Post-Secondary School Sport Participation, Transition & Withdrawal.

A report written and provided by Adrian France* for Sport Waikato.

12th February 2014

***CBITE**
Wintec
Adrian.france@wintec.ac.nz
834 8800 ext 8519

Contents

1.0 Introduction

This research was requested from Sport Waikato to address the perceived withdrawal from sport of the post-secondary school age group. There has been anecdotal evidence that once individuals leave secondary school they participate in sport less frequently than when they were at school, and hence the participation rates in the post-secondary school age group would be much lower than the age groups of those at school. This study investigates sport participation in the post-secondary school age group, the patterns, the transition from secondary school to post-secondary school, participation withdrawal, and the potential factors contributing to participation and withdrawal.

The aim of this research was to address the following questions:

1.1 Is there a significant reduction in sport participation in the post-secondary school age group?
1.2 What patterns of sport participation are evident for the post-secondary school age group?
1.3 What factors impact on sport participation for the post-secondary school age group?

An extensive desk study (literature review) was undertaken to search for existing answers to the above questions. Following the literature review that found a lack of studies answering the above questions an online questionnaire was conducted to answer the above questions.

In August 2011, an online questionnaire was opened and closed a few months later. A total of 992 responses were gathered. Data was additionally cleaned for responses from each question. The number of usable responses are far in excess required for statistical analysis, thus the data and statistical analysis can be relied upon.

For purposes of this report SPORT is defined as any activity that requires a significant level of physical involvement and in which participants engage in either a structured or unstructured environment, for the purpose of declaring a winner, though not solely so; or purely for relaxation, personal satisfaction, physical health, emotional growth and development.

2.0 Executive Summary

The general perception and anecdotal evidence suggests that upon leaving secondary school, people participate less in sports. The decline in physical activity and participation in sport among young people has been discussed in the media during recent decades. This result of decreased physical activity with an increase in age indicates that life stages or demands influence sport participants, and thus would suggest decreased sport participation could be addressed accordingly. However, the evidence of decreased sport participation is scarce. This study attempts to address the gap in the literature of youth sport participation, and attempts to investigate the transition from secondary school to post-secondary school. The study attempts to answer what levels of participation occur in the youth, what patterns exist for youth participation, and what factors contribute to sport participation withdrawal in the youth.

A literature review was undertaken, followed by a questionnaire aimed at tertiary students. The literature review shows a lack of sport participation data of the transition from secondary school to post-secondary. In August 2011, an online questionnaire was opened and closed a few months later. A total of 992 responses were gathered. Data was additionally cleaned for responses from each question. The number of usable responses are far in excess required for statistical analysis, thus the data and statistical analysis can be relied upon.

Questionnaire Results:

Participation

- Family and friends are overwhelmingly the dominant influences on introducing people to sport. Schools, teachers, and others influenced few individuals into sport participation.
    - Introducing individuals to sport through school and teachers results in post-secondary individuals participating in sport less per week than other forms of introduction.
- Previous questionnaires often ask adults what sports have been participated in the last 12 months or five years, while questionnaires for youth ask for participation in the last four weeks. Participation is much greater when asked over long time periods. The patterns of sport participation over 12 months also occur for the time period of four weeks. Some sports differ according to the time period asked, as some sports are winter or summer sports and thus are not participated in when the questionnaire is conducted.

Transition

- The transition from playing formalised sport in school has not continued with the individuals joining formally organised sport clubs post-secondary school. Clubs have not fully captured those who previously played the sport at school, and clubs have not captured those who are interested in sport that had not played it previously.
    - Club participants as a proportion of sport participants (club proportion indexes) are highest for sport codes rugby union, golf, multisport, and rugby league. Low club membership sports proportions are swimming, cycling, and basketball.
- The distribution of participation was consistent for participation hours per week or days per week. Participation hours per week and participation days per week are highly correlated.

Withdrawal

- The survey result shows that 60% of individuals may be prone to allowing other things to replace sport participation, while nearly 40% would be expected to resist giving the sport up and may prioritise sport over other activities. Further analysis revealed little impact of employment on participation, apart from those not employed that had a slightly higher proportion not playing sport at all.
- Employment has had little impact on sport participation per week, other than the extremes of no participation and high participation. A de-motivational effect is found with no sport participation (low participation, low employment), and a substitution effect is found for five or more days per week participating in sport (high participation, low employment).
- As respondents age, there are proportionately fewer respondents participating in sport for more than 2.5 hours a week than those respondents participating in sport for less than 2.5 hours a week. A particular anomaly to this trend is the school leaver age group of 17-20 years that has a proportionate increase in the respondents participating in more than five hours a week. This age group also has a proportionate increase, compared to other age groups, in participation of more than three- days a week. A small minority of the school leaver age group appears to intensify sport participation after leaving school. Further investigation could identify the characteristics of this minority group.
- The more dependents, the fewer hours spent participating in sport. Qualitative data suggests this is due to the commitments dependents require.
- There appears to be no impact of studying on sport participation.
- Single respondents spend proportionately more time participating in sport than most other marital groups.
- The substitution effect of other factors impacting sport participation is reinforced with the older age groups tending to miss sport less and finding something else just as enjoyable compared with the younger age groups. The substitution effect becomes apparent in the 21-30 age group. Other factors affecting involvement of sport increases with age and is most salient for respondents 27 years or older.
- Participation in sport decreases with age, however participation rates differ among sport codes. Individual sports increase participation with age, while team sports decrease participation with age.
- The majority, 60.8% of respondents indicated they have decreased the amount of time spent involved in their sport compared to the previous year. These respondents were more likely in the ages of 17 and above, with the 17-20 age most likely to state they decreased participation. These results differ to actual participation and maybe as a result of exaggerating by respondents.
- When respondents were asked the relevance of particular factors impacting sport participation, employment and study were the most relevant, even though this differs to actual impact as stated above. Respondent ratings of the relevance of factors impacting sport increased with age. This result differs somewhat to the actual impact stated above. The school leaver age group of 17-20 replied with study as the most relevant to impact sport participation, followed by work. The school leaver age group of 17-20 rated knowledge of where to play and the impact on social life as more relevant than other age groups.

A pattern of decreased sport participation occurs from school through to adults. Sport participation continues post-secondary school, though at lower participation rates. The reduced sport participation post-secondary school is part of the pattern of reduced participation with age and therefore an indication of life span models.

3.0 Recommendations

The following recommendations are suggested:

Further analysis needs to be considered of withdrawal reasons for specific age groups and for specific sport codes. Withdrawal reasons for specific age groups may address some theoretical models such as the participation stage model.

Clubs have not fully captured those who played the sport at school, and clubs have not captured those who are interested in sport that had not played it previously. Further analysis by age group of club membership could be undertaken to reveal the transition or lack of transition to clubs from school.

Further analysis is required on team and individual sports to identify explanations for preferences and any changes in preferences over time. Further surveys could be conducted.

Investigation of specific sport code patterns is required. There are more sport codes available than the traditional formalised team sports in schools. As individuals age, they appear to be choosing sports that are not the recognised traditional school team sports. When measuring sport participation, a wider scope of sport codes needs to be considered to encapsulate the varied physical activities.

A minority group that increases sport participation in the post-secondary school age group exists. Investigation of the characteristics of this minority group is required.

Reduced sport participation with age appears part of the life span, though participation could progress from intensive team sports, to less intensive individual sports. Specifically, more information on where to play a sport needs to be provided to the school leaver age group. An opportunity exists for sport clubs to inform people where to play before they leave school.

The anecdotal evidence of a large exodus of individuals withdrawing from sport after leaving school is not supported. Views of reduced participation appear exaggerated, and not consistent with reality. Factors of employment and study impacting on sport participation are the most commonly stated reasons provided for withdrawal, though these reasons are not necessarily reality.

4.0 Results

4.1 Literature Review

This report will attempt to find supporting evidence from literature regarding, barriers and motivators for participation in sport and trends of the post-secondary school age group (16-20 years olds). Due to the lack of published research on the topic regarding New Zealand participation, international published research is also drawn on and compared with, to highlight particular issues in New Zealand. The following section compares sport participation across several countries before reviewing the theoretical models of sport participation.

4.1.1 Sport Participation

Many youth continue to participate in traditional sports, however an increasing proportion of the youth are participating in action sports. These sports are more contemporary with high energy demands.

For the post-secondary school age group, 16-24yrs, a large proportion (81%) are engaged in three- or more physical recreation activities, with 97% engaged with at least one physical recreation activity (*SPARC, 2007/2008)*.

The most active youth are the younger group of 9-12yrs and participation declines with age with the 16-17 year youth group the least active.

Male adults 'play to win' and are involved in competitive sports compared to female adults that play sports that have social interaction.

4.1.2 Theoretical Background

Hypotheses exist as to the motivations for participation in sport. The theory of participation is either gravitational or developmental, meaning the motivations can be either pre-existing in the individual or a personality can change to become motivated or demotivated in participating in sport (Eagleton, McKelvie, & De Man, 2007).

Continuity models of sport participation also exist. Theoretical models of sport participation also include life span models and life course models. These models explain sport participation as a result of life events and situations. A particular model specific to sport participation for youth involves stages of sampling, specialising, investment, recreational, and withdrawal occurring due to a previous stage Silva III & Stevens (1992).

4.1.3 Motivators of Playing Sport

The main motivators for New Zealand youth are social and family, and health and fitness. Other motivators include, to a lesser extent, enjoyment and wellbeing (Australian Bureau of Statistics, 2007).

The interest of New Zealand youth trying a new sport decreases with age from five to eight years to 16-17 years. Overseas reports suggest there is insufficient time to participate due to work and study, family, or lack of interest (Australian Bureau of Statistics, 2007).

4.1.4 Barriers

Barriers to sport participation include a lack of social experience, cultural background, physical disability or health, and perceptions. These barriers can be defined as structural, intrapersonal, or interpersonal, eg. cost, personal characteristics and family. When sport classification is expanded to include physical recreation in New Zealand, rather than pure sport, barriers to participation include transport, community design, less PE time at school, two income families, labour saving devices and shifting to passive leisure such as computer consoles.

4.1.5 Sport Code Participation

New Zealand youth has higher participation rates than South Africa or Australia. The highest participation in New Zealand is in traditional team sports such as touch rugby, basketball, cricket, netball, rugby union, and football. When the definition of sport is expanded, then individual sports are the highest participated in.

4.1.6 Sport Withdrawal

The number of sports codes participated in decreases with age in the adult population in New Zealand from an average high of 3.4 sports to 1.6 sports (*SPARC, 2007/2008)*. Interest in trying new sports also decreases with age in the adult population.

Participation by youth in sport decreases with age. Primary school sports have the highest participation rates in the youth, and these rates reduce quickly with age from a high of 76% in the 9-12 year olds to 47% in 16-17 year olds (*SPARC Facts '1997-2001')*.

As youth age, participation in sport at school or with friends and family decreases. There is little existing literature on the patterns of participation continuously from school age through to adults anywhere.

4.2 Questionnaire Survey Results

The online survey primarily targeted the post secondary school age group in the Waikato, with notices sent to students of the local tertiary provider. The results are disaggregated into age groups later in these results.

Of those that completed the survey, 18% did not participate in a sport (82% participated in a sport). This participation result is far greater than the general population or adult population studies in NZ. This survey thus targeted those who have participated in a sport. Of the 840 individuals that participated in a sport, 36% of them participated in a sport not stated on the prelisted questionnaire.

4.2.1 Participation

The sport of swimming is participated in by the most individuals, followed by sports that are popular at school such as netball and football. See the graph below. Participation in some sports appears particular to the sampled region, such as the high participation rate of cycling. Tennis and golf are not the most popular unlike the general adult population. Yachting, while generally is participated in by five percent of the population, is only participated in by 2.4% of those sampled. Again, Hamilton and the Waikato are predominantly land locked, thus providing little opportunity or access to environment or facilities for the sport of yachting.

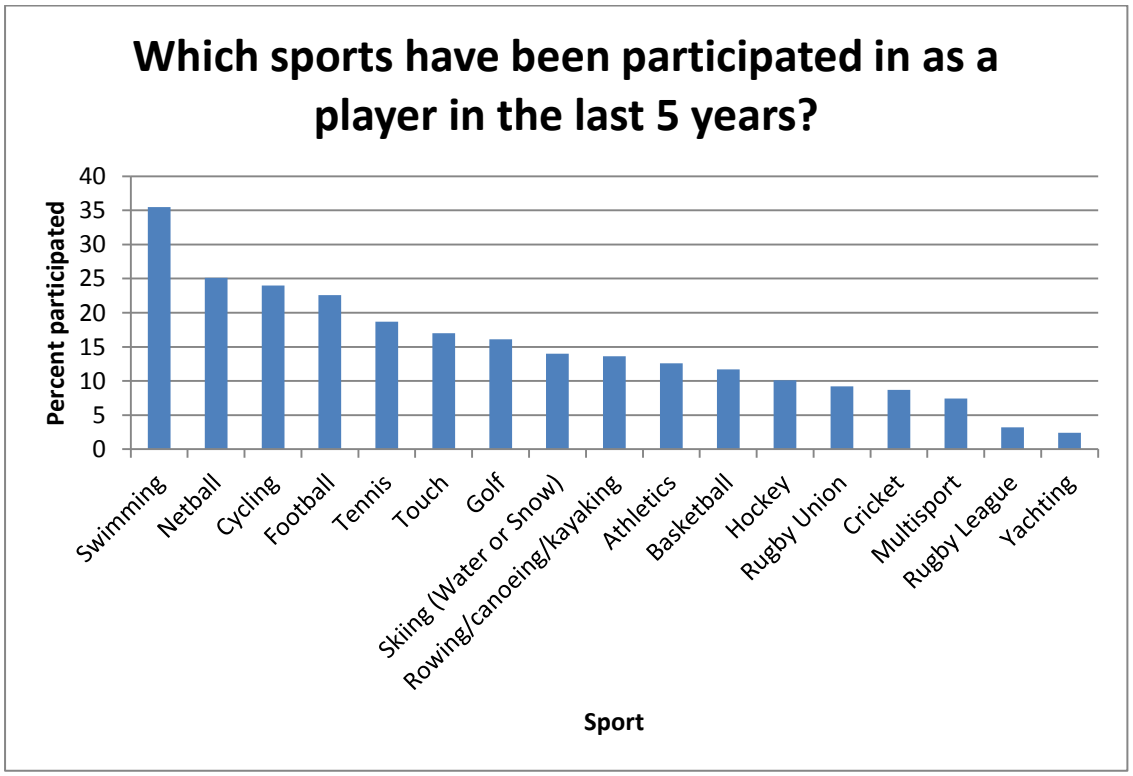

Figure 1. Participation in sport

For a main sport, nearly 40% of respondents indicated a sport other than the sports stated on the questionnaire. Sport participation is diverse. However, there is also some ambiguity of what a sport is, with many respondents indicating responses of exercise or activity, but not necessarily considered a sport, such as gym, walking, yoga, or other dancing.

Three other highly participated sports not prelisted on the questionnaire included running, badminton and volleyball. The questionnaire targeted students of a tertiary institution that forms a significant proportion of the city population, so the situation particular to these students has likely impacted on the sample and responses. The targeted population includes a large number of international students, including Indian and Chinese, and as such badminton is popular with these students. Volleyball is also popular, particularly as the tertiary institution has a volleyball net set up on the centre grass area ready for students to play, of which there is regular playing of volleyball during the day.

When individuals were asked who introduced them to their main sport, family and friends were overwhelmingly the dominant influences. These results are consistent with other studies of sport participation. Other introductions were almost unanimously 'their self'.

Who introduced you to your main Sport?	Response Percent
Family	41.7%
Friends	34.3%
School/teachers	17.7%
Other	6.4%

Table 1: Introductions to sport

Once individuals were introduced into their main sport, the majority (68.5%) continued to partake in that main sport for more than four years and the majority had previously played the sport at school (65.5%). The data of who introduced respondents to the sport was further disaggregated by the number of hours per week the respondent participated in sport. Of the respondents 22% indicated they are not a player, thus once played, 33% indicated they spend up to 2.5hrs a week playing, 27% spend between 2.5hrs and five hours a week playing and 17% spend more than five hours a week playing. The results are graphed below, with the way people were introduced to sport having little impact on how many hours they currently participate per week. School and teachers are the exception compared to other introductions, which had proportionately more respondents participating less than 2.5 hours per week, and proportionately less respondents participating more than 2.5 hours per week. The impact of school and teachers introducing respondents to the sport results in the individuals participating in sport fewer times per week than those who had other forms of introduction.

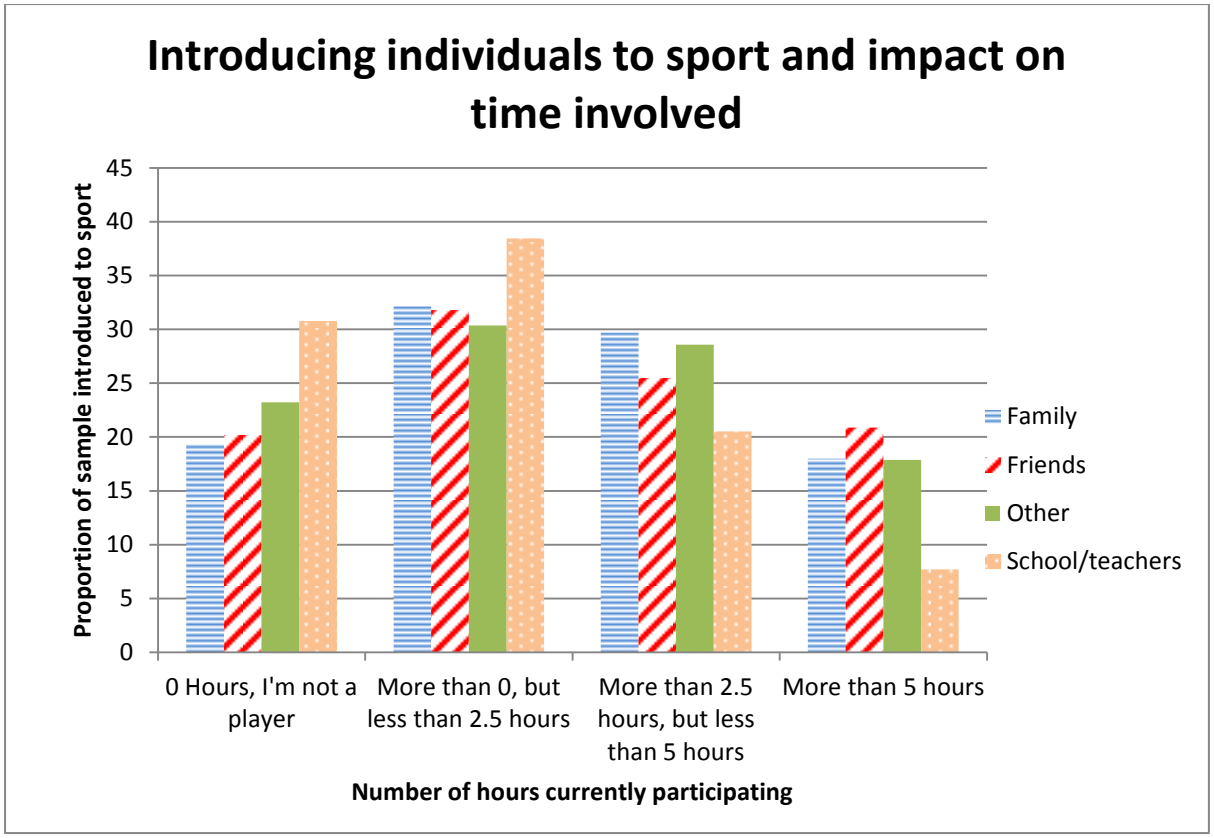

Figure 2: Introductions to sport and impact on time involved

Nearly half (45%) of respondents indicated an intermediate level of skill. The distribution of respondents according to skill level appears normally distributed. Few respondents declared themself as expert. Few individuals declared no skill.

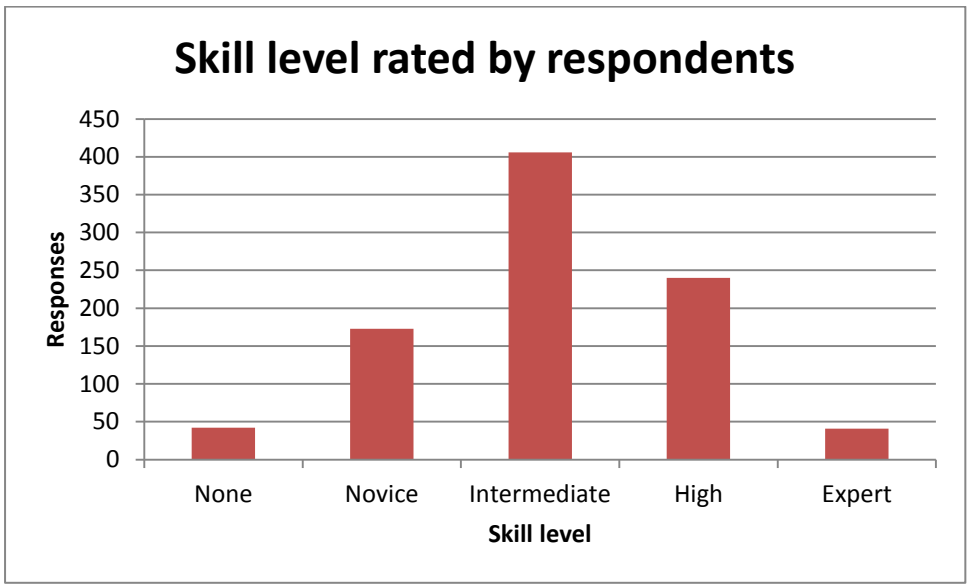

Figure 3: Skill level

Further analysis investigation of skill level and participating hours per week was undertaken. The results show more hours participated in per week correlated with higher skill level. Experts tend to

spend more than 2.5 hours per week participating. Intermediate skill levels tend to spend less than 2.5 hours per week participating and few participate in more than 2.5 hours per week. Those at a novice level do not play or spend less than 2.5 hours participating.

