Program Evaluation of the Major Taylor Project:
A Bicycling and Youth Development Program

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Abstract

A Program Evaluation of the Major Taylor Project: A Youth Development & Bicycling Program

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Background: There are significant benefits from regular physical activity for youth, including gains in physical health, mental and emotional health, and academic achievement. However, many children experience declines in physical activity before entering adolescence. Attributable factors may include a reduction in physical education classes offered, particularly in low-socioeconomic status school districts, and a reduced proportion of students walking or biking to school. Youth bicycling programs offer an opportunity for physical activity, goal setting, and skill building, but lack evaluations of their effectiveness. The goal was to conduct a program evaluation of the Cascade Bicycle Club's Major Taylor Project (MTP), a year-round youth development and bicycling program.

Methods: This program evaluation assessed the 2014 fall season of the MTP. A 32-item pre- and post-survey including attitudes toward bicycling, self-confidence, and previously validated measures of physical activity was administered to fall season participants in 5 high schools 7 weeks apart. The primary outcome of interest for the assessment was minutes of physical activity achieved per week. Secondary outcomes included proportion of students achieving CDC-recommended levels of moderate and vigorous physical activity, and proportion of students biking to school. Descriptive statistics, x^2, and t-tests were used to assess changes between pre- and post-fall season activity levels, attitudes and behavior. Interviews were also conducted with four MTP graduates and one current participant.

Results: In Fall 2014, 49 high school students were surveyed at week 2 of the program. Overall, 27 participants completed both the pre- and 7-week post-surveys for a follow-up rate of 55%. Mean participant age at time of pre-test was 15, 63% of participants were male, 18% were taking a PE class, and the mean duration of participation in MTP was 0.7 years. Mean minutes of total weekly physical activity was 265.7 at baseline and 224.9 post-program (p=0.69). The proportion of students meeting CDC

recommendations for physical activity remained 18.5%. At time of pre-test and at post-test, 23% of students biked to school. Participants' mean weekly minutes of bicycling outside MTP increased from 18.4 to 30.7 between pre- and post-surveys (p=0.039). Some measures of bicycling confidence also increased significantly.

Conclusions: The MTP shows promise as a program that may increase bicycling activity and confidence levels among underserved youth. Future evaluations of bicycling youth development programs are needed to further illuminate potential benefits including road safety knowledge and self-confidence. Incorporating strategies for improving retention rate would also be beneficial for delivering and evaluating similar youth programming.

Introduction

Health Benefits of Physical Activity

The benefits of regular physical activity for youth are significant and far-reaching. Aerobic exercise is associated with positive impacts on blood pressure, cholesterol, obesity and metabolic syndrome, bone health,[1] mental health outcomes,[2,3] and academic achievement.[2,4] Further, a systematic review of physical activity in children found a dose-response relationship indicating that health benefits continue to accrue as more physical activity is attained.[1] However, children have been found to experience precipitous declines in physical activity before entering adolescence[5,6]; and in 2013, just over one-quarter of high school students met CDC-recommended weekly guidelines for physical activity.[7] U.S. youth face decreasing opportunities for physical activity during school: by 2000, just 6.4 percent of middle schools and 5.8 percent of high schools provided daily physical education classes for all students.[7] This paucity of active opportunities has health implications; one study examining underlying causes of mortality estimates that in 2000, physical inactivity and poor diet were the actual causes of 400,000 deaths per year (17 percent of total mortality).[8]

In particular, schools serving low-socioeconomic status (SES) communities have been found less likely to have a PE teacher but to have more active travel among students.[9] Rather than being evenly distributed throughout the population, adverse weight-related health outcomes associated with energy intake and lack of safe physical activity opportunities are experienced disproportionately by youth in underserved communities.[10] In King County, Washington, rates of heart disease, obesity, diabetes, motor vehicle crash deaths, and no reported leisure time physical activity are higher in low-SES areas, many in South and Southeast parts of the County.[11]

Importance of cycling in contributing to physical activity and health

Literature shows widespread evidence of cycling's contribution to physical activity. A systematic review of 16 studies found strong evidence linking bicycling to fitness benefits, moderate evidence for cardiovascular risk factor benefits, and found a dose-response gradient between amount of cycling and health benefits in six of the studies.[12] A prospective, 14-year study in Denmark found a relative risk for all-cause mortality to be 28% lower among those who bicycled to work compared to non-cyclists.[13] A study in the UK found a dose-response relationship between amount of cycling and risk of hypertension among adults.[14]

Bicycling to school has been found to be associated with increased cardiorespiratory fitness in youth.[12,15,16] A Swedish study found a 20% increase in cardiorespiratory fitness over six years among students who biked to school compared to those who walked.[15] In Denmark, children and adolescents who bicycled to school were five times as likely to be in the top fitness quartile as those who walked or were driven to school.[16] In a study in New Hampshire and Vermont, active commuting to school at least 4 days per week was projected to have the potential to reduce the prevalence of obesity among adolescents by 22 percent,[17] and research suggests youth recreational cycling can provide a means of increasing physical activity as well as lead to future bicycle commuting.[18] Although active transport to school has historically provided a share of children's physical activity, the proportion of kids aged 5-14 walking or biking to school dropped from 48 percent to 13 percent between 1969 and 2009.[19]

Youth bicycling programs have potential to increase bicycling knowledge as well as facilitate self-efficacy and social support. A systematic review of bicycle skills training interventions revealed eight of sixteen studies reported significant knowledge gains, and five of thirteen showed significant behavioral and attitudinal changes, but authors note that evidence is inconsistent due to loss to follow-up and heterogeneous program emphases and study outcomes.[20] A study of a Philadelphia Earn-a-Bike program showed youth participants gained a sense of independence and skills mastery,[21] and study results of a similar Earn-a-Bike program reflected youths' gains in social and practical skills.[22] However, few programs have sought to increase the uptake of cycling, particularly among underserved communities.

Aim of the Current Evaluation

Marshall "Major" Taylor was the first Black professional cyclist and faced widespread systemic and interpersonal racism while breaking and setting new world records in the late 1890s and early 1900s.[23] Other bicycling programs inspired by Major Taylor serve youth and communities in cities including Denver,[24] Minneapolis,[25] Austin,[26] and Pittsburgh.[27] The Seattle area's Major Taylor Project (MTP) is a youth development and bicycling program started in 2009 by Cascade Bicycle Club's Diversity and Inclusion Department. The year-round program aims to make bicycling accessible to students in underserved school districts and neighborhoods in King County and "[to empower] underserved youth through cycling by promoting positive physical, emotional and social development."[28]

While there is increasingly robust research addressing Safe Routes to School (SRTS) and the impact of the built environment on health, there is little data detailing the levels of physical activity

obtained through youth bicycling programs. This lack of data makes it difficult for existing organizations to leverage additional funding to grow capacity or for nascent ones to gain momentum. Thus, the goal was to conduct a program evaluation of the Cascade Bicycle Club's Major Taylor Project to see if physical activity increased and if attitudes toward and knowledge about safe bicycling improved over the duration of the fall season.

Methods

Program and Participants

At the time of evaluation, the Major Taylor Project served students from six middle and high schools in South King County through three programs: an eight-week fall program, a six-week winter Earn-a-Bike maintenance class, and a twelve-week spring program. Each school meets once weekly except for the largest program which met twice weekly in Fall 2014. Two MTP staff lead education, and group rides that begin at each school are also assisted by adult volunteers. Educational components include road safety, traffic laws, and community impacts of cycling.[28] During the first week's session, students are sized for bikes to be used during the following eight weeks and participate in learning bicycle and road safety skills. Sessions take place after school at each school served by MTP. This evaluation used pre and post surveys to assess the impact of the Major Taylor Project's 8-week fall program on students' physical activity and attitudes toward bicycling and self-efficacy in five high schools.

Participants were high school students aged 14-19 (N=49) who enrolled in the 8-week fall program between September and November 2014. Program outreach included school announcements, teacher and staff communication with students, and participant word of mouth. Some school staff, including one school's principal who is particularly interested in the program, mention it to students they think may be interested. MTP staff recorded attendance and also tracked information on group ride distance, ride length, and number of participating students for each school. In addition, four program graduates and one current participant were interviewed.

Data Collection Procedures

Major Taylor Project participants in five high schools completed surveys during the first two weeks of the program and at the 8-week session of the fall program. MTP staff followed up with students who did not complete the exit survey the following week and attempted to re-contact students after the program ended, offering a $10 Starbucks gift card to those who would complete the follow-up survey. The MTP

received funding from Group Health, which has partnered with Cascade Bicycle Club since 2002 and which used funds from a community benefit grant that paid for some MTP staff time. The evaluation itself was also partially funded by Group Health. The program evaluation plan was reviewed and granted a "not research" waiver from the Group Health Research Institute IRB and UW Human Subjects Division to conduct this evaluation.

Survey Instrument

The survey was designed with active stakeholder involvement through several meetings with MTP staff during which evaluation goals, survey questions, and logistics were collectively developed. Feedback was integrated into survey iterations throughout the process. Ultimately, the survey instrument contained questions selected by evaluators and MTP staff and validated questions from the literature, including questions from the International Physical Activity Questionnaire (IPAQ)[29], as well as questions relevant to program stakeholders written by MTP staff. Measures asked about students' physical activity outside of MTP and in total, opinions and knowledge of bicycling and bike infrastructure in their neighborhoods and city, and self-efficacy. The final survey contained 32 questions and took roughly 20 minutes to complete. A full copy of the survey is attached in the appendix.

The survey included questions to assess demographic variables including age, gender, race/ethnicity, and language(s) spoken at home, whether they owned a bike, how many years they had participated in MTP, if they currently rode a bike to school, if they currently rode a bike for fun, if they had a PE class, and if they participated in another sport outside of MTP. The next section contained six questions about participants' bicycling confidence, with a five-point Likert Scale ranging from "strongly disagree" to "strongly agree."

IPAQ questions, validated for adults and adolescents over 15,[30] were reworded slightly for high-school student readability to ask for only minutes rather than hours and minutes. For example, the question, "How much time did you usually spend doing vigorous physical activities on one of those days?" prompting a response of hours and/or minutes was altered to read, "How many *minutes* [emphasis added] did you usually spend doing vigorous physical activities on one of those days?"

IPAQ items included questions on how many days in the past week (and minutes per day, if applicable) participants did vigorous and moderate physical activity. Variables capturing vigorous and moderate minutes per day were multiplied by days of vigorous and moderate physical activity,

respectively, to form mean vigorous and moderate minutes per week outcome variables, and then added to create an outcome variable aggregating weekly total minutes of physical activity.

Participants were also asked about their biking experience through questions from the National Highway Traffic Safety Administration's (NHTSA) and Bureau of Transportation Statistics' (BTS) 2002 National Survey of Bicyclist and Pedestrian Attitudes and Behavior.[31] Questions were "Compared to about a year ago, would you say you are now riding a bike more often, less often, or about the same amount?," "In the past year, were you ever injured while riding a bike? Only count injuries that were bad enough that you had to see a doctor" and five attitudinal questions with a five-point Likert Scale spanning 1=strongly disagree to 5=strongly agree, some of which were slightly reworded for readability. Items were: "I would like to bike more than I am now," "Biking is a great form of transportation where I live," "Biking is a great form of exercise for me," "I enjoy riding a bike alone," and "I enjoy biking in a group." Some questions from a previous iteration of the MTP survey were also included; for example, "I feel comfortable taking risks."

MTP staff recorded attendance each week with the exception of one school, for which there is limited data (Table 4). MTP staff at each school also tracked group rides, with ride leaders logging miles recorded on their bicycle computers and number of students on each ride.

Interviews

Cascade Bicycle Club & Major Taylor Project staff identified six former participants, whom the evaluator attempted to contact to gather personal reflections on their experience in MTP and their current relationship to bicycling. The four who responded participated in 30- to 60-minute in-person interviews. One current participant was also interviewed. The evaluator began by asking prepared questions and let the conversation continue to topics respondents felt were most salient to their experiences.

Data Analysis

All analyses were conducted using STATA 13.1 (StataCorp, College Station, TX, US) and tested at $\alpha = 0.05$ significance level. We calculated descriptive statistics and conducted paired sample t-tests or Chi Square tests to assess differences between pre and post surveys. Common themes and case examples that emerged from informal participant interviews were summarized.

Results

Overall, 49 participants completed a baseline survey in September, and 27 completed a follow-up survey in November. Relative to participants who did not take the follow-up survey, those who did

complete the post-test were older, less likely to identify as Black or African American, and reported being more comfortable bicycling. Students who were lost to follow-up reported lower bicycling confidence, self-esteem, and perceived benefits of bicycling at time of baseline survey compared to completers.

At baseline, participants were 63% male, had a mean age of 15.4 and represented 13 self-reported racial or ethnic groups with 13 different languages spoken at home (Table 1). At baseline, the majority of students had participated in MTP less than one year, and mean length of participation was 0.72 years. A majority of baseline participants (55%) owned a bike and 58% reported riding for fun outside of MTP. Fewer than one-fifth were currently enrolled in a PE class at baseline, while nearly half reported participating in another sport or physical activity outside of MTP.

Attendance varied widely by school. The number of students that attended one of the first two sessions was generally much higher than the final two weeks. Attendance per school ranged between four and 14 in Week 1 and between one and 14 in Week 8, with total overall program attendance dropping from 44 to 22 between Weeks 1 and 8. Over the course of the eight-week program, attendance tapered off more in certain schools. The program "dose" received varied as a result of attendance, ranging from roughly one-third of students at School 2 to all students at School 5 attending at least four weeks of programming. The average number of group rides was 6.4 per school with an average of 7.5 participants; the average ride distance was 9.9 miles, and the average ride was 91.4 minutes.

Results in Table 2 showed there were no significant changes in physical activity from baseline to post-test in the overall sample (n=27). While not significant, mean total minutes of physical activity declined by about 39 minutes. The proportion of students meeting the CDC recommendation for weekly physical activity remained the same at baseline and follow-up (18.2%; x^2=3.3, p=0.068). A total of 4 (18.2%) students reported no weekly physical activity at baseline, and 8 (36.4%) reported no weekly physical activity at post-test, a significant decrease (x^2=8.56, p=0.003). Among students who reported any weekly physical activity at post-test (N=14), the mean total minutes of physical activity showed a non-significant increase from 323.9 to 353.4 (p=0.402).

Participants significantly increased minutes spent bicycling outside of the club by over 12 minutes (paired t-test, p=0.039). Those who reported *any* minutes of biking in the past week showed a significant improvement of 50 minutes from baseline to post-test (paired t-test, p=0.032). Among students who reported any cycling outside the club at post-test (N=5), the mean weekly total minutes of cycling changed

significantly from 60 to 104.5 minutes (p=0.019). The proportion of students who rode for fun significantly decreased (x^2=9.72, p=0.002). Mean distance ridden outside of MTP showed a non-significant increase of 1.02 miles, and 3.18 miles among those who reported more than zero miles ridden.

The proportion of students who knew how to choose a safe bike route and who enjoyed riding a bike alone did not significantly change. A higher (although non-significant) proportion of participants reported feeling confident riding around their neighborhoods and to school, while the proportion that felt confident riding a bike around Seattle decreased significantly by 7.5% (x^2=8.57, p=0.003) (Table 2). The proportion of participants who reported biking to school remained about 20% from baseline to post-test.

Skills and attitudinal factors significantly increased, including the proportion that enjoyed biking alone (x^2=5.11, p=0.024), that knew how to fix a flat tire (x^2=14.26, p<0.000), that were comfortable taking risks (x^2=14.97, p<0.000), and that felt they could accomplish difficult tasks (x^2=3.96, p=0.047). While there were increases in the proportion of participants that reported enjoying riding in a group and that were riding more now than one year ago, the changes were not significant. Other statements addressing bicycling attitudes decreased including: “I would like to bike more than I am now” and “Biking is a great form of transportation where I live” (both non-significant), and “Biking is a great form of exercise for me” (a significant change; x^2=9.47, p=0.002). The proportion of participants who had been injured badly enough to seek medical attention while biking in the last year remained less than 17%.

Interviews

Common themes that emerged from interviews with former participants included that pre-existing interests in cycling and support from friends encouraged them to join the program, participation led to becoming stronger and being able to ride longer distances, road safety is a barrier, and bicycling continues to be important after completing the program. Several case examples demonstrate participants’ views of the program (all names have been changed).

Participants emphasized friends’ influence and their existing interest in bicycling that drew them to the club. Interviewee 1, Anthony, participated in Major Taylor his senior year. He described his mindset going in as, “I don’t want to drive cars, I should find a more convenient way to move, and cars aren’t my first choice. So I thought maybe I learn how to ride a bike and that can be my substitute. So I said I’d do it only if my friends do it, so we signed up together.” Taylor (Interviewee 2) was in Major Taylor for three years and is still occasionally involved in outreach activities when he has time as a college freshman. In

his words, “One of my friends told me to go, that’s why I joined.” Kelly (Interviewee 3) was in Major Taylor for three years and joined because she really loved biking. “I like doing rides with other people more than I like going on my own, and I forced a friend to do it, and he bikes pretty much everywhere now since bike club.” Ernesto (Interviewee 4), participated for four years and said, “I’m not a very social person, but it was the right kind. You could either enjoy your bike by yourself, or you could share it—talk to people about riding.” Interviewee 5, Jordan, joined because “My friend was in it, and she wanted me to join, and I’ve always loved biking, and I decided to give it a try.”

Participants also mentioned their progress in terms of physical stamina and ability to bicycle long distances. When he first started, Taylor notes, “I couldn’t believe we were actually going to ride eight miles on a bike. I sort of wanted to give up halfway through. I rode the STP [Seattle to Portland, a 208-mile ride] after one year, and I do it every year since then.” For Kelly, “[Through the MTP], I got more confidence in my riding. When I was first starting out, I […] couldn’t get up the Des Moines memorial hill without stopping at least 10 times. By junior year, I could go all the way up without stopping. This year it’ll be my fourth year doing STP. I didn’t even know about it before [Bike Club], but it’s been a great experience.” Anthony said before joining “I had never been on a bike before—never touched a bike,” but after being involved for a year, “I biked 1,200 miles in a month. I was doing 60 to 70 miles a day, and on the weekends I would do more.“ After getting a road bike through the Earn-a-Bike winter program, Ernesto noted that he commuted 40 to 45 miles a day throughout the summer. “I enjoyed it a lot.” After joining, Jordan rode the STP in 2013, tried cyclocross racing, and completed a tour with another local biking group. Ernesto did not have a bike before joining MTP, but he rode the STP three times after completing the Earn-a-Bike program.

Another common theme was the lasting role bicycling has played in participants’ lives. Anthony now works for a local cycling advocacy organization and bike commutes 20 to 25 miles each day. He says, “Going into schools is about equity. There’s a demand for biking.” For Taylor, