

the school environment



Traditionally, research that sought to understand the factors that influence health behaviours such as physical activity or attributes such as fitness or movement skills would focus on individual factors such as age and sex (biological) and self-esteem and enjoyment (psychological). While individual factors are important, it is now well accepted that social and physical environment factors are also relevant. Approaches that attempt to integrate these families of behavioural determinants are referred to as ecological models (Davison & Birch, 2001; Sallis, Bauman & Pratt, 1998; Stokols, 1996).

Recent reviews of the determinants of physical activity among children and adolescents (Sallis, Prochaska & Taylor, 2000; Sallis, Prochaska, Taylor & Hill, 1999) found that several environmental factors, such as access to facilities and equipment and time spent outdoors, were consistent predictors of physical activity participation. Subsequent Australian research has found that a lack of parks and sports grounds near the home predict a lower likelihood of walking or cycling to local destinations (Timperio, Salmon, Telford & Crawford, 2005).

Within schools, little research has examined the influence of school environments on physical activity. Sallis and colleagues (Sallis et al., 2001) used direct observation of play spaces to investigate the associations of school environment and physical activity among middle school students (Years 6-8) in the US. They found that teacher supervision and physical improvement of facilities were associated

with increased participation throughout the school day. However, it is still unclear just how the school environment may be associated with physical activity, fitness and movement skills in Australian schools.

In this study, we defined 'school environment' as the physical environment (eg facilities and equipment), school policies (eg time allocated for PE and sport) and school practices (eg making facilities available, allocation of staff to teaching PE and sport, barriers to participation and strategies to promote participation). This definition encapsulates components of the *Health Promoting School model* (NHMRC, 1996) and also how school staff tend to contextualise health, particularly physical activity (Booth & Okely, 2005). This chapter presents the findings from the school environment questionnaire.

It should be kept in mind that only 45 primary and 45 secondary schools were surveyed so one school can represent 7-8% of the primary or secondary schools. We recommend caution in interpreting the results and suggest that only fairly large differences be given attention.

We report the findings for urban and rural primary and secondary schools and offer some comment on the pattern of results. Because the school environment questionnaire was identical to that used in the *NSW Schools Fitness and Physical Activity Survey 1997*, changes in the environments of NSW schools are also reported for the period 1997-2004 in each section of this chapter.

FACILITIES FOR SPORT, PE AND OTHER ACTIVITIES

PRIMARY SCHOOLS

Table 15.1 shows, for urban and rural primary schools, the proportion (as a percentage) that have a range of facilities, their availability before and after school and during lunchtimes, and the extent to which the facilities are used during those times. The availability of facilities is expressed as a percentage of those schools that reported having the facilities, not of all schools in the sample. Extent of use is reported as the percentage of schools that reported that the facilities were available. We also report the proportion of schools for which the available facilities were used on at least four days per week.

It should be noted that there were 39 urban and six rural primary schools in the sample, so one urban primary school represents approximately 3% of the urban primary schools and one rural primary school represents approximately 17% of the rural primary schools. As such, a 17-percentage-point difference between urban and rural primary schools on any of the results may represent only one rural school. Only large differences between urban and rural primary schools should be noted.

PRESENCE OF FACILITIES

Most of the facilities were present in at least some primary schools, with little difference between urban and rural primary schools. The exceptions were swimming facilities and cricket nets, which were more likely to be present in rural primary schools.

A substantial majority of primary schools reported having basketball/netball courts, playing fields in walking distance, an indoor play area (such as a hall), and an outdoor playground. Roughly one-half to two-thirds of primary schools reported having playing fields as part of the school, cricket nets, and a bike path near the school. Less than half of primary schools reported having swimming facilities and tennis courts. No primary schools reported having a gymnasium, fitness lab or weights room.

AVAILABILITY OF FACILITIES

Generally less than one-third of primary schools that had facilities reported that they were available for use before and after school hours. All (100%) of the rural primary schools made their basketball/netball courts, playing fields, tennis courts, cricket nets and their playgrounds available during lunchtimes. No other facilities were made available during lunchtimes among rural primary schools, except indoor play areas, which were available in 40% of rural primary schools. Similarly, over 90% of urban primary schools made their basketball/netball courts, playing fields and playgrounds available during lunchtimes. Between 50% and 75% of urban primary schools made their tennis courts, cricket nets, and indoor play areas available at lunchtimes.

USE OF FACILITIES

Urban primary schools tended to report higher use of their facilities before school compared with their rural counterparts. All urban primary schools used their playgrounds, while around two-thirds reported that their basketball/netball courts, school playing fields and cricket nets were used. In comparison, 75% of rural primary schools used their playgrounds and 50% reported that their basketball courts were used before school. Among both urban and rural primary schools, only around half of the facilities that were made available after school hours were used at least four days per week. All urban primary schools reported that their playgrounds were used, but only 50% reported that their cricket nets were used and 30% reported that their playing fields were used. All rural primary schools reported that their tennis courts were used all of the time, but only 50% reported that their playgrounds and basketball/netball courts were used. Facilities that were available tended to be better used at lunchtimes, with little difference between urban and rural primary schools. Between 75% and 100% of primary schools reported that their basketball/netball courts, playing fields, cricket nets and playgrounds were used. All rural primary schools also reported that their tennis courts were used at lunchtimes, but this figure was much lower (50%) among urban primary schools. Less than 25% of primary schools reported that their indoor play area was used during lunchtimes.

TRENDS, 1997-2004

There was an increase in the proportion of primary schools with listed facilities. However, this increase in presence did not translate into an increase in availability. There was a decline in the availability

of facilities before and after school. Only availability of facilities at lunchtimes increased from 1997 to 2004. Encouragingly, among schools that did make facilities available, a greater proportion in 2004 than in 1997 reported that they were used frequently by students at lunchtimes and after school.

