



BEATS Study Symposium 2014

Abstract Booklet

Wednesday, 05 November 2014

University of Otago
Dunedin, New Zealand



www.otago.ac.nz/beats

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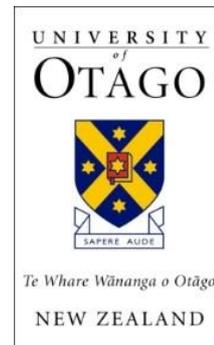
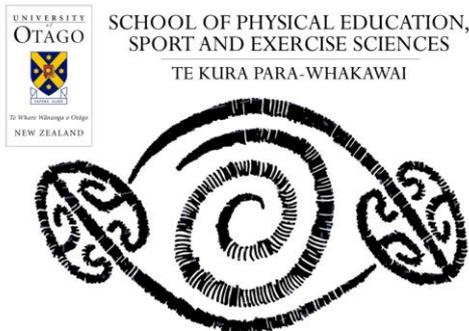
Acknowledgments

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The BEATS Research Team would like to express the gratitude to all project team members, advisory board members, study coordinator, research assistants, students, volunteers, schools, and study participants for their time and contributions to the BEATS Study.

Finally, we would like to thank the School of Physical Education, Sport and Exercise Sciences for funding this symposium.



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BEATS Study Symposium 2014 Programme

Wednesday, 5th November 2014
School of Physical Education, Sport and Exercise Sciences
Seminar Room 213/214
University of Otago
Dunedin, New Zealand

8:30am	Registration with tea & coffee
9:00 am	Welcome
9:05 am	<i>Dr Sandra Mandic</i> Built Environment and Active Transport to School (BEATS) Study: Vision, Research Methodology and Implementation
10:00 am	<i>Charlotte Flaherty</i> Improving Adolescents' Safety in Traffic through Cycle Skills Training
10:15 am	<i>Dr Debbie Hopkins</i> Generation Y Driving Behaviours
10:40 am	Morning tea
11:10 am	<i>Dr Sandra Mandic</i> Choosing a Secondary School: Who Decides and Which Factors Influence the Decision
11:30 am	<i>Ashley Mountfort</i> Motivations and Barriers for Walking to School among Dunedin Adolescents
11:50 am	<i>Emily Brook</i> Physical Activity Habits, Screen Time and Fruit and Vegetable Intake in Dunedin Adolescents
12:10 pm	<i>Lauren Keaney</i> Comparison of Physical Activity Levels, Sedentary Behaviours and Weight Status in Adolescents Using Active versus Motorized Transport to School
12:30 pm	Discussion & feedback
1:00 pm	Symposium closes
1:00 pm	Informal discussions and light refreshments

Abstracts

Built Environment and Active Transport to School (BEATS) Study: Vision, Research Methodology and Implementation

Sandra Mandic, John Williams, Antoni Moore, Charlotte Flaherty, Debbie Hopkins, Enrique García Bengoechea, John C Spence.

Active transport to school (ATS) is a convenient way to increase physical activity and adopt an environmentally sustainable travel practice. Built Environment and Active Transport to School (BEATS) Study examines ATS in adolescents using the most contemporary and comprehensive ecological model for active transport which accounts for individual, social, environmental, and policy influences in Dunedin, New Zealand. The study objectives are: 1) to understand the reasons behind adolescents' and their parents' choice of transport mode to school; 2) to examine the interaction between the transport choices, built environment, physical activity levels, and weight status in adolescents; and 3) to identify policies that promote or limit ATS in adolescents.

The BEATS Study uses a mixed-method approach incorporating both quantitative (survey) and qualitative approaches (focus groups/interviews) with students, parents, teachers, and school principals. The core data include objective measures of the built environment (derived through Geographic Information System [GIS] analytical techniques), physical activity (accelerometers), anthropometry, and perceptions of walking and cycling to school.

All 12 secondary schools in Dunedin, New Zealand, are participating in the study. As of September 2014, 1,272 adolescents from 9 schools (mean age: 15.3±1.4 years; 46.6% boys) completed the student survey. Parental survey data collection is starting in October 2014. Focus groups research is in progress.

With 100% school recruitment rate, this study will provide a unique sample of students and parents across one city with a heterogeneous physical environment. The findings will enable community health promoters, policy makers and city planners to address ATS barriers, encourage active transport and create supportive built environments to promote ATS.

Keywords: Active transport, adolescents, built environment, physical activity

Improving Adolescents' Safety in Traffic through Cycle Skills Training

Charlotte Flaherty, Ashley Mountfort, Sandra Mandic.

Introduction: To promote cycling for transport and improve road safety, Dunedin City Council offers a cycle skills training programme in primary schools and intends to expand it to secondary schools. This study examined adolescents' attitudes towards cycling, cycle skills training, cycling habits and perceived cycling ability.

Methods: Adolescents from nine secondary schools in Dunedin (n=1,124; 46.4% boys; mean age: 15.3±1.4 years) completed an online survey about attitudes towards cycling and cycle skills training, cycling habits, and perceived ability/confidence to cycle to school. Data were analysed using descriptive statistics and Chi-square tests.

Results: Overall, 49.3% of adolescents liked cycling for recreation, 90.7% never cycled to school and 24.1% did not have a bike. Few adolescents often cycled with their friends (18.9%) or parents (20.0%) and half perceived themselves as capable (50.2%) and confident (53.7%) to cycle to school. Compared to students who did not perceive cycle skills training as beneficial, students who perceived that cycle skills training would make them safer in traffic (36.7%) also liked more cycling for recreation (51.0% vs 26.1%; $p<0.001$), more often cycled with friends (51.4% vs. 35.9%; $p=0.001$) or parents (52.5% vs. 35.3%; $p<0.001$), perceived themselves as more capable of cycling to school (44.2% vs. 30.1%; $p=0.001$) and had a greater access to a bike (36.7% vs. 28.4%; $p=0.001$). Only 8.6% of interested students would take this training at their school.

Conclusion: Cycle skills training programmes will likely attract adolescents who enjoy cycling and often cycle with friends or parents. These programmes should be offered outside secondary schools.

Keywords: Cycle skills training, cycling, safety, adolescents

Generation Y Driving Behaviours

Debbie Hopkins, Sandra Mandic.

Background: Declining rates of licencing, car ownership and vehicle kilometres travelled suggest that generation Y is travelling differently than earlier generations. This study examined transport habits, perceptions of driving and motivations for gaining a driver's licence in New Zealand adolescents 16 years of age and older, the eligible age for licensure.

Methods: Adolescents (n=318; mean age: 17.0±0.6 years; 49.1% males) from 9 Dunedin high schools completed an online survey during 2014. The survey included questions about driver's licence status and motivations for learning to drive.

Results: Common transport modes included: being driven by others (62.9%), driving themselves (23.9%), walking (34.1%), and bus (14.5%). Although 2/3 of destinations could be reached by bus (66.4%) or active transport (64.1%), the preferred transport modes were driving (41.8%) or being a passenger (34.9%). Adolescents perceived that being able to drive makes people more independent (89.6%) and will be necessary after leaving school (86.4%). They were nervous about learning to drive (47.5%), perceived having personal control over whether or not they would learn to drive (79.6%) and had friends who were learning to drive (83.6%). Driving licence status was 46.5% "no licence", 34.9% "learners licence", 16.0% "restricted licence" and 2.5% "full licence". The main motivations for getting a driver's licence included: perceived convenience (45.6%), encouragement from parents/guardians (21.7%) and being expected to learn to drive (10.4%).

Conclusion: Learning to drive appears to be an important mobility based competency for generation Y high school students. Further analysis is required to determine how motivations might influence travel behaviour.

Keywords: Adolescents, generation Y, learning to drive, driving, motivation, licence status.

Choosing a Secondary School: Who Decides and Which Factors Influence the Decision

Sandra Mandic, Gordon Wilson.

Background: The importance of many factors that influence school choice (including programmes, social connections, and school zoning policies) may vary by who is making the decision. School choice can ultimately have effects on adolescents' transport to school behaviours, including distance to school and school neighbourhood walkability. This study examined students' perspectives on who chooses secondary school and the factors that influence that decision.

Methods: Secondary school students (n=1,154; mean age: 15.3±1.4 years; 46.6% boys) from 9 schools in Dunedin, New Zealand, completed an online survey. The survey included questions about who chooses a secondary school and the reasons for that choice.

Results: The decision about school choice was made in most cases by students and parents together (46.3%), followed by students only (33.2%), parents/guardians only (19.5%) and others (1.0%). Fifty-one percent of students enrolled in the school closest to their home. The most common reasons for choosing a particular school included preference for a co-educational school (68.3%), friends enrolled in the school (48.3%), positive comments from parents (51.6%) and students (51.3%) in the school, and facilities at the school (51.4%). Compared to student-only and student-and-parent decisions, parent-only decisions were more focused on siblings' enrolment and the school being close to the home. Parent-only decisions were less focused on the facilities at the school, positive comments from parents/students of the school, or preference for co-educational school.

Conclusion: The main factors influencing school choice were co-educational status, friends' enrolment, positive comments and school facilities. Parent-only decisions focused on shorter distance and siblings' enrolment.

Keywords: School choice, adolescents, parents

Motivations and Barriers for Walking to School among Dunedin Adolescents

Ashley Mountfort, Emily Brook, Candice Perring, Daria Gibbons, Charlotte Flaherty, Sandra Mandic.

Introduction: Adolescents are becoming increasingly sedentary and overweight. Active transport to school is a convenient way to engage in daily physical activity. This study examined motivations and barriers for walking to school in secondary school students in Dunedin.

Methods: A total of 584 students who lived within a 30-minute walk from school (46.6% male; mean age: 15.3±1.4 years; 9 schools) completed an online questionnaire. Students reported their transport to school habits, attitudes, motivations and barriers for walking to school.

Results: Overall, 65.1% of students walked to school regularly, 25.9% walked occasionally, 9.1% never walked, and 94.3% liked the way they travelled to school. Most students perceived walking to school as healthy (76.5%), safe (64.2%), pleasant (53.6%) and a great way to get some exercise (86.5%). Half of students also wanted to regularly walk to school (53.8%). Common barriers included cold and wet weather (50.5%), convenience of being driven to school (41.4%), lack of interest in walking to school (39.7%) and having too much to carry (38.7%). More than one quarter of students reported too much traffic (27.6%) and presence of dangerous crossings (23.6%) along the route to school as barriers. Parents (76.7%), friends (60.3%) and to a lesser extent schools (37.7%) encouraged students to walk to school.

Conclusion: Although most adolescents recognised the benefits of walking to school and received some encouragement to walk to school, focusing on modifiable barriers such as traffic safety and school bag weight can further promote walking to school as a safe and enjoyable routine.

Keywords: Active transport, walking, physical activity, adolescents

Physical Activity Habits, Screen Time and Fruit and Vegetable Intake in Dunedin Adolescents

Emily Brook, Ashley Mountfort, Candice Perring, Daria Gibbons, Sandra Mandic

Introduction: Forming healthy habits during adolescence is essential for setting the stage for healthy behaviours in adulthood. This study examined physical activity habits, screen time, fruit and vegetable intake and weight status in Dunedin adolescents.

Methods: A total of 1011 students (45.6% male; mean age: 15.3±1.4 years) from eight secondary schools completed an online questionnaire. Questions included self-reported physical activity, screen time outside of school (watching TV, surfing internet, or playing computer games), and nutrition habits (fruit and vegetable intake). Height, weight and waist circumference were measured.

Results: On average, students participated in ≥60 min of moderate-to-vigorous physical activity (MVPA) on 4.0±2.1 days/week, with only 16.5% meeting physical activity guidelines (≥60 min of MVPA every day). Students reported 5.6±3.0 hours/day of screen time, with only 13.1% meeting screen time guidelines (≤2 hrs/day). More than half of students reported daily intake of fruit (56.1%) and vegetables (63.1%). However, only 28.7% of students met dietary guidelines for both fruit and vegetable intake (more than once a day). Only 2.7% of students met all three guidelines, 10.4% met two guidelines, 29.5% met one guideline and 57.5% did not meet any of the recommended guidelines. Students' weight status was 2.9% underweight, 67.8% normal weight, 22.2% overweight and 7.1% obese.

Conclusion: More than half of adolescents are not meeting any of the recommended guidelines for physical activity, screen time and fruit and vegetable intake. Health promotion efforts should focus on encouraging regular physical activity, limiting screen time and promoting daily intake of fruit and vegetables in adolescents.

Keywords: Physical activity, adolescents, healthy eating, screen time

Comparison of Physical Activity Levels, Sedentary Behaviours and Weight Status in Adolescents Using Active versus Motorized Transport to School

Lauren Keaney, Ashley Mountfort, Emily Brook, Sandra Mandic.

Background: Active transport (AT) is an effective and convenient way to increase physical activity (PA) in adolescents. This cross-sectional study compared PA, sedentary behaviour and weight status in adolescents using AT versus motorized transport (MT) to school.

Methods: Seventy-four students (65% females; mean age: 15.6±1.5 years) from four secondary schools in Dunedin completed the following assessments: an online survey (self-report of PA and screen time (television/computer/games)), anthropometry measurements (height, weight, waist circumference, and body mass index), and a 7-day accelerometer assessment (PA and sedentary activity).

Results: Compared to the MT group, the AT group spent significantly more time in moderate (AT: 34.0±8.9 vs MT: 27.2±9.2 min/day; p=0.006), vigorous (AT: 28.8±20.8 vs 15.7±9.3min/day; p=0.011) and moderate-to-vigorous physical activity (MVPA) (AT: 62.8 ± 24.5 vs MT: 43.0 ± 15.1; p=0.002) and achieved more steps per day (AT: 10,109 ±2,760 vs MT: 7,729 ± 2,132; p<0.001). Significantly more students in the AT group met PA guidelines by completing ≥60 minutes of MVPA per day (AT: 52.4% vs MT: 16%; p=0.002) and achieving ≥10,000 steps per day (AT: 42.9% vs MT: 12.0%; p=0.004) compared to the MT group. There were no significant differences between the groups with respect to weight status (AT: 0.0%/76.2%/23.8%/0% vs. MT: 8.0%/64.0%/20.0%/8% for underweight/normal weight/overweight/obese p=0.285), sedentary activity (AT: 9.9±1.0 vs MT: 10.0±1.0 hours/day; p= 0.582), and screen time (AT: 4.4±3.2 vs MT: 5.7±3.0 hours/day; p=0.111).

Conclusion: Adolescents who use AT are more physically active but have similar weight status and sedentary behaviours to adolescents who use MT.

Keywords: Adolescents, physical activity, sedentary behaviours, body mass index

How to Get Involved...

There are opportunities for academics, parents, students, policy makers, community and sports groups to get involved in the BEATS Study.

RECRUITMENT

Parents

We are currently recruiting for our parental survey and focus groups. Parents can get involved by participating in the study, and sharing it with their friends and relatives.

Secondary School Students

We are recruiting few secondary school students for completing an online survey twice and receiving a \$15 movie voucher. Interested students should contact the BEATS Study Coordinator at (03) 479 9112 or at beats@otago.ac.nz.

Community and Sports Groups

Community and sports groups can help us to recruit participants for the parental survey by spreading the word about the study and passing on information through their various networks. Recruitment fliers and materials can be requested from the BEATS Study Coordinator.

RESEARCH

Prospective Postgraduate University Students

Students interested in this field of research should contact Dr Sandy Mandic as there are opportunities for honours, Masters and PhD-level study.

Undergraduate University Students

We are always looking for student volunteers willing to help with the data collection sessions in schools in order This research experience is a great addition to students' CVs. Anyone interested can contact the BEATS Study Coordinator.

Academics

Academics interested in getting involved in the BEATS Study should contact Dr Sandy Mandic. There are opportunities to expand the study to other cities and we are keen to hear from anyone interested.

DISSEMINATION

Policy Makers

Anyone interested in receiving more information on the findings of the BEATS Study as they become available should log there interest at beats@otago.ac.nz.

Contact Details

For all queries about the BEATS Study and how to get involved, please contact either the Study Coordinator or Principal Investigator.

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