the autonomous phase was very different. In golf - she was much more advanced and experienced than I was hence why her golf skill far outweighed mine!!

I strongly believe it is the environment you are in and physical capabilities rather than genetics that leads to improvement. This is proved by Mary, a girl in my class whom had never played golf before exactly the same as me. We both started in the cognitive stage of skill learning but because of her background in hockey, she picked up the skills of the swing alot faster as it is not too dissimilar. She quickly moved into the associative stage because her skill level was better in less practises than mine. Her <sup>prior</sup> experience <sup>(although in a different game)</sup> enabled her to improve performance faster!!

I feel that ~~the~~ ~~bad~~ the 'genetics being better' idea is again contradicted in wrestling. This sport requires alot of muscle mass to create strength and muscular power to beat the opponent. These muscular body shapes are not achieved through genetics but through hard physical work in the gym ~~to create~~ doing resistance and weight training. Any person can become



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mesomorphic through excessive exercise and a controlled diet which would help to improve their performance in a strength required sport such as wrestling. //

I agree that there are some exceptions to genetics not being beneficial because in sprinting and running track events there is a consistent pattern showing Africans and African-Americans being physically faster.

Although this pattern appears to highlight that genetics is assisting them, this is an assumption. It is completely plausible that they simply train more frequently, more intensely or have more experienced coaches helping them improve their performance over other athletes. //

Genetic advantages are only useful in a very small amount of physical sports and although they may assist with natural ability it is hard work and the use of information such as nutritionists, bio mechanics experts, physio's and coaches that provide expertise in each of their fields to combine to produce better athletes. Each field needs to be controlled for improvement to be made - it is the physical work put in rather than the genetics that enable a person