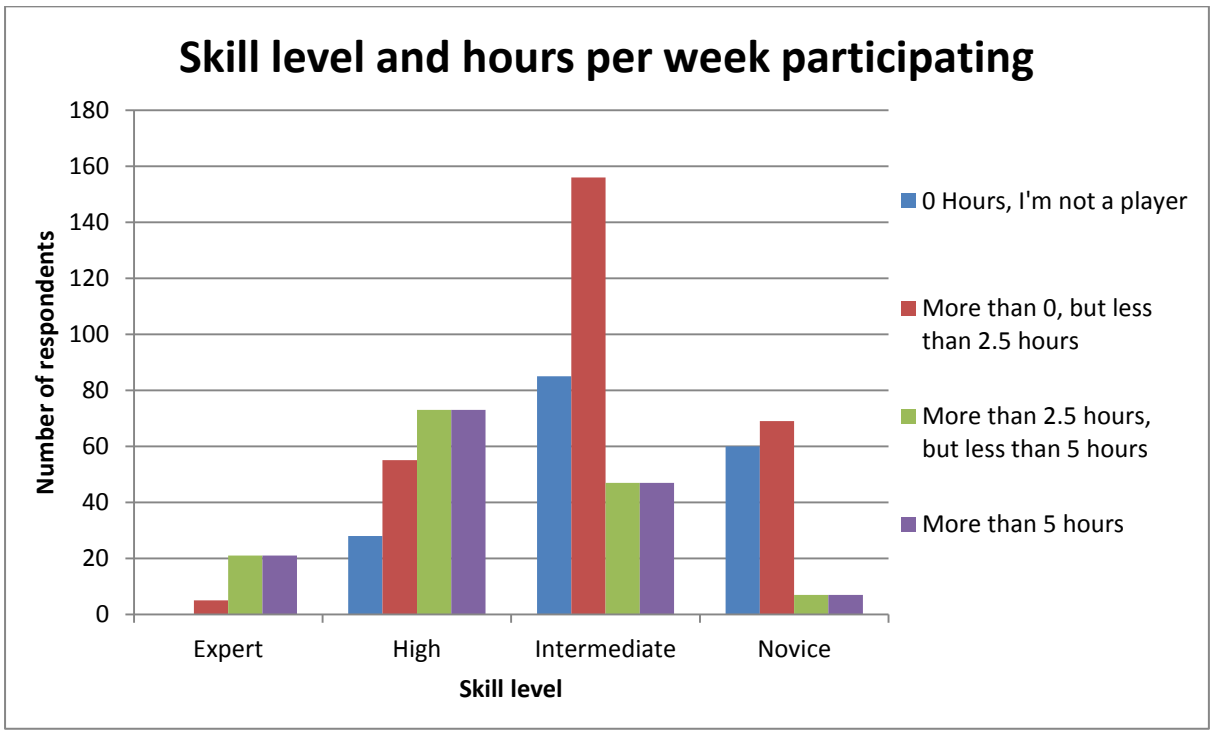

Figure 4: Skill level and hours participating per week

4.2.2 Transition

One of the difficulties when comparing published research of questionnaire surveys has been that different questions have been asked of youth and adults in the general population. While questionnaires for adults often ask what sports or activities have been participated in the last 12 months or five years, questionnaires for youth frequently ask for participation in the last 4 weeks. Both these questions were asked in the current survey and the results are presented below.

Consequently, participation is much greater when asked over longer time periods of 12 months or five years rather than over four months. The pattern of sports with greatest participation levels and lowest participation levels still generally occurs for participation over five years as for four weeks. However, some sports do differ, such as netball, with a sport season that tends to finish in August and tennis and touch that do not begin until the warmer months after August in New Zealand. Caution needs to be exercised when questionnaires ask about participation or activity in the last four weeks.

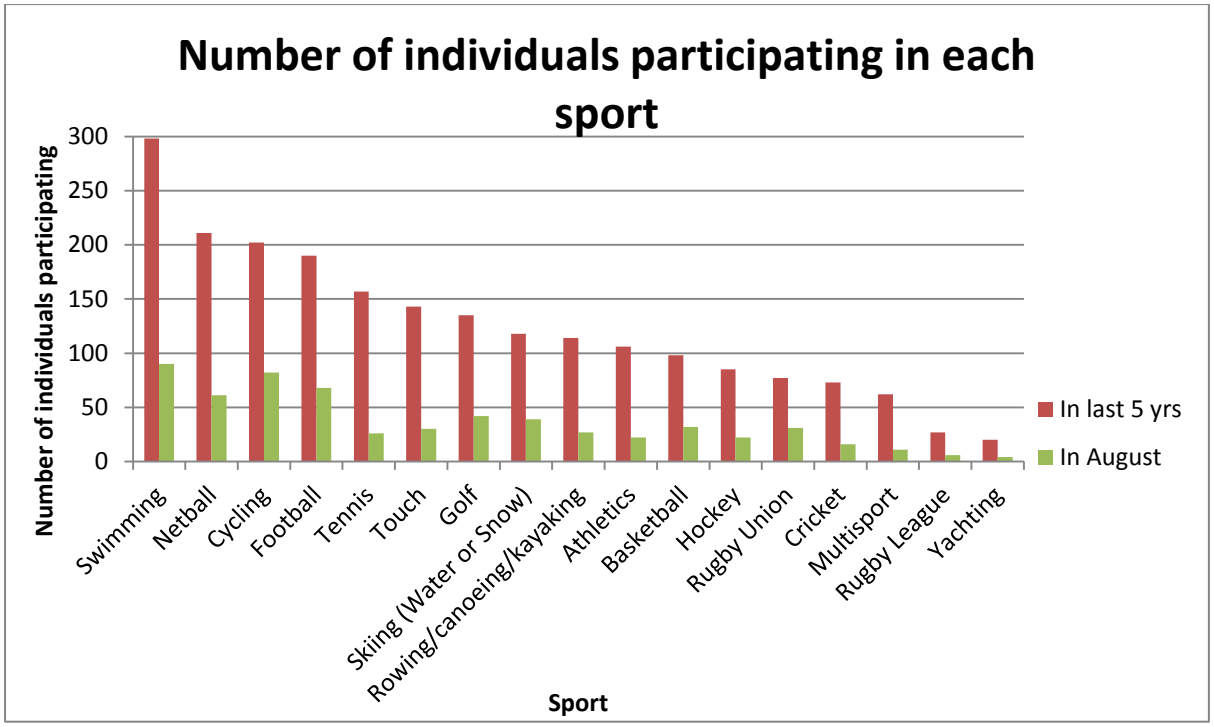

Figure 5: Participation in sport

The majority (68.5%) continued to partake in their main sport for more than four years, and 65.5% had previously played the sport at school. Only 26.2% of the respondents belonged to a club.

The transition from playing formalised sport in school has not continued with the individual joining formally organised sport clubs. Of those who belong to sports clubs, 72.7% played the sport at school. Clubs have not fully captured those who played the sport at school, and clubs have not captured those who are interested in sport that had not played it previously. Age has no impact on club membership with club membership consistent at 24% to 30% in all age groups under 16, 17-20, 21-26, 27-30, and over 30.

Survey responses of club membership were also disaggregated by sport code. The result is in the following graph. The proportion of participants who were club members was also calculated, and that proportion is an index refered to as a club proportion (CP). The CP indexes are also below.

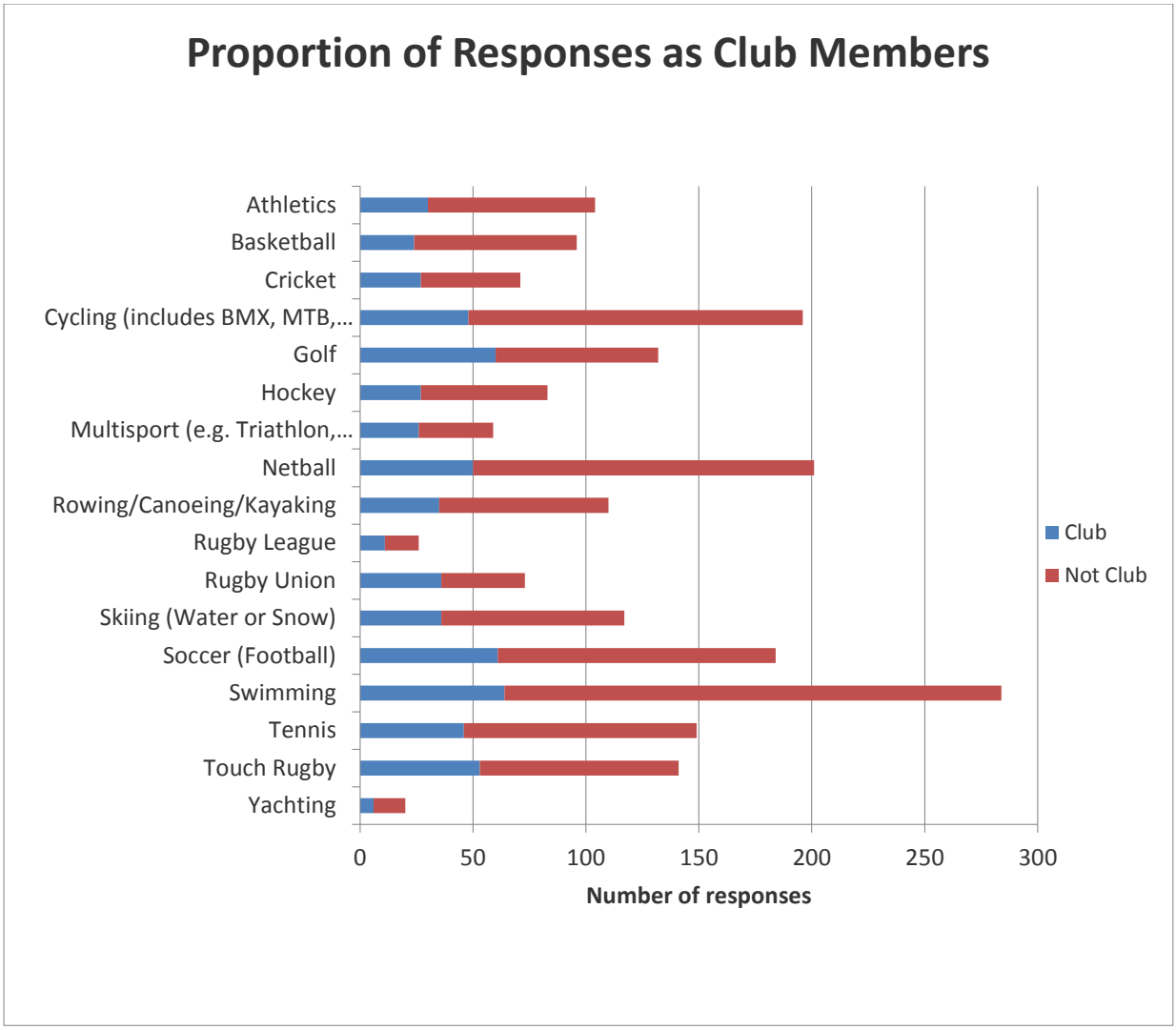

Figure 6: Proportion of participants as club members

Rugby union had the highest CP index with nearly 50% club members. High club membership also occurred for golf, multisports and rugby league. The sports with low club memberships were swimming, cycling, netball and basketball.

	CP index
Yachting	0.300
Touch Rugby	0.376
Tennis	0.309
Swimming	0.225
Soccer (Football)	0.332
Skiing (Water or Snow)	0.308
Rugby Union	0.493
Rugby League	0.423
Rowing/Canoeing/Kayaking	0.318
Netball	0.249
Multisport (e.g. Triathlon, Duathlon)	0.441
Hockey	0.325
Golf	0.455
Cycling (includes BMX, MTB, Road or Track)	0.245

Cricket	0.380
Basketball	0.250
Athletics	0.288

Table 2: Club participation members as proportion

The time questionnaire respondents devoted to playing sport was spread across the range of 0 hours per week to more than 5 hours per week with most spending less than 2.5 hours participating in sport on a weekly basis. See the graph below.

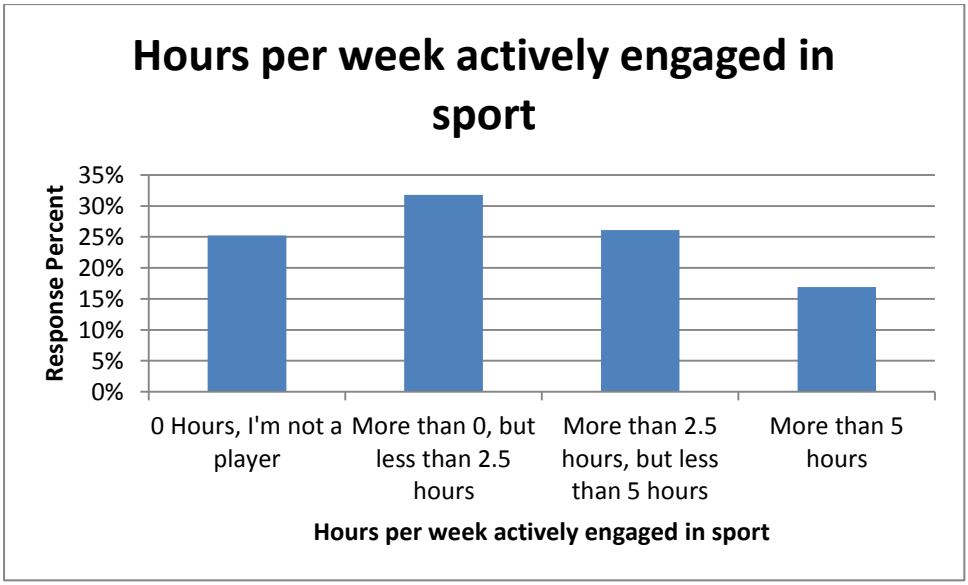

Figure 7: Hours of week engaged in sport

The number of days in a week engaged in competitive sport is below. The majority of respondents undertook participation one or two days a week with a small minority participating between five and seven days per week.

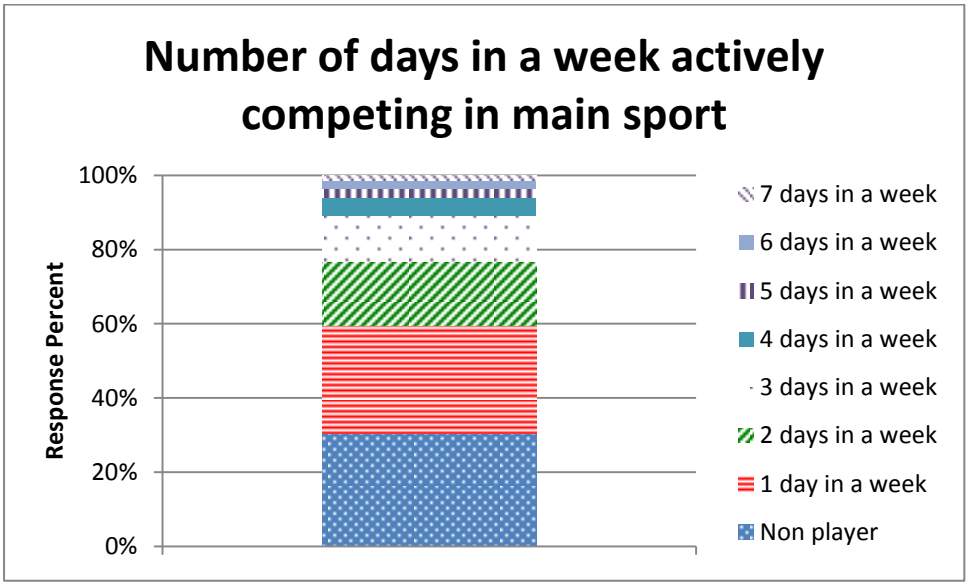

Figure 8: Days in a week competing in sport

The number of hours participating in sport was compared with the employment hours. The distribution of hours participating was consistent for those not employed, employed part time and employed full time. There is little impact of employment on time spent participating in sport. Those respondents not employed had a slightly higher proportion not playing sport at all. See the graph below.

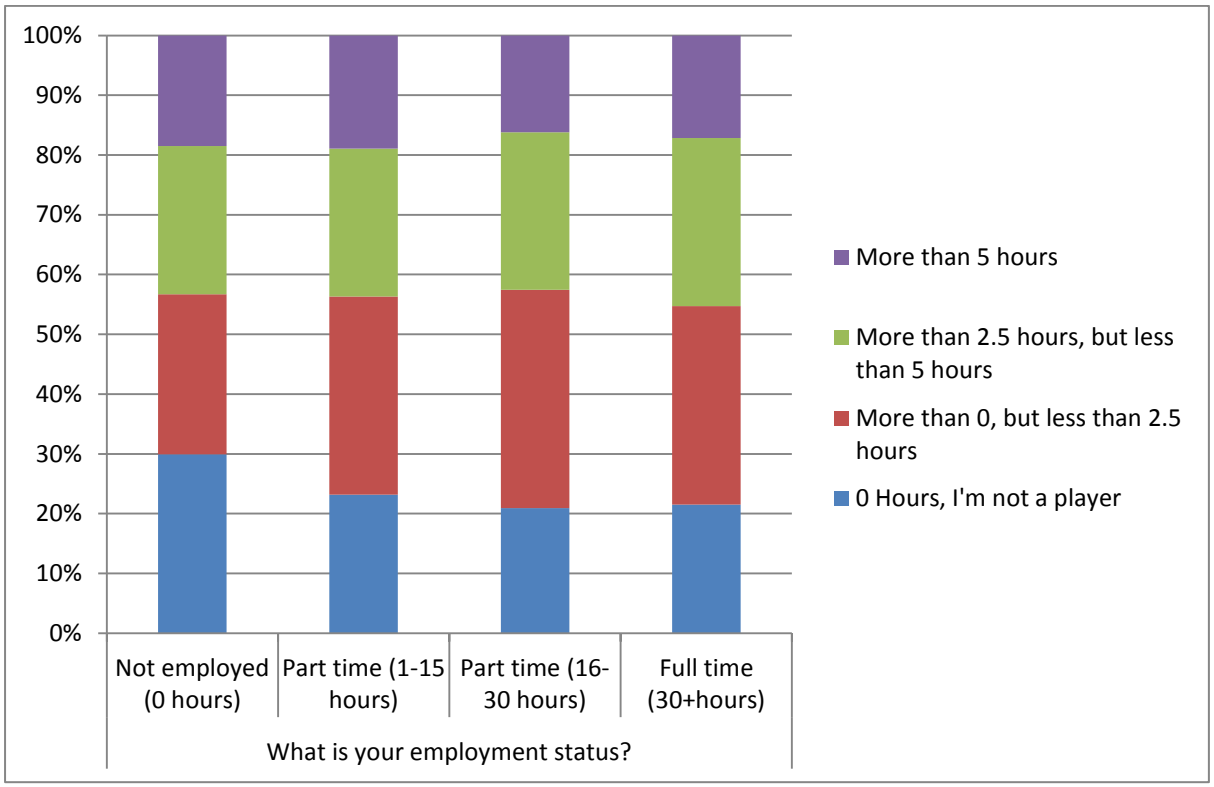

Figure 9: Employment status and sport participation hours in a week

The number of days in a week participating were compared to employment status. The results of participation days in a week and employment are similar to participation hours a week and employment above. However, the extremes of a large number of days participating and few days participating provided some differences.

Full time employed and those working more than 16 hours a week had smaller proportions of respondents participating in sport for 5 or more days a week compared to those employed fewer than 16 hours. A hypothesis drawn from this result is that the more time employed, the less time is available for sport participation. This phenomenon is referred to here as time availability or substitution effect.

Those not employed were active over more days proportionately than other employment groups. Also, those not employed compared to other employment groups had a higher proportion participating in days per week. The situation of no employment and no sport participation is here referred to as a de-motivational effect. The lack of activity in one of employment or sport correlates

with a lack of engagement in the other activity. A lack of finance or motivation may be contributing factors.

Employment has had little impact on sport participation days per week, other than the extremes of no participation and high number of days participating in sport. A de-motivational effect is found with no sport participation, and a substitution effect is found for five or more days participating in sport.

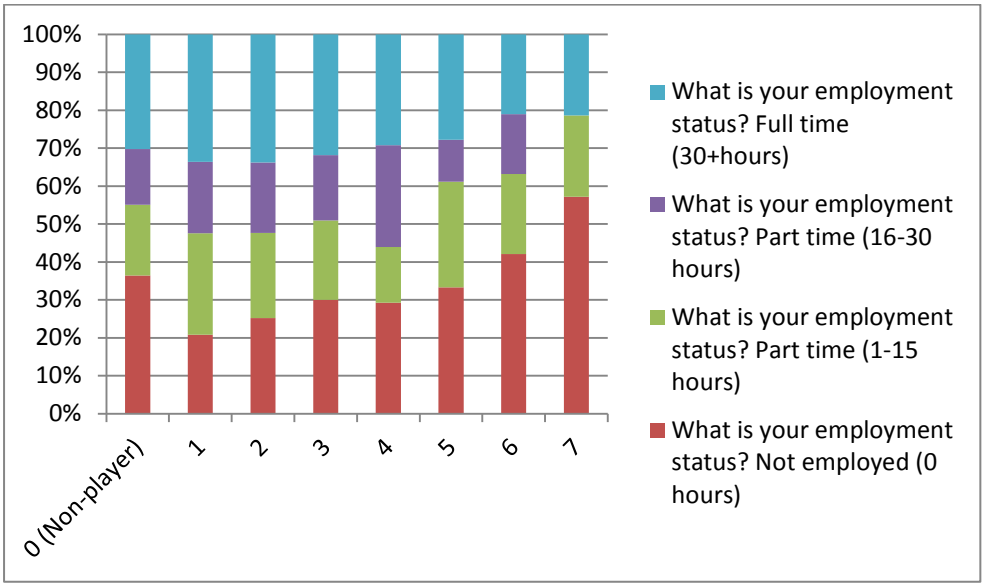

Figure 10: Employment and sport participation days in a week

Respondent age and amount of participation in sport were compared. As respondents age, there is proportionately fewer respondents participating in sport for more than 2.5 hours a week than those respondents participating in sport for less than 2.5 hours a week. A particular anomaly to this trend is the school leaver age group of 17-20 years that has a proportionate increase in the respondents participating in more than five hours a week. This age group also has a proportionate increase, compared to other age groups, in participation of more than three days a week.

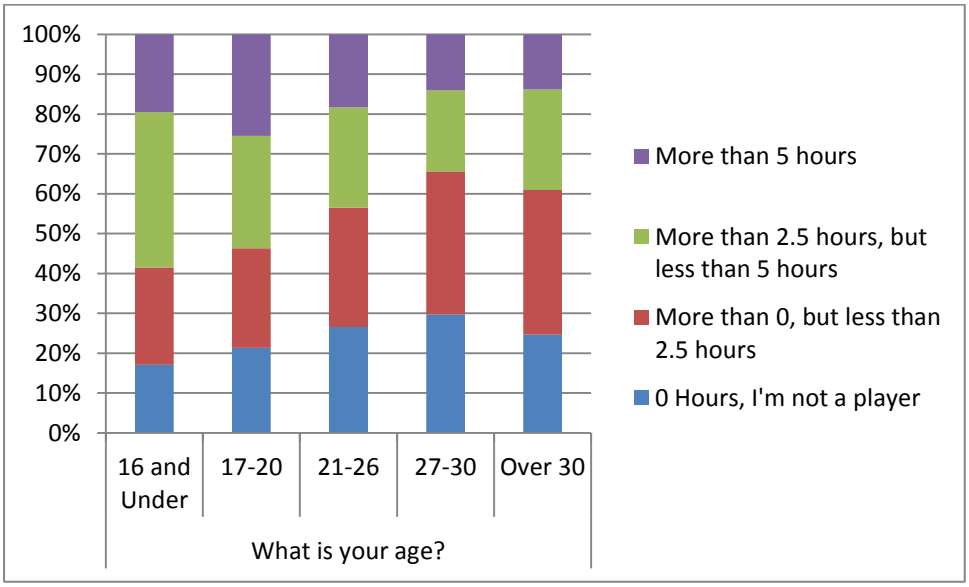

Figure 11: Age and sport participation hours in a week

The number of dependents and hours of sport participation were compared. The proportion of respondents participating in more than five hours per week decreases with an increase in dependents. The proportion of respondents not participating in sport also increases with an increase in the number of dependents. The more dependents the fewer hours are spent participating in sport. Dependents appear to impact on time spent participating. This pattern is most evident at the extremes of more than five hours per week participating. The pattern is less salient for the impact dependents have on the number of days in a week spent participating.

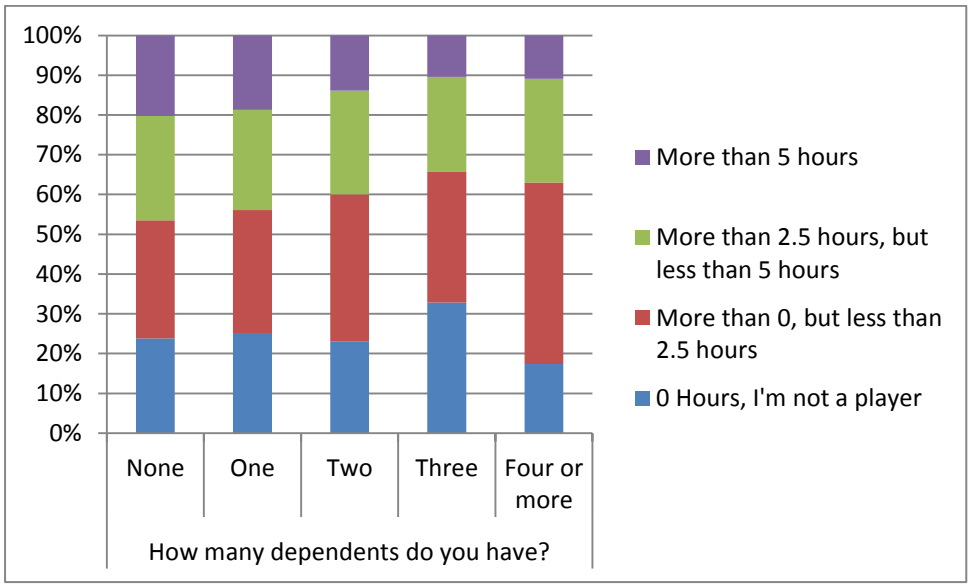

Figure 12: Number of dependents and sport participation hours in a week

The number of hours participating in sport and studying status was compared. The number of hours participating is consistent across full time studying, part time studying and those not studying. There appears to be no impact of studying on sport participation on hours in a week. The lack of impact of studying on participation is also non-existent when comparing days in a week with studying.

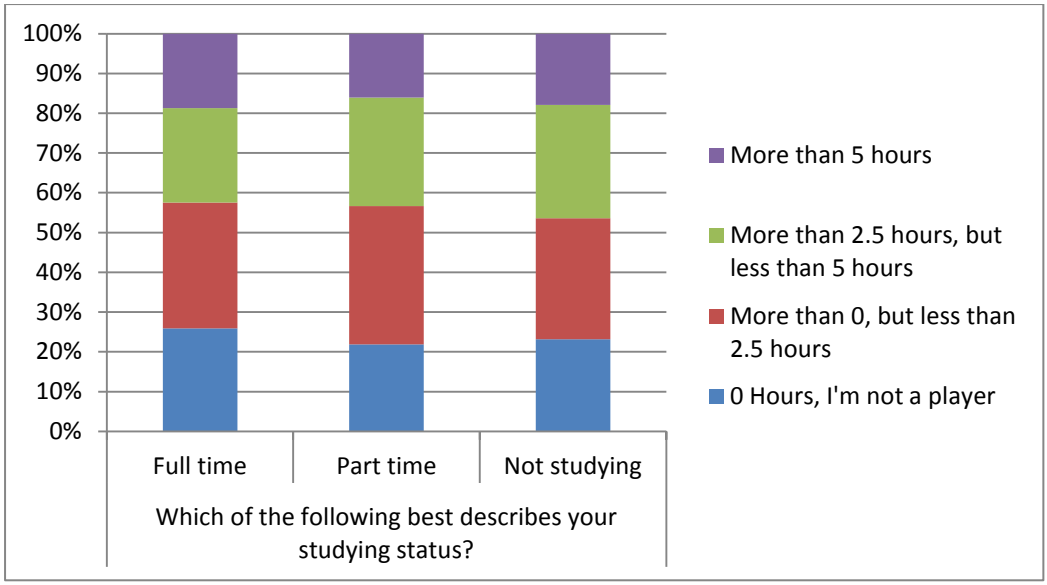

Figure 13: Studying status and sport participation hours in a week

Marital status and hours in a week participating in sport were compared. High proportions of single respondents participated in 2.5 hours or more of sport a week compared to married respondents. Married respondents had higher proportion participating in less than 2.5 hours of sport a week compared to single respondents. Single respondents spend proportionately more time participating in sport than most other groups.

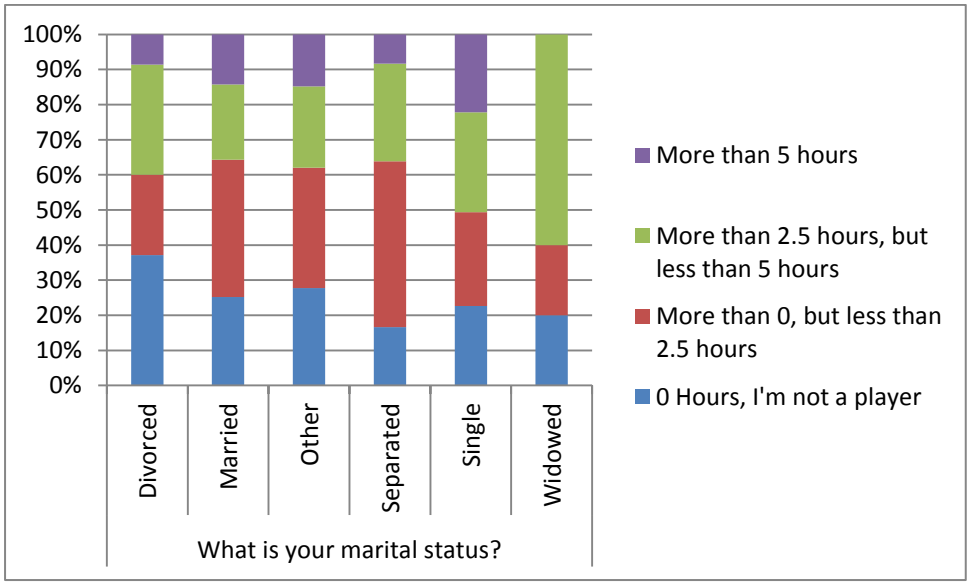

Figure 14: Marital status and sport participation hours in a week

The factors above were then compared using correlation analysis. Correlation analysis compares the change in the factor with the change in participation. Three measures of participation were used, the participation hours in a week, participation days in a week, and participation days in a week the previous year. The results are presented below. All correlation coefficient values appeared low, so no factor appeared to have large correlations with participation. Almost all the coefficients of participation were consistent whether participation was hours per week, days per week or days per

week the previous year. The coefficients of participation hours in a week were larger than the participation days in a week.

Correlation coefficients

	Age	*Gender*	*Married*	*Single*	*Divorc-ed*	*Separ-ated*	*Other*	*De-pendents*	*Employment hours 0<40*	*Studying hours 0<40*
Participation (hours per week)	-0.13	0.10	-0.09	0.14	-0.04	-0.03	-0.05	-0.08	0.02	-0.03
Participation (days/week)	-0.07	0.04	-0.06	0.10	-0.04	-0.03	-0.05	-0.05	-0.03	0.01
Participation (2011: days/week)	-0.07	0.04	-0.08	0.13	-0.02	-0.03	-0.06	0.01	-0.02	0.00

Table 3: Correlation coefficients of factors impacting sport

The coefficients confirmed the priors that the higher the age the less sport participation, males tended to participate more than females, married respondents participated in sport less than other marital status groups and single respondents participated more than other marital groups. The coefficients also confirmed the more dependents the less sport participation, and employment and studying had negligible correlation with participation. The demotivation effect and substitution effect would cancel any impact of employment in correlational analysis.

Other additional findings from the correlation analysis found that those with dependents tended to be married and be older than those respondents with fewer or no dependents.

4.2.3 Withdrawal

A question in the survey required respondents to indicate their commitment to sport. The result shows that 60% (32.5% + 28.1%) of individuals may be prone to allowing other things to replace sport participation, while nearly 40% (28.8% + 10.7%) would be expected to resist giving the sport up and may prioritise sport over other activities. The results are below.

How would you feel if you had to give up this sport?	Response Per cent
I'd find something else just as enjoyable	32.5%
I'd miss it, but not as much as other things I do	28.1%
I'd miss it, more than most things that I do	28.8%
I'd miss it more than any of the things I do now	10.7%

Table 4: Feelings to withdrawal of sport

The responses of commitment to sport were disaggregated by age group. The older age groups would tend to miss sport less and they would find something else just as enjoyable compared with

the younger age groups. The difference in missing sport for the older age groups is most salient comparing the over 30 age group with the under 16 age group and becomes apparent from 21 years to 30 years. This result supports life stage models as age, due to biology or expectations, impacts on participation.

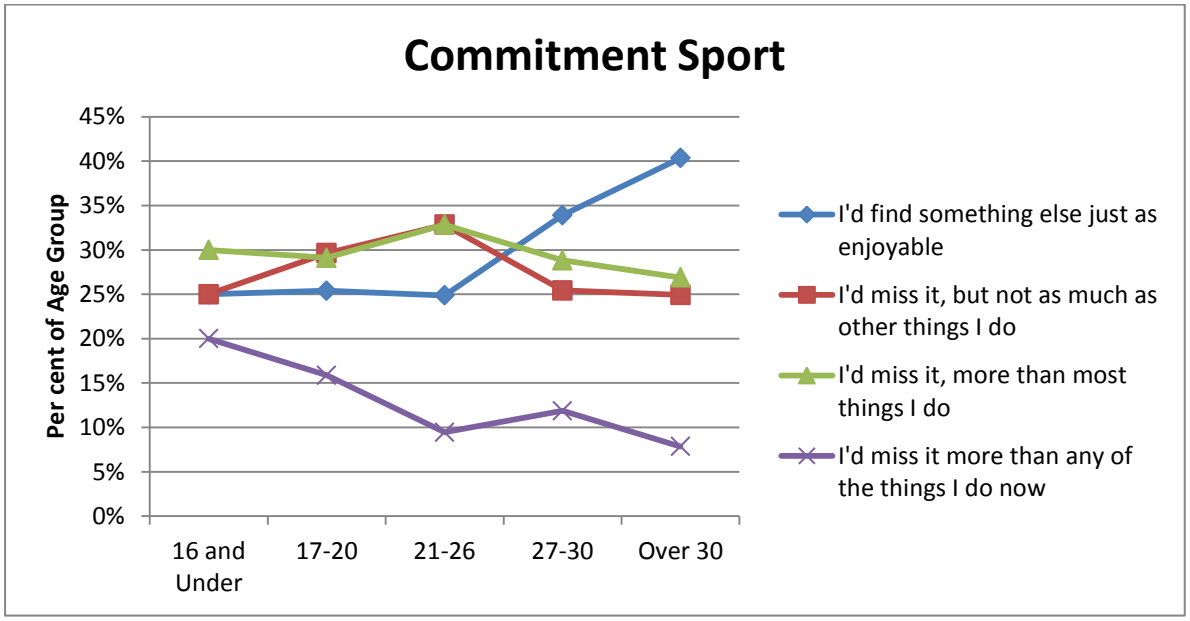

Figure 15: Age and commitment to sport

The impact other areas of life have affecting involvement in sport is presented below. Over 46% (27.9% + 18.4%) responded that other areas of life often or very often impact on sport. While this is expected if individuals are frequently involved in sport, less than 24% of respondents were involved in sport for more than two days per week.

Frequency of other areas of life such as work, family, or other activities affecting involvement in sport.	Response Percent
Not at all	11.4%
Not often	20.9%
Neutral	21.4%
Often	27.9%
Very often	18.4%

Table 5: Impacts on involvement in sport

The impact of other areas impacting on involvement of sport was disaggregated by age group. In the 16 and under age group, often and very often was responded to less compared with not often, while in the 27 and older age groups, often and very often was responded to more than not often. The impacts of activities affecting involvement becomes often and very often with increasing age, while the impact of activities not affecting involvement or not often affecting involvement decreases with increasing age. The results can be seen on the two graphs below indicating actual response numbers followed by proportions.

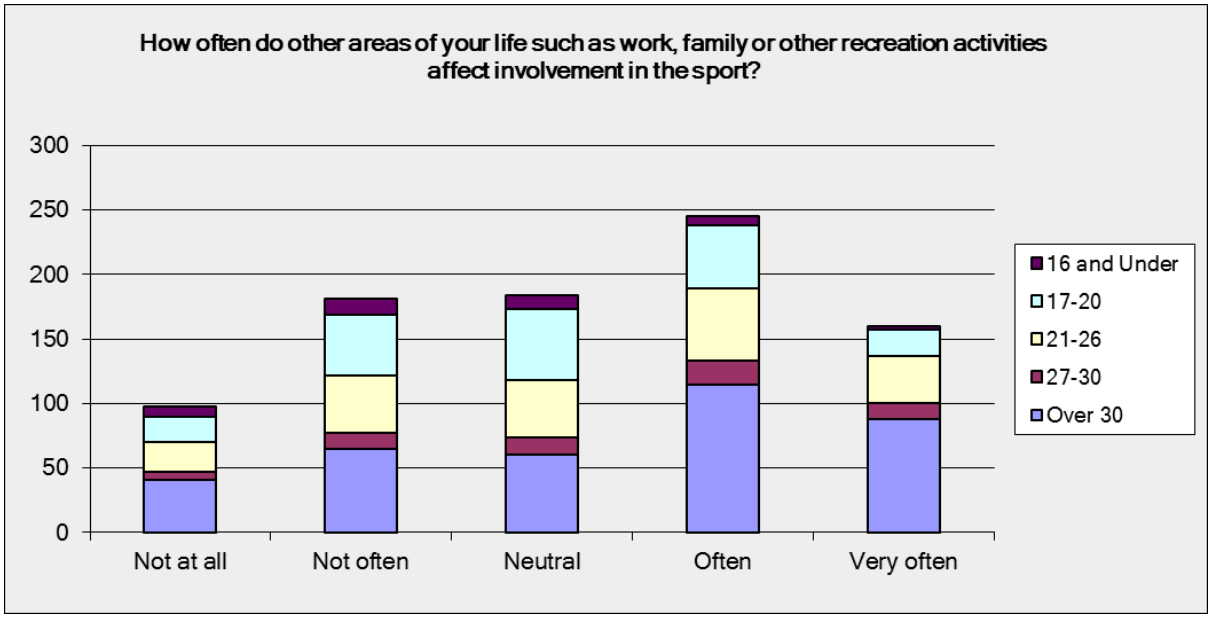

Figure 16: Impacts on involvement in sport

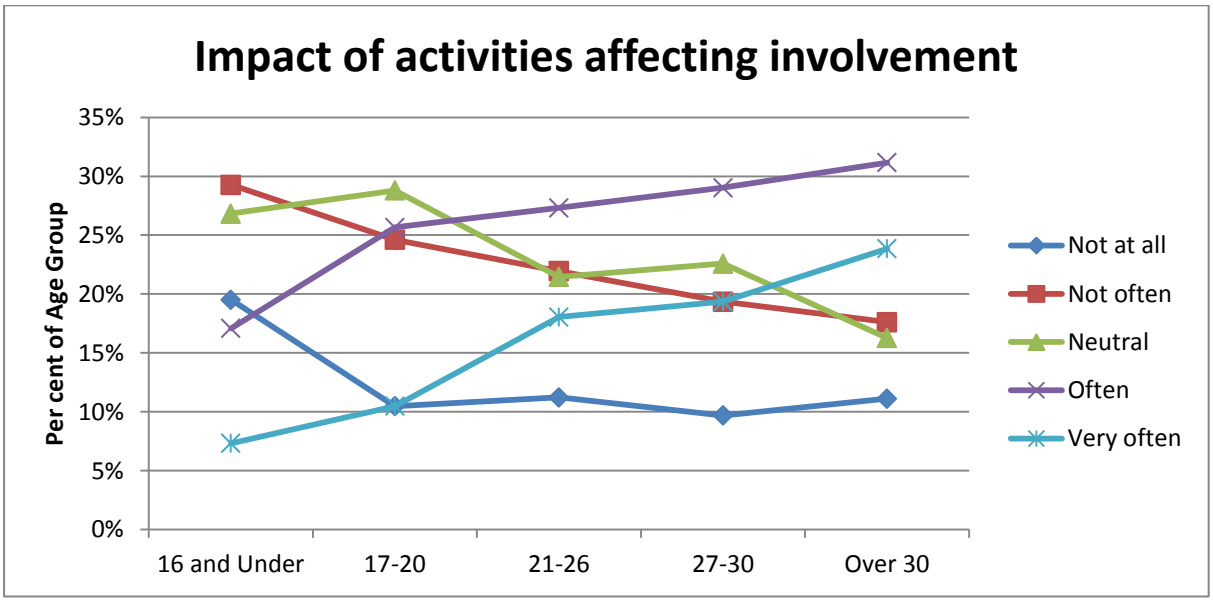

Figure 17: Impacts on involvement in sport for age groups

Sport code participation was analysed for all age groups and presented below. The proportion of responses participating in swimming, cycling and golf increases with age. These are individual sport codes. Reasons for individual sport participation could include being less social or less formally organised.

The proportion of netball participation responses decreases in the over 30 age group. The proportion of participation decreases for touch, football, and basketball for age groups 27 and above. The proportion of responses for rugby union decrease from the 17 year age group and above. These sport code decreases are for team sport codes.

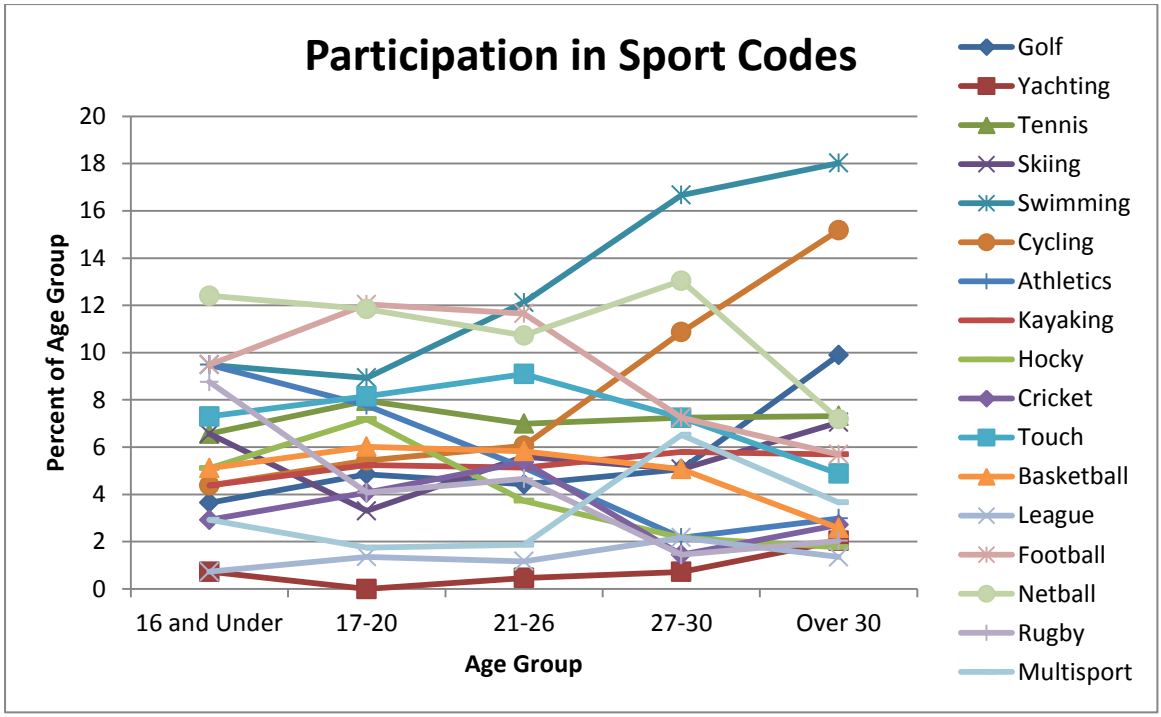

Figure 18: Participation in sport codes

Respondents were asked for the number of days in a week participating in sport in the current year and the previous year. These two sets of responses were compared. Respondents have generally decreased the amount of competitive sport participation. The number of people engaged in sport for three or more days a week decreased from the previous year while the number of people not engaged in sport or engaged in sport one day a week increased from the previous year. Generally there has been a decrease in the involvement in sport per week. See the graph below.

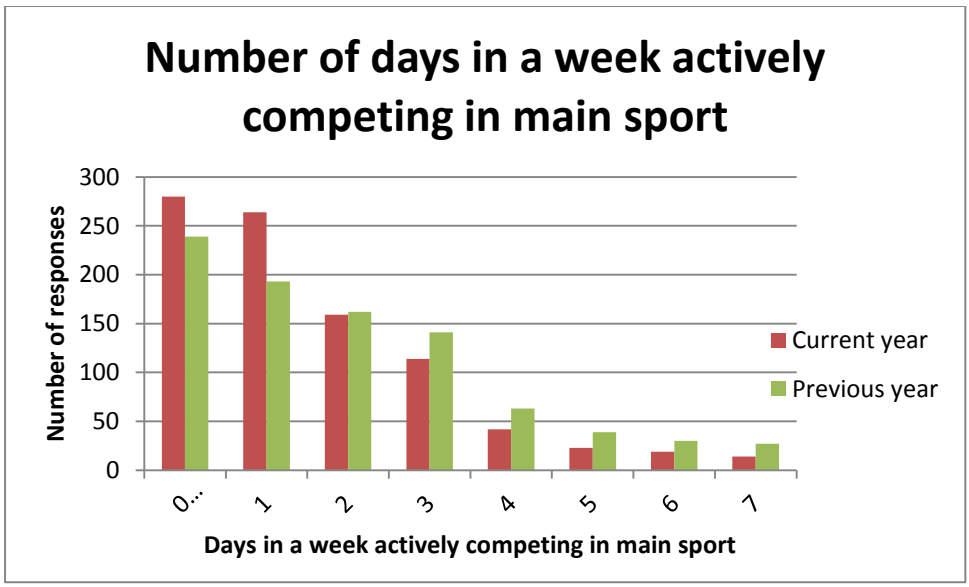

Figure 19: Number of days a week actively competing in main sport

Respondents were asked whether they had decreased the amount of participation since the previous year. Compared to the previous year, 60.8% of individuals believed that they had decreased the amount of time spent actively involved in their main sport. The results were then disaggregated into age groups and are presented below. The 16 and under age group were the least likely to answer that they had decreased participation, with around 50% agreeing and disagreeing equally that they had decreased participation. For all other age groups, the proportion agreeing that they had decreased participation was in excess of those disagreeing. The 17-20 age group had proportionately more individuals responding that they had decreased the amount of participation since the previous year compared to other age groups.

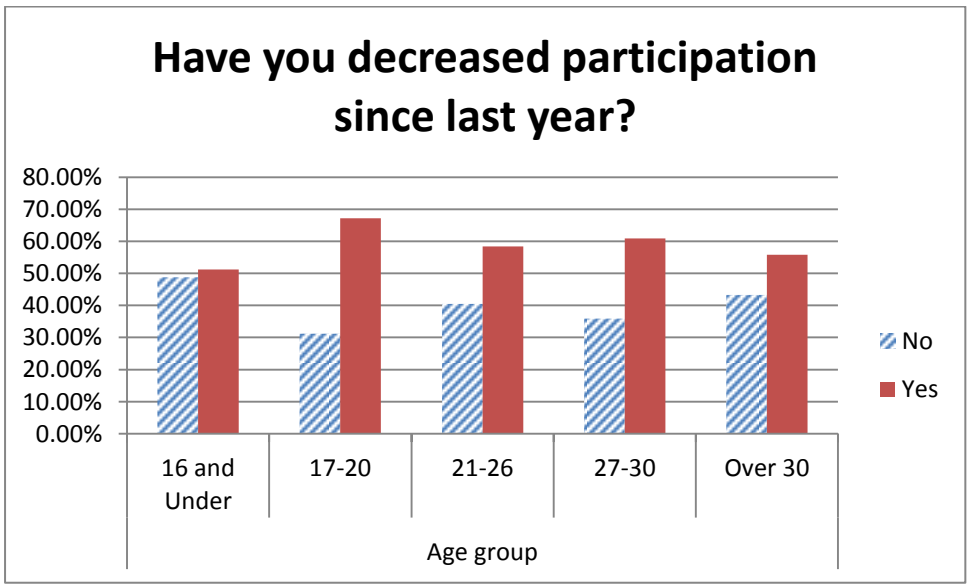

Figure 20: Perceived decreased participation according to age

Individuals were also asked about the actual amount of time spent participating in the current year and the previous year. The time spent participating was compared and checked for an actual decrease in participation. The actual results of decreasing participation are presented below. A decrease in participation rate decreases with age. These results differ to the actual question response above. The different results between the actual question and actually comparing participation rates maybe as a result of a decrease in participation less than that portrayed by respondents, especially in the 17-20 year age group.

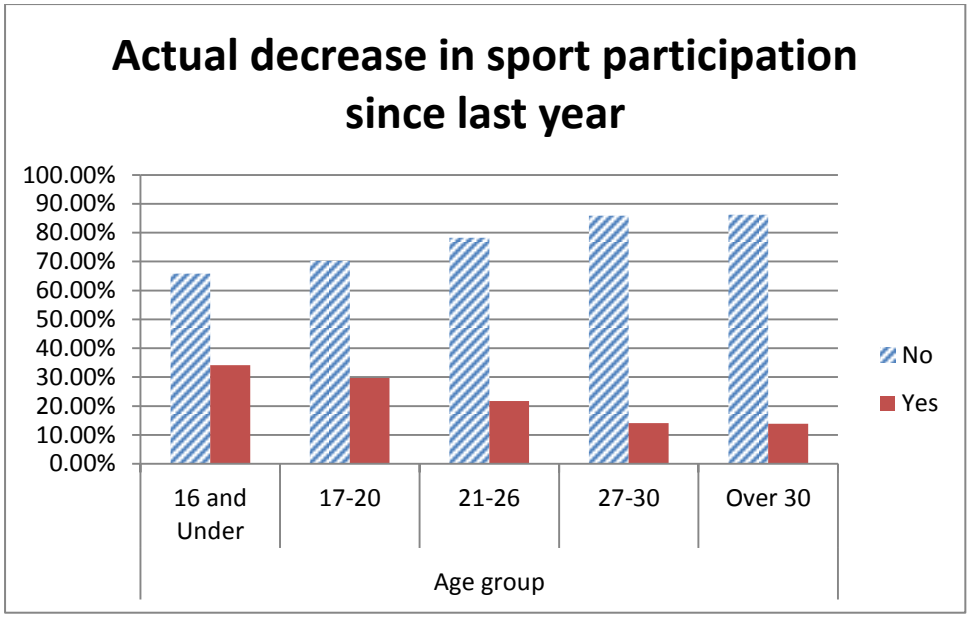

Figure 21: Actual decrease in sport participation according to age

The relevant factors impacting on decreased sport involvement were asked in the questionnaire survey. Those individuals that indicated they had decreased the amount of time spent actively involved in their main sport were further asked the importance particular factors had in reducing involvement. Work and study clearly appeared as the most significant factors impacting on the reduction of sport involvement. These two factors were the only factors that averaged with a relevant score (above neutral, 4). The other factors averaged an irrelevant score. Other than the pre-set factors, 51 individuals provided other factors or descriptions of their choices. One of the significant factors stated in other factors was child commitments. Of the respondents, 42.5% had dependent children. No responses reported reduction in sport involvement due to intensity of competition or coaching so does not appear to be due to the 3-stage model of sampling, specialising, investing as proposed by Silva III & Stevens (2002).

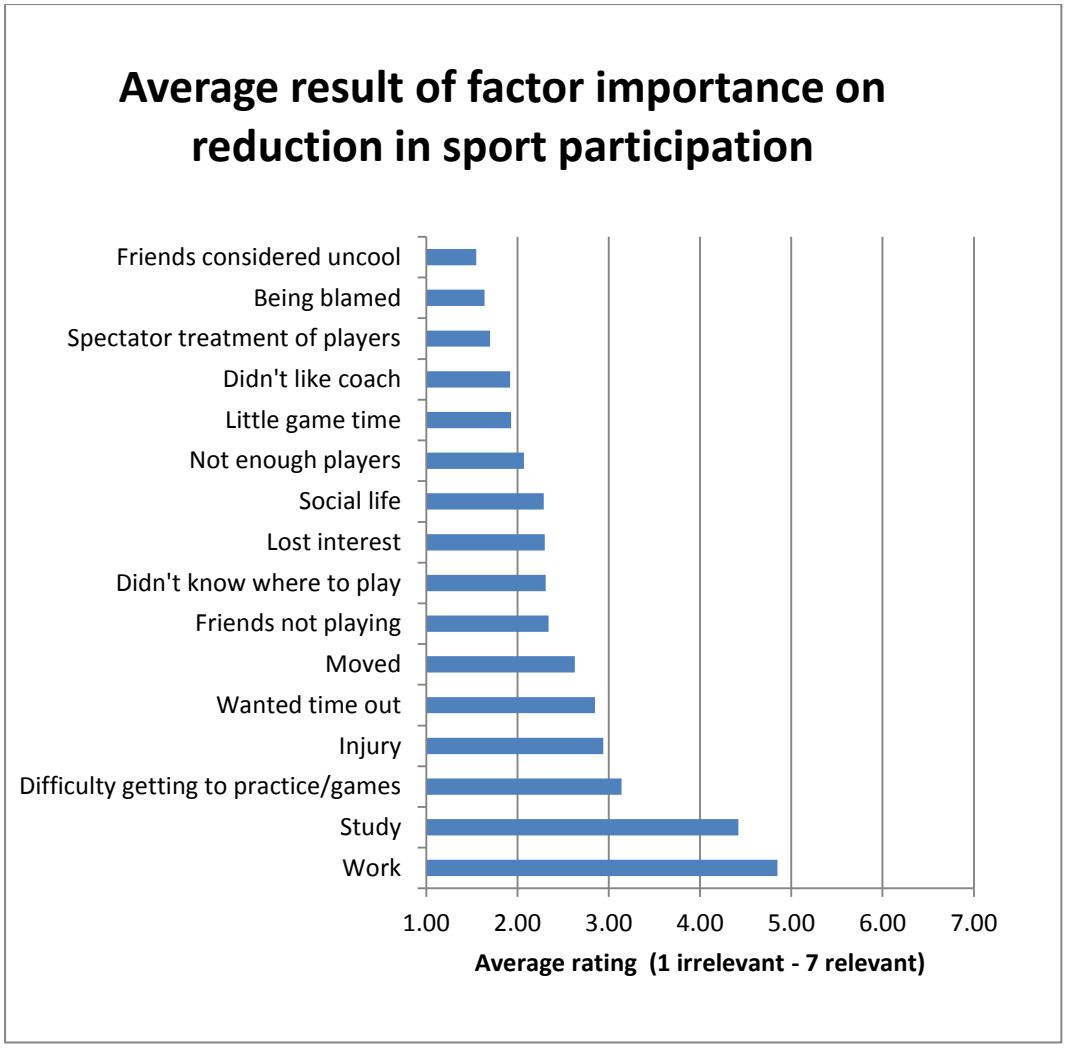

Figure 22: Importance of factors reducing sport participation

Further analysis of individual factors was undertaken. The result of the analysis is below for each pre-set factor. The results are consistent in the ranking of most important to least important. Other relevant factors include injury, travel, lost interest and time out. Additionally 'time out' is the most neutral response. Uncool, blame and spectator treatment were the least relevant to sport participation.

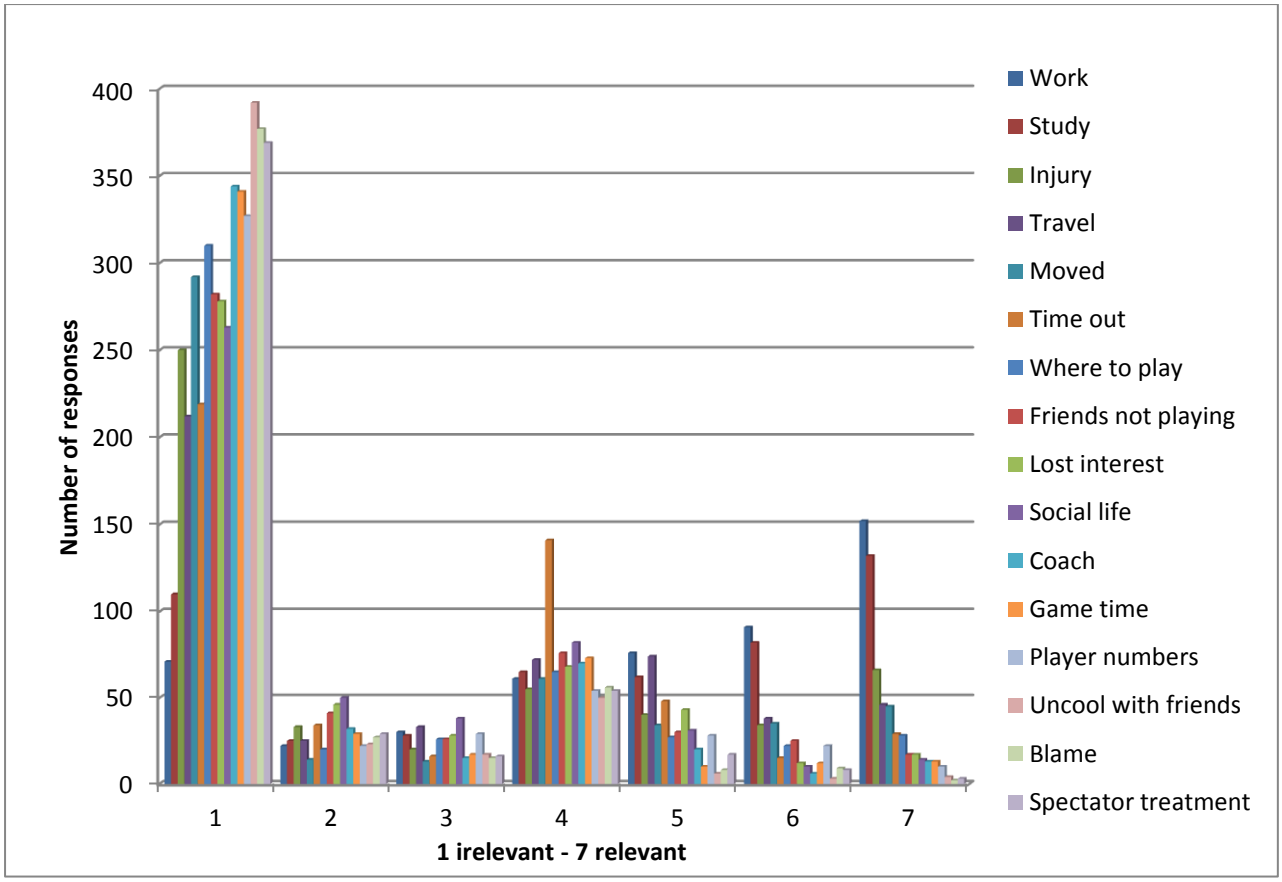

Figure 23: Relevance of factors impacting sport participation

Factors contributing to reduction in participation were further analysed according to age group. The results according to age group are below.The highest overall relevant factor of work appears to increase with age. The increase in age increases the relevance of work impacting on sport participation. For the school age group of 16 and under, the respondents report less importance than other age groups for the factors of work and study, while more importance on factors of injury, lack of players, game time, coach and team mate blame. For the school leaver age group of 17-20 years, study appeared the most relevant to impact sport participation followed by work. The school leaver age group of 17-20 years rated knowledge of where to play and the impact on social life as more relevant than other age groups.

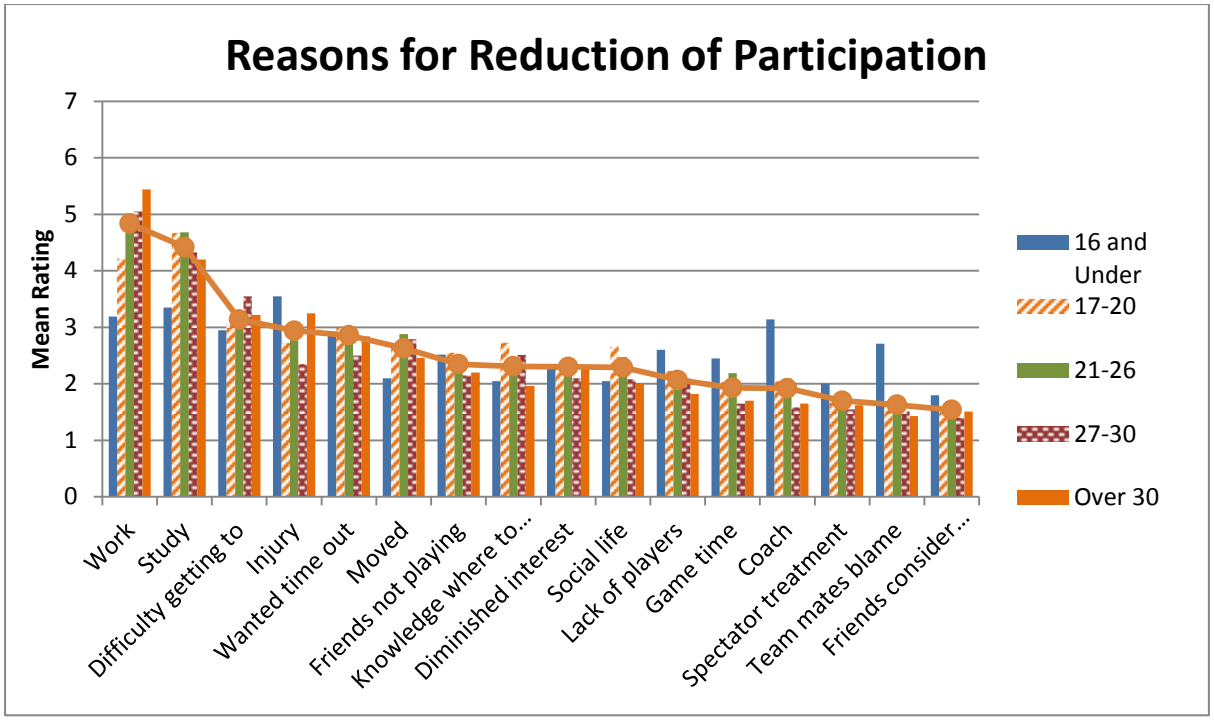

Figure 24: Reasons for reduction of participation

The factors relevant to decreasing participation above could further be disaggregated by studying status, and employment status, number of dependents and marital status.

5.0 Bibliography

Allender, S., Cowburn, G., & Foster, C. (2006). Understanding participation in sport and physical activity among children and adults: A review of qualitative studies. *Health Education Research, 21*(6), 826-835.

Australian Bureau of Statistics. (2007). *Motivators and Constraints to Participation in Sports and Physical recreation.* Report prepared for the Standing committee on Recreation and Sport Research Group.

Bartholomew, K. J., Ntoumanis, N., & Thogersen-Ntoumanis, C. (2009). A review of controlling motivational strategies from a self-determination theory perspective: Implications for sports coaches. *International Review of Sport and Exercise Psychology, 2*(2), 215-233.

Brettschneider, W. & Naul, R. (2004). *Study on young people's lifestyles and sedentariness and the role of sport in the context of education and as a means of restoring the balance.* Paderborn, Germany.

Chick, G., & Barnett, L. A. (1995). Children's play and adult leisure. In Pellegrini, A. D. *The future of play theory: A multidisciplinary inquiry into the contributions of Brian Sutton-Smith.* New York: State University of New York Press.

Collins, M. (2004). Driving up participation: Social inclusion In Rowe, N. (Ed), *Driving Up Participation: The Challenge for Sport*. London: Sport England.

Cote, J. (1999). The influence of the family in the development of talent in sport. *The Sport Psychologist, 13*, 395-417.

Department of Sport and Recreation, RSA. (2005) *Participation patterns in sport and recreation activities in South Africa Survey.*

Eagleton, J. R., McKelvie, S. J., & De Man, A. (2007). Extra version and neuroticism in team sport participants, individual sport participants, and nonparticipants. *Perceptual and Motor Skills, 105*(1), 265-275.

Gill, D. L., & Williams, L. (2008). *Psychological Dynamics of Sport and Exercise* (3rd ed.). Champaign: Human Kinetics.

Glenmark, B., Hedberg, G., & Jansson, E. (1994). Prediction of physical activity level in adulthood by physical characteristic, physical performance and physical activity in adolescence: an 11-year follow-up study. *European Journal of Applied Physiology and Occupational Physiology, 69* (6), 530-538. Doi:10.1007/BF00239871

Godin, G., Valois, P., Shephard, R. J., & Desharnais, R. (1987). Prediction of leisure time exercise behaviour: A path analysis (LISREL V) model. *Journal of Behavioral Medicine, 10*(2), 145-158.

Gordon, B., & Hullena, V. (2008). Secondary schools provision of sport, recreation and physical activity opportunities: Students‘ beliefs and understandings. Retrieved http://www.heha.org.nz/assets/files/HEHA_conference/Stream_A/Secondary%20schools%20provision%20of%20sports,%20recreation%20and%20physical%20activity%20opportunities.pdf

Hamlin, M. J., & Ross, J. J. (2005). Barriers to physical activity in young New Zealanders. *Youth Studies Australia, 24*(1), 31-37.

Iso-Ahola, S. E., Jackson, E., & Dunn, E. (1994). Starting, ceasing, and replacing leisure activities over the life-span. *Journal of leisure research, 26*. Accessed online: http://www.questia.com/googleScholar.qst?docId=5000233540

James, J. D., & Ross, S. D. (2004). Comparing sport consumer motivations across multiple sports. *Sport Marketing Quarterly, 13*, 17-25.

Kay, T. (2004). The family factor in sport: A review of family factors affecting sports participation In Rowe, N. (Ed), *Driving Up Participation: The Challenge for Sport*. London: Sport England.

Kolt, G. S., Schofield, G. M., Schofield, L., McLachlan, C., Svendsen, C.A., & Mackay, L.M. (2006). *Best Practice Review of Sport and Physical Activity Interventions for Young People Aged 13-18 Years – Report to Sport and Recreation New Zealand (Vol. 1 & 2).* Auckland, New Zealand: Auckland University of Technology.

Laakso, L., Telama, R., Nupponen, H., Raimela, A., & Rere, L. (2008). Trends in leisure time physical activity among young people in Finland, 1977—2007. *European Physical Education Review. 14* (2), 139-155.

Patriksson, G. (2004). Sport activity patterns among children and youth in sports clubs. In Daquet, et. al (Eds.), *Youth sport: A social approach.* Brussels: Vubpress.

Rowe, N., Adams, R., & Beasley, N. (2004). Driving up participation in sport: the social context, the trends, the prospects and the challenges In Rowe, N. (Ed), *Driving Up Participation: The Challenge for Sport*. London: Sport England.

Sarrazin, P., Vallerand, R., Guillet, E., Pelletier, L., & Cury, R. (2002). Motivation and dropout in female handballers: A 21 month prospective study. *European Journal of Social Psychology, 32*(3), 395-418.

Scott, D. & Willits, F. K. (1998). Adolescent and adult leisure patterns: A reassessment. *Journal of Leisure research.* Accessed online: http://findarticles.com/p/articles/mi_qa3702/is_n3_v30/ai_n28711302/

Silva III, J. M., & Stevens, D. E. (2002). Foundations of sport. Boston: Allyn and Bacon.

Sofranko, A. J., & Nolan, M. F. (1972). Early life experiences and adult sports participation. *Journal of leisure research, 4*, 6-18.

SPARC (2001). NZ Sport and Physical Activity Survey. Retrieved from http://www.activenzsurvey.org.nz/Documents/sparc-facts-1997-2001.pdf

SPARC Trends. (2001). http://www.activenzsurvey.org.nz/Results/SPARC-Trends-in-Participation-in-Sport-and-Active-Leisure-1997-2001/Trends-Participation/

SPARC: 2007/08 Active New Zealand Survey. Retrieved from http://www.activenzsurvey.org.nz/

Taylor, W. C., Blair, S. N., Cummings, S. S., Wun, C. C., & Malina, R. M. (1999). Childhood and adolescent physical patterns and adult physical activity. *Medicine and Science in Sports and Exercise, 31*(1), 118-123.

Vail, S. E. (2007). Community development and sport participation. *Journal of Sport Management, 21*, 571-596.

Walker, S., Ross, J., & Gray, A. (1998). Participation in sport and active leisure by New Zealand children and adolescents. *Journal of Physical Education New Zealand, 32*(1), 4-8.

Worth, G. (2010). Drivers and impediments for grassroots participation in football in New Zealand. Thesis, Massey University, Palmerston North.http://www.sparc.org.nz/Documents/Research/awarded-grants/Worth%20-%20Grassroots%20participation%20in%20Football%20in%20New%20Zealand%2012%202%2011.pdf

Yoesting, D. R., & Burkhead, D. L. (1973). Significance of childhood recreation experience on adult leisure behaviour: An exploratory analysis. *Journal of Leisure Research, 5,* 25-36.