Table 15.1. Proportion of urban and rural primary schools that reported facilities at or near schools, their availability out-of-hours and extent of use (at least four days per week) (%)

	Yes (%)		Before school				Lunchtimes				After school			
	Ubn	Rrl	Available		Use		Available		Use		Available		Use	
			Ubn	Rrl	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl
Gymnasium	0	0	na	na	na	na	na	na	na	na	na	na	na	na
Fitness lab	0	0	na	na	na	na	na	na	na	na	na	na	na	na
Basketball/netball courts	88	91	12	22	67	50	90	100	73	90	8	25	0	50
Playing fields as part of the school	65	73	24	13	60	0	95	100	100	100	16	17	33	0
Playing fields in walking distance	91	80	na	na	na	na	na	na	na	na	na	na	na	na
Swimming facilities as part of the school	3	9	0	0	0	0	0	0	0	0	0	0	0	0
Swimming facilities in walking distance	21	50	na	na	na	na	na	na	na	na	na	na	na	na
Tennis courts	9	18	33	0	0	0	67	100	50	100	50	100	0	100
Cricket nets	50	80	19	13	67	0	76	100	77	75	15	13	50	0
Weights room	0	0	na	na	na	na	na	na	na	na	na	na	na	na
Indoor play area	85	100	0	0	0	0	35	40	10	25	0	0	0	0
A bike path near school	58	70	na	na	na	na	na	na	na	na	na	na	na	na
Playground	100	100	33	40	100	75	94	100	94	82	13	22	100	50

Ubn = Urban, Rrl = Rural

SECONDARY SCHOOLS

Table 15.2 shows, for urban and rural secondary schools, the proportion (as a percentage) that have a range of facilities, their availability before and after school and during lunchtimes, and the extent to which the facilities are used during those times. The availability of facilities is expressed as a percentage of those schools that reported having the facilities, not of all schools in the sample. Extent of use is reported as the percentage of schools that reported that the facilities were available. We also report the proportion of secondary schools for which the available facilities were used on at least four days per week.

It should be noted that there were 37 urban and eight rural secondary schools in the sample, so one urban secondary school represents approximately 3% of the urban secondary schools and one rural secondary school represents approximately 13% of the rural secondary schools. As such, a 13-percentage-point difference between urban and rural secondary schools on any of the results may represent only one secondary school. Only large differences between urban and rural secondary schools should be noted.

PRESENCE OF FACILITIES

All of the facilities asked about were reported as being present in at least some secondary schools, with little difference between urban and rural secondary schools. Between 85% and 100% of schools have basketball/netball courts, playing fields as part of the school or within walking distance, an indoor play area and a playground. Around 50% of schools reported having a gymnasium, swimming facilities within walking distance, tennis courts, a weights room and a bike path near the school. Around 15% of schools reported having a fitness lab and swimming facilities as part of the school grounds.

AVAILABILITY OF FACILITIES

The patterns of availability of facilities varied somewhat between urban and rural secondary schools and between before-school, lunchtime and after-school periods of the school day. More rural secondary schools made their facilities available before and after school, especially their basketball/netball courts, playing fields and playgrounds. These facilities were available in approximately 75% of rural secondary schools, compared with approximately 45% of urban schools. Approximately 25% and 15% of rural and urban secondary schools, respectively, reported that their tennis courts, weights room and indoor play areas were available before and after school. The exception to this pattern was swimming facilities within the school grounds, which were available before and after school in 33% of urban secondary schools compared with no rural secondary schools.

The patterns of availability were similar among urban and rural secondary schools and were slightly higher during lunchtimes compared with before and after school periods. Between 85% and 100% of secondary schools made their basketball/netball courts, playing fields within school grounds, and playground available. Between 50% and 75% of rural and between 30% and 75% of urban secondary schools made their tennis courts, cricket nets, weights room, and indoor play area available. Less than half (50%) of schools made their gymnasium and fitness lab available during lunchtimes. Swimming facilities within the school appeared to be the only facility with clear differences in availability between urban and rural secondary schools, with 50% of rural and 0% of urban schools reporting making these available during lunchtimes.

USE OF FACILITIES

Unlike the differences in patterns of availability between urban and rural schools, more urban secondary schools made use of their facilities before and after school, especially their gymnasium, basketball/netball courts, tennis courts and cricket nets. In most cases, these facilities were reported as being used in over 50% of urban schools, compared with less than 50% of rural schools. In addition, urban schools reported a higher use of their indoor play area after school. Conversely, rural secondary schools reported a higher use of their indoor play area before school and of their weights room after school. Around 75% and 50% of schools reported that their playing fields and playgrounds were used before and after school, respectively, with little difference between urban and rural schools.

The pattern of use of available facilities at lunchtimes was almost identical for urban and rural secondary schools. Between 85% and 100% of secondary schools reported that their fitness lab, basketball/netball courts, playing fields and playgrounds were in use during lunchtimes on most days of the week. Two-thirds of urban and one-half of rural secondary schools reported that their gymnasium was used during lunchtimes. Between 25% and 50% of

secondary schools reported that their tennis courts, cricket nets, weights room and indoor play area were frequently used at lunchtimes. No secondary schools that had swimming facilities reported using them during lunchtimes.

TRENDS 1997-2004

Among secondary schools, there was generally no change in the presence of facilities, except for quite specialised ones such as a fitness lab, swimming facilities within the school, and a weights room. The proportion of schools that had these specialised facilities was very small, so any difference would only constitute a few schools and is probably an artefact of the difference in the proportion of Independent schools in this sample compared with the 1997 study. Across all three time periods (before school, lunchtimes, and after school), there was a decline in the proportion of schools that made facilities available for students to use. There was also a decline before and after school in the number of schools that reported that these facilities were used frequently. However, the proportion that reported frequent use of facilities at lunchtimes had increased from 1997 to 2004.

Table 15.2. Proportion of urban and rural secondary schools that reported facilities at or near the school, their availability out-of-hours and extent of use (at least four days per week) (%)

	Yes (%)		Before school				Lunchtimes				After school			
			Available		Use		Available		Use		Available		Use	
	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl	Ubn	Rrl
Gymnasium	45	50	7	0	100	0	21	33	67	50	7	17	100	0
Fitness lab	16	14	na	na	na	na	20	50	100	100	na	na	na	na
Basketball/netball courts	97	100	45	77	92	50	93	93	86	92	35	69	67	11
Playing fields as part of the school	90	86	39	64	82	71	96	92	85	91	42	64	36	43
Playing fields in walking distance	90	100	na	na	na	na	na	na	na	na	na	na	na	na
Swimming facilities as part of the school	10	14	33	0	0	0	0	50	0	0	33	0	0	0
Swimming facilities in walking distance	38	62	na	na	na	na	na	na	na	na	na	na	na	na
Tennis courts	42	50	17	43	100	33	31	57	25	25	18	43	50	33
Cricket nets	61	86	32	18	33	0	74	75	36	11	18	55	67	33
Weights room	48	43	14	33	50	50	33	50	20	33	8	40	0	50
Indoor play area	97	93	7	17	50	100	40	54	33	43	12	25	67	33
A bike path near school	43	50	na	na	na	na	na	na	na	na	na	na	na	na
Playground	94	86	45	91	75	90	90	83	88	100	31	50	63	50

Ubn = Urban, Rrl = Rural

ADEQUACY OF FACILITIES, EQUIPMENT, AND SUPPORT FOR SPORT AND PHYSICAL EDUCATION

PRIMARY SCHOOLS

Table 15.3 shows the schools' perceptions of the adequacy of the sports/physical education (PE) facilities and equipment, adequacy of support for sport and PE from the school and adequacy of parents' support for sport and PE in urban and rural primary schools. Approximately one-third of primary schools (slightly more rural and slightly fewer urban primary schools) reported that their facilities were good or excellent. Around half of the primary schools reported that their facilities were

fair, with little difference between urban and rural primary schools. The majority of urban primary schools reported that their equipment was good or excellent, and just over one-third considered that it was fair. Conversely, the majority of rural primary schools thought that their equipment was fair, and just over one-third considered that it was good or excellent. Few schools perceived that their facilities or equipment were poor.

Around three-quarters of the schools reported that support for sport and PE from both the school and parents was good or excellent, and one-third reported that support was fair. No schools reported that support for sport or PE from either within the school or from parents was poor.

Table 15.3. Proportion of urban and rural primary schools that reported the adequacy of sports/PE facilities and equipment, of support from school for sport and PE and of parents' support for sport and PE (%)

	Urban			Rural		
	Poor	Fair	Good/excellent	Poor	Fair	Good/excellent
Adequacy of sports/PE facilities	15	56	29	9	45	45
Adequacy of sports/PE equipment	6	38	56	0	64	36
Adequacy of support for sport by school	0	29	71	0	18	82
Adequacy of support for PE by school	0	38	62	0	27	73
Adequacy of parents' support for PE and sport	0	26	74	0	27	73

TRENDS 1997-2004

In this period there was an overall decline in the proportion of urban and rural primary schools that reported that facilities, equipment and support were fair. This was counteracted by an increase in the proportion of schools who perceived them as good or excellent.

SECONDARY SCHOOLS

Table 15.4 shows the schools' perceptions of the adequacy of the sports/physical education (PE) facilities and equipment, adequacy of support for sport and PE from the school and adequacy of parents' support for sport and PE in urban and rural secondary schools. There were very little differences between urban and rural secondary schools. Roughly half of the schools reported that their facilities were good or excellent, and around 40% considered them fair. Few schools reported them to be poor. Around half of the schools reported that their equipment was good or excellent, and the other half considered it to be fair.

Around 70% of the secondary schools reported that support for sport and PE from both the school and from parents was good or excellent, and approximately 20% reported that this support was fair. Only a small minority of secondary schools reported that support

for sport or PE from either within the school or from parents was poor. The one exception was that no rural secondary schools reported that support for sport or PE from the school was poor.

Table 15.4. Proportion of urban and rural secondary schools that reported the adequacy of sports/PE facilities and equipment, of support from the school for sport and PE and of parents' support for sport and PE (%)

	Urban			Rural		
	Poor	Fair	Good/excellent	Poor	Fair	Good/excellent
Adequacy of sports/PE facilities	13	48	39	14	36	50
Adequacy of sports/PE equipment	3	50	47	0	43	57
Adequacy of support for sport by school	10	30	60	0	29	70
Adequacy of support for PE by school	6	19	74	0	29	71
Adequacy of parents' support for PE and sport	10	19	71	7	7	86

TRENDS 1997-2004

Generally, the proportion of secondary schools that perceived the facilities, equipment and support for PE and sport as good or excellent increased slightly from 1997 to 2004. There was no change in any of the other categories over this time.

SCHOOL STAFF INVOLVED IN TEACHING PHYSICAL EDUCATION AND SPORT

PRIMARY SCHOOLS

Table 15.5 shows which school staff are responsible for teaching PE and sport in urban and rural primary schools. Because respondents were asked to indicate all of the staff who taught PE and sport, the total could exceed 100%. In most cases, the differences between rural and urban primary schools were small. In almost

all schools, classroom teachers were responsible for teaching PE; however, specialist PE teachers were used in approximately one-quarter of primary schools. Just over one-third of rural schools used parents and release from face-to-face (RFF) teachers, whereas this proportion was much lower (less than 10%) in urban primary schools. Roughly one-third of schools used outside sporting groups to teach PE. The pattern was somewhat similar for sport. Sport was mostly conducted by classroom teachers and around 20% of schools involved outside sport coaches. A greater proportion of rural than urban schools used parents to teach sport.

Trends 1997-2004

There was an increase in the proportion of primary schools that used specialist and RFF teachers, especially among rural schools, and a decline from 1997 to 2004 in the proportion of urban and rural schools that used outside sports coaches.

Table 15.5. Proportion of urban and rural primary schools which reported the staff responsible for teaching PE and sport (%)

	Urban	Rural
Physical education		
Classroom teachers	76	100
Specialist PE teachers	30	17
Parents	5	33
External providers	30	33
RFF teachers	8	42
Sport		
Mostly specialist PE teachers	9	0
Mostly classroom teachers	94	100
Parents	6	27
Outside sport coaches	18	18

SECONDARY SCHOOLS

Table 15.6 shows which school staff are responsible for teaching PE and sport in urban and rural secondary schools. Approximately the same proportion of urban and rural schools employed only PDHPE teachers and PDHPE staff and teachers from other Key Learning Areas (KLAs). For sport, most schools employed predominantly classroom teachers, with smaller proportions involving PE teachers only and outside sport coaches.

Trends 1997-2004

There was a clear increase in the proportion of secondary schools that used only PDHPE teachers for PE and sport, and decreases in the proportions that used PDHPE staff plus a few teachers from other KLAs for teaching PE or used mostly classroom teachers for sport. There was also an increase in the proportion of schools that used outside sport coaches for sport, which may reflect the increase in the number of specialist sports secondary schools from 1997 to 2004.

Table 15.6. Proportion of urban and rural secondary schools that reported which staff were responsible for teaching PE and sport (%)

	Urban	Rural
Physical education		
PDHPE teachers only	75	71
PDHPE staff plus a few teachers from other KLAs	31	29
Teachers from a range of other faculties	0	0
Parents	0	0
External providers	3	7
Sport		
Mostly specialist PE teachers	27	50
Mostly classroom teachers	80	79
Parents	0	0
Outside sport coaches	43	21

TIME ALLOCATED FOR PHYSICAL EDUCATION (EXCLUDING SPORT) EACH WEEK

PRIMARY SCHOOLS

While the Board of Studies NSW (1999) does not prescribe a recommended amount of time for primary schools to spend on physical education (PE), it does suggest that schools need to make a significant contribution towards children being active for a minimum of 30 minutes per day (in line with the Physical Activity Guidelines that were applicable in 1999). Based on this, we constructed three categories, to reflect low (<60 mins), moderate (60-89 mins), and high (>90 mins) compliance with these guidelines.

Table 15.7 shows the amount of time made available for PE each week among primary schools. Half of the primary schools allocated less than 60 minutes per week for PE. Approximately 40% of primary schools provided 60 to 89 minutes per week for PE in Years 2 to 6. Approximately 15% of schools provided more than 90 minutes a week for PE. There were no differences between school Years in the amount of time allocated for PE each week.

Table 15.7. Proportion of primary schools that reported making available <60, 60-80 or ≥80 mins per week for PE in Years 2, 4 and 6 (%)

	Year 2	Year 4	Year 6
Less than 60 mins	53	44	46
60-80 mins	33	40	41
80 mins or more	13	16	13

SECONDARY SCHOOLS

The Board of Studies NSW mandates that students will have completed a minimum of 300 hours of Personal Development, Health, and Physical Education (PDHPE) in Years 7 through to 10. In general terms this unfolds as being roughly 80 minutes per week of PE. Based on this, we constructed three categories to reflect a low (<60 mins), moderate (60-80 mins), and high (>80 mins) compliance with this mandate.

Table 15.8 shows the amount of time made available for PE each week among secondary schools. Just over 10% of schools allocated less than one hour for PE per week. Slightly less than half of the schools allocated 60 to 80 minutes for PE, and around 40% of the schools allocated more than 80 minutes for PE. There were no differences in the time allocated for PE between Year 8 and Year 10.

Table 15.8. Proportion of secondary schools that reported making available <60, 60-80 or ≥80 mins per week for PE in Years 8 and 10 (%)

	Year 8	Year 10
Less than 60 mins	13	13
60-80 mins	47	44
More than 80 mins	40	42

TIME ALLOCATED FOR SPORT (EXCLUDING PHYSICAL EDUCATION) EACH WEEK

PRIMARY SCHOOLS

Table 15.9 shows the amount of time allocated for sport each week among primary schools. Approximately 15% of primary schools provided less than 60 minutes per week for Year 4 and Year 6 sport and about 50% provided this amount of time per week for Year 2 sport. Approximately 50% of schools provided 60 to 89 minutes per week for sport, with only small differences between school years. Roughly one-quarter of schools provided more than 90 minutes for sport in Years 4 and 6, whereas virtually no schools provided this amount of time for Year 2 sport. The findings for Year 2 are interesting in that the requirement for sport in Government schools only begins in Year 3. It is possible that 'time available for sport' was interpreted broadly.

Table 15.9. Proportion of primary schools that reported making available <60, 60-89 or ≥90 mins per week for sport in Years 2, 4 and 6 (%)

	Year 2	Year 4	Year 6
Less than 60 mins	48	17	13
60-89 mins	48	61	63
90 mins or more	4	22	24

SECONDARY SCHOOLS

Table 15.10 shows the amount of time made available for sport each week among secondary schools. Only around 5% of schools allowed less than one hour per week for sport. One-third of schools allowed 60-80 minutes per week for sport in Year 8 and Year 10 and roughly 60% of schools allocated more than 80 minutes per week for sport in Years 8 and 10.

Table 15.10. Proportion of secondary schools that reported making available <60, 60-80 or >80 mins per week for sport in Years 8 and 10 (%)

	Year 8	Year 10
Less than 60 mins	7	2
60-80 mins	35	30
More than 80 mins	58	67

TRENDS 1997-2004

There were no clear changes from 1997 to 2004 in the amount of time made available for either PE or sport among primary or secondary schools.

TOTAL TIME ALLOCATED FOR SPORT AND PHYSICAL EDUCATION EACH WEEK

PRIMARY SCHOOLS

Table 15.11 shows the amount of time made available for sport and PE each week among primary schools. Around one-quarter of primary schools allocated less than 90 minutes per week in Years 4 and 6, and around 60% of schools allocated this amount of time in Year 2. Just under 20% of schools allocated between 91 and 119 minutes per week for sport and PE. For Year 2 students, about 20% of primary schools allowed 120 to 150 minutes, whereas for Year 4 and Year 6 students, this figure was almost double (40%). Roughly 20% of primary schools allocated more than 150 minutes for PE and sport in Years 4 and 6, whereas virtually no primary schools provided this amount of time for Year 2.

Table 15.11. Proportion of primary schools that reported making available <90, 91-119, 120-150 or >150 minutes per week for PE and sport in Years 2, 4 and 6 (%)

	Year 2	Year 4	Year 6
90 mins or less	59	27	21
91-119 mins	18	17	17
120-150 mins	21	38	40
More than 150 mins	3	19	23

SECONDARY SCHOOLS

Table 15.12 shows the amount of time made available for sport and PE each week among secondary schools. Only a small proportion of secondary schools allocated less than two hours per week for sport and PE. Roughly 20% of secondary schools allowed 120-150 minutes and about 70% of secondary schools allowed more than 150 minutes per week.

Table 15.12. Proportion of secondary schools which reported making available <90, 91-119, 120-150 or >150 minutes per week for PE and sport in Years 8 and 10 (%)

	Year 8	Year 10
90 mins or less	7	7
91-119 mins	4	2
120-150 mins	22	20
More than 150 mins	67	72

TRENDS 1997-2004

There was no change from 1997 to 2004 in the proportion of primary schools that made less than 90 minutes available for sport and PE each week. There was a decline in the proportion that made between one-and-a-half and two hours available each week and an increase in the proportion that made more than 120 minutes available for sport and PE each week. Among secondary schools, it was not possible to compare the amount of time made available due to different time categories being used in 1997 and in 2004.

ACTIVITIES OFFERED FOR PHYSICAL EDUCATION AND SPORT

Offering a wide range of activities for PE and sport can assist students to find an activity they enjoy, potentially increasing their participation in physical activity. Incorporating more non-traditional activities into the school curriculum also reflects the growing diversity in cultural backgrounds of students in NSW schools and allows students from non-English-speaking backgrounds to participate in activities that are an important part of their culture. In this section we report the proportion of urban and rural primary and secondary schools that offered each of the activities listed.

PHYSICAL EDUCATION

Table 15.13 shows the proportion of urban and rural primary and secondary schools that offered each activity for PE. More urban than rural primary schools offered most of the activities listed. More than 75% of either urban or rural primary schools offered athletics, dance, gross motor programs and running during PE and more than 50% offered aerobics, Aussie sports, cricket, cross country, gymnastics, netball, soccer and volleyball. None of the schools surveyed offered competitive cycling, ice-skating, in-line hockey, roller blading, rowing, squash, surfing or water polo.

There was no difference between urban and rural secondary schools in the proportion that offered each activity. More than 80% of either urban or rural secondary schools offered athletics, basketball, cricket, dance, gross motor programs, gymnastics, hockey, netball, running, soccer, softball, touch football and volleyball. More than 50% offered Australian Rules, cross country, indoor cricket, swimming and tennis. The only activities not offered by either urban or rural schools for PE were cycling (competitive or recreational), rowing and sailing.

SPORT

Table 15.14 shows the proportion of urban and rural primary and secondary schools that offered each activity for sport. Unlike PE, there was no difference between urban and rural primary schools in the proportion that offered each sport. More than 80% of either urban or rural primary schools offered athletics, cricket, cross country, netball, soccer and softball. More than 50% offered basketball, dance, gross motor programs, rugby league, running, swimming, touch football and volleyball. The only sports not offered by either urban or rural primary schools were competitive cycling, ice-skating, in-line hockey, roller blading, rowing and sailing.

Among secondary schools, more than 80% of either urban or rural schools offered aerobics, basketball, cricket, netball, soccer, softball, swimming, tennis, touch football and volleyball. More than 50% offered Australian Rules football, cross country, dance, hockey, rugby league, rugby union, squash, surfing, walking and water polo. Every activity was offered in at least one urban or rural secondary school. Unlike PE, more rural than urban secondary schools offered most of the sports listed.

TRENDS 1997-2004

Overall, there was very little change from 1997 to 2004 in the proportion of primary and secondary schools that offered each activity for PE and sport, and no clear trends were evident from the data.

Table 15.13. Proportion of urban and rural primary and secondary schools that offered each activity for PE (%)

Activity	Primary schools		Secondary schools	
	Urban	Rural	Urban	Rural
Aerobics	53	78	30	42
Athletics	79	90	94	93
Aussie Sports	32	36	47	36
Australian Rules	18	22	68	86
Baseball	21	0	47	38
Basketball	43	50	97	100
Bush walking	3	0	14	36
Cricket	69	60	94	93
Cross country	71	36	83	57
Cycling (competitive)	0	0	0	0
Cycling (recreational)	3	9	0	0
Dance	91	80	93	100
Golf	3	10	26	29
Gross motor programs	97	90	86	100
Gymnastics	76	44	97	100
Hockey	23	27	87	93
Ice-skating	0	0	4	0
Indoor cricket	3	0	53	64
In-line hockey	0	0	24	0
Martial arts	3	0	7	15
Netball	60	45	83	100
Rock climbing	3	0	7	8
Roller blading	0	0	0	8
Rowing	0	0	0	0
Rugby league	15	27	35	42
Rugby union	3	18	42	17
Running	93	73	87	86
Sailing	3	0	0	0
Soccer	81	45	100	100
Softball	59	36	97	93
Squash	0	0	13	29
Surfing	0	0	13	0
Swimming	44	30	46	93
Tennis	13	9	68	79
Touch football	30	55	97	100
Volleyball	54	45	100	100
Walking	35	36	17	43
Water polo	0	0	13	54

Table 15.14. Proportion of urban and rural primary and secondary schools that offered each activity for sport (%)

Activity	Primary schools		Secondary schools	
	Urban	Rural	Urban	Rural
Aerobics	11	33	81	86
Athletics	87	82	37	38
Aussie Sports	44	36	12	27
Australian Rules	41	36	41	71
Baseball	34	0	39	23
Basketball	55	91	100	100
Bush walking	6	0	21	64
Cricket	87	100	93	100
Cross country	77	100	64	57
Cycling (competitive)	0	0	0	8
Cycling (recreational)	3	0	17	31
Dance	65	36	75	62
Golf	0	30	59	93
Gross motor programs	58	63	18	38
Gymnastics	32	40	29	57
Hockey	32	36	62	79
Ice-skating	0	0	62	0
Indoor cricket	3	9	48	36
In-line hockey	0	0	10	15
Martial arts	16	0	54	38
Netball	84	100	86	100
Rock climbing	0	9	38	0
Roller blading	0	0	14	31
Rowing	0	0	17	8
Rugby league	45	100	66	86
Rugby union	16	64	55	71
Running	86	64	38	36
Sailing	0	0	21	0
Soccer	97	100	97	100
Softball	87	82	86	100
Squash	3	0	41	93
Surfing	3	0	34	38
Swimming	64	73	90	100
Tennis	31	64	97	100
Touch football	61	91	90	93
Volleyball	63	82	93	93
Walking	27	27	52	86
Water polo	3	0	41	69

BARRIERS TO CHANGE IN SCHOOLS

PRIMARY SCHOOLS

Table 15.15 shows the barriers to fundamental movement skill (FMS) development, fitness and physical activity in urban and rural primary schools. Generally, the barriers were similar for both urban and rural schools. Around 50% of schools reported that competing demands on curriculum time and lack of wet weather facilities were the strongest barriers to physical activity. In addition, between 20% and 30% of schools reported that the amount and standard of equipment and facilities and the expertise of teachers applied strongly as barriers to change. Roughly 60% of urban and rural schools noted that the level of home/school interaction, the motivation/attitudes of staff, absence of a quality PE program, and lack of interest by students were also barriers to change. The gender and cultural background of students were not seen as significant barriers by either urban or rural schools.

SECONDARY SCHOOLS

Table 15.16 shows the barriers to FMS, fitness and physical activity in urban and rural secondary schools. Like primary schools, the barriers most schools noted as applying strongly were competing demands on curriculum time and lack of wet weather facilities, with the amount and standard of facilities also applying strongly as a barrier, especially among rural schools. Staff factors (teacher expertise, motivation and attitude)

and student and resource factors (lack of student interest and equipment available) were cited as strong barriers to change in 25% of urban and rural schools, respectively. Roughly 60% of urban and rural schools reported that the level of home/school interaction, the motivation/attitudes of staff, and amount and standard of equipment and facilities were also barriers. Among urban schools, student factors such as their gender and lack of interest were also noted as applying by around 70% of schools. Interestingly, the majority of both urban and rural secondary schools felt that the absence of a quality PE program was not a barrier to change.

TRENDS 1997-2004

Generally, primary schools did not perceive that the potential barriers to fundamental movement skills, fitness, and physical activity applied as strongly in 2004 as they did in 1997. There was an increase from 1997 to 2004 in the proportion of primary schools reporting that these barriers did not apply to them.

Among secondary schools, there was very little change in the proportion that identified the listed barriers. The exception was that a much greater proportion of both urban and rural secondary schools did not see the cultural background of students as a barrier to fundamental movement skills, fitness, and physical activity within the school.

Table 15.15. Proportion of urban and rural primary schools that identified barriers to FMS, fitness and physical activity (%)

	Urban			Rural		
	Does not apply	Applies	Applies strongly	Does not apply	Applies	Applies strongly
Competing demands on curriculum time	3	48	48	0	45	55
Amount of equipment available	21	62	18	10	70	20
Expertise of teachers	15	53	32	0	64	36
Amount and standard of facilities	6	65	29	0	82	18
Lack of wet weather facilities	9	50	41	0	50	50
Level of home/school/community interaction	32	59	9	27	73	0
Motivation/attitude of members of staff	32	65	3	18	73	9
Absence of a quality PE or sport program	53	41	6	27	73	0
Lack of interest from students	44	47	9	36	64	0
The gender of students	73	22	6	45	55	0
Cultural background of students	53	41	6	82	18	0

Table 15.16. Proportion of urban and rural secondary schools that identified barriers to FMS, fitness and physical activity (%)

	Urban			Rural		
	Does not apply	Applies	Applies strongly	Does not apply	Applies	Applies strongly
Competing demands on curriculum time	0	53	47	0	71	29
Amount of equipment available	19	65	16	29	50	21
Expertise of teachers	32	42	26	14	71	14
Amount and standard of facilities	10	68	23	14	50	36
Lack of wet weather facilities	10	35	55	0	43	57
Level of home/school/community interaction	14	72	14	14	71	14
Motivation/attitude of members of staff	23	52	25	36	64	0
Absence of a quality PE or sport program	65	32	3	71	21	7
Lack of interest from students	10	83	7	29	43	29
The gender of students	26	65	10	50	43	7
Cultural background of students	39	48	13	79	21	0

STRATEGIES USED BY SCHOOLS TO PROMOTE PHYSICAL ACTIVITY

PRIMARY SCHOOLS

Table 15.17 shows the frequency with which urban and rural primary schools employed a range of strategies to promote participation in physical activity. Although the frequency of strategies employed was generally similar between urban and rural primary schools, there were some notable exceptions. The strategies most often used were encouragement/merit awards and encouraging the use of equipment and facilities during school hours, which were reported by 70% and 50% of primary schools, respectively. More than 50% of both urban and rural primary schools sometimes encouraged students to walk or cycle to school, encouraged students to be active outside of school, and involved students in decision-making. Additionally, over 70% of rural primary schools reported sometimes encouraging staff to be involved in lunchtime activity programs and had developed and implemented remedial motor skill programs. The most infrequently employed strategies included encouraging use of equipment before and after school, encouraging parents to use school facilities, and using peer support programs to promote physical activity.

SECONDARY SCHOOLS

Table 15.18 shows the frequency with which urban and rural secondary schools employed a range of strategies to promote participation in physical activity. The strategy most frequently used by both urban and rural secondary schools was encouragement/merit awards. In fact, virtually all schools reported using this strategy at least sometimes. More than 40% of schools often encouraged the use of facilities during school hours, and more than 50% of rural schools often allowed community organisations to use facilities outside hours. More than 50% of both urban and rural secondary schools sometimes encouraged students to be active outside of school, encouraged the use of equipment and facilities during school hours, encouraged staff to be involved in lunchtime activity programs, and involved students in decision-making. Additionally, 60% of urban secondary schools reported sometimes allowing community organisations to use facilities outside school hours. The most infrequently employed strategies included encouraging walking or cycling to school, encouraging parents to use school facilities, encouraging the use of equipment and facilities after school hours and using peer support programs to promote physical activity.

TRENDS 1997-2004

The changes from 1997 to 2004 in the proportion of schools that used strategies to promote physical activity was generally small and insignificant. However, it is worth noting that a greater proportion of primary schools reported often using encouragement/merit awards, while a much smaller proportion reported never or rarely encouraging walking or cycling to school. Among secondary schools, a greater proportion of rural schools reported often encouraging students to be active outside school, encouraging the use of equipment and facilities after school, and using encouragement/merit awards.

Table 15.17. Proportion of urban and rural primary schools that reported the frequency of applying strategies to promote physical activity (%)

	Urban			Rural		
	Never/rare/ don't know	Some of the time	Often	Never/rare/ don't know	Some of the time	Often
Encouraging walking or cycling to school	27	61	12	36	64	0
Encouraging parents to use facilities	65	32	3	73	27	0
Encouraging students to be active outside school	0	62	38	9	82	9
Encouraging use of equipment and facilities during school hours	15	41	44	0	36	64
Encouraging use of equipment and facilities before school hours	79	21	0	100	0	0
Encouraging use of equipment and facilities after school hours	70	24	6	60	40	0
Encouraging staff to be involved in lunchtime activity programs	44	47	9	0	82	18
Remedial motor skill programs	53	35	12	18	73	9
Peer support programs in physical activity	56	34	9	64	27	9
Allowing community organisations to use facilities outside hours	30	45	24	36	27	36
Involving students in decision making	29	56	15	27	55	18
Encouragement/merit awards	3	26	71	9	18	73

Table 15.18. Proportion (%) of urban and rural secondary schools that reported the frequency of applying strategies to promote physical activity (%)

	Urban			Rural		
	Never/rare/ don't know	Some of the time	Often	Never/rare/ don't know	Some of the time	Often
Encouraging walking or cycling to school	67	33	0	50	42	8
Encouraging parents to use facilities	90	10	0	54	38	8
Encouraging students to be active outside school	17	47	37	0	54	46
Encouraging use of equipment and facilities during school hours	13	70	17	8	61	31
Encouraging use of equipment and facilities before school hours	57	30	13	62	38	0
Encouraging use of equipment and facilities after school hours	53	37	10	31	38	31
Encouraging staff to be involved in lunchtime activity programs	50	43	7	38	62	0
Remedial motor skill programs	83	17	0	54	38	8
Peer support programs in physical activity	67	27	7	62	38	0
Allowing community organisations to use facilities outside hours	23	60	17	23	23	54
Involving students in decision making	23	53	23	23	38	38
Encouragement/merit awards	7	30	63	0	38	62

DISCUSSION

Most primary and secondary schools reported having a wide range of facilities that could be used for physical activity. In particular, basketball/netball courts, playing fields, indoor play areas and playgrounds were present in most schools. There was very little difference in the presence between urban and rural schools. This result is not surprising, as the physical environment would not be expected to vary a great deal between most schools. What can vary among schools is the social environment (policies governing the availability and use of facilities). It is here where the clearest differences can be seen and our results suggest that facilities in most primary and secondary schools are not made available, especially before and after school. This may be due to concerns about liability, supervision requirements and vandalism. While it is not necessarily the school's

responsibility to open up facilities and use their resources before and after school, schools should at least explore ways of overcoming these barriers (even if these strategies do not involve teachers) as the times before and after school represent critical windows in which students can be active (Centers for Disease Control and Prevention, 1997; Sallis et al., 1999).

Overcoming the barriers to increasing the availability of facilities may require support from outside the education system (eg police, politicians, law makers). Although it may be argued that the main role of schools is to educate, they are still a part of society and have a role to play in providing environments that promote physical activity. For many students, schools may provide the only opportunity in which they can safely participate in physical activity; hence, there is a responsibility to maximise the availability of existing facilities.

The frequency of use of facilities was quite high in both primary and secondary schools. This is encouraging and means that if schools can make facilities available, students will use them. As mentioned above, for many students, the school may represent the best, and in some cases only, environment in which they can be active. As a result, students may be keener to use school facilities if they are made available. This is seen in the finding of an increase in the proportion of schools that reported students frequently using facilities that were made available. This finding should be an encouragement to schools that if they make the effort to make facilities available, students will use them. Although health promotion is not the sole responsibility of schools, they need to be supported to find ways to overcome the barriers that currently make it difficult to make facilities available, especially before and after school.

It was pleasing to note that the majority of school staff felt that PE and sport were well supported by their school and parents and that the proportion of schools that felt this level of support has increased since 1997. This indicates that parents and the school value PE and sport, which is important as parental and school support have been shown to be strong predictors of physical activity in the school environment (Centers for Disease Control and Prevention, 1997). Only around half of the schools reported that their facilities and equipment were good or excellent. Although it was encouraging that this figure had increased since 1997, there is still a need to further increase this proportion, as the quality and amount of facilities and equipment in a school have been shown to influence student participation in physical activity (Sallis et al., 2001).

As expected, most primary schools use classroom teachers to teach PE and sport. This proportion had declined slightly from 1997, with a concomitant increase in the proportion of primary schools that use 'specialist' teachers to teach PE. On one hand, this is encouraging as it reflects an increased importance placed on PDHPE in primary schools. On the other hand, this increase may also be a result of an increase

in the average age of primary school teachers, and the low levels of perceived competence in teaching PE that may accompany this increase. That so many (around one-third) of primary schools use external providers to teach PE is disappointing. These groups operate on a user-pays system, and predominantly teach specialised content such as gymnastics and dance. For many schools, this may be perceived as their best option for covering such specialised content. Schools may be caught in the predicament of having to cover this content to meet syllabus requirements, but not having staff who feel confident to cover it, especially given concerns around litigation that may arise from perceived 'high-risk' activities such as gymnastics. Perhaps a better investment of school resources is to use the money paid to outside sporting groups to train their staff to teach this content. The literature shows that classroom teachers, when provided with professional development, can cover PE curriculum areas as well as specialist teachers (McKenzie et al., 1998).

It is a concern that around half of the primary schools surveyed did not allocate the recommended amount of time (120 minutes) for physical activity (defined in this survey as 'PE and sport'). There may be an artefact in these findings, as some other physical activity opportunity such as 'fitness' may not have been included in the PE and sport figure reported by the school. Nonetheless, it is still a cause for concern as for some children, this may be the only opportunity they have to participate in physical activity. It is encouraging that this proportion had increased since 1997, and it is hoped that this trend continues until all primary schools are making available the recommended 120 minutes for physical activity each week.

The activities offered by primary and secondary schools for sport and PE are many and varied. It is clear that in NSW schools many activities beyond the 'traditional' sports are available for students. This increases the chances of students finding an activity that they enjoy and feel that they are good at, two important predictors of physical activity participation in young people (Weiss, 2000).

Consistent with our previous finding (Booth et al., 1997), schools reported that competing demands on curriculum time and the amount and standard of facilities were the strongest barriers to promoting physical activity. Many teachers feel that they are being asked to take on more responsibility for areas beyond the 'education' of students, such as their physical activity participation. The result is that teachers feel they do not have the time to cover all things expected of them. Linked strongly to this is the feeling by teachers that there is not the infrastructure (equipment and facilities) in most schools to support physical activity initiatives. That is, teachers feel like they are being asked to do more to promote physical activity outside of the curriculum, but are not being given any additional resources to do so.

Perhaps what is needed is to recognise that schools do have a part to play in promoting physical activity (as do all institutions and sectors of our society), but that this is not their main role and schools cannot be expected to make available additional time, facilities and staff to promote physical activity without being given additional resources. That many of the barriers did not apply as strongly in 2004 as they did in 1997 suggests that schools are attempting to promote physical activity among their students.

It is encouraging that a large proportion of schools are trying a wide range of strategies to promote physical activity, with some strategies being used by all schools. Clearly, promoting physical activity is on the agenda of most schools. That such a wide range of strategies is being used is evidence that schools are willing to move beyond traditional approaches and look for creative ways of promoting physical activity. Some of these include seeing the school as a workplace for staff and initiating lunchtime physical activity programs. In addition, there were some positive trends in the use of strategies from 1997 to 2004, indicating most schools' willingness to find ways to promote physical activity.

In summary, schools in NSW appear to be attempting to make their environments and policies supportive of physical activity participation. Given the many barriers to being physically active that have existed in schools over the past seven years (eg crowded curriculum, litigation and vandalism fears and safety concerns), it is clear that most schools have responded in positive ways, working with these changes to continue to provide physical activity opportunities for students. Evidence from other parts of this survey that support the fine work that schools have done over the past seven years are the increases in students' fundamental movement skills, cardiorespiratory fitness and physical activity.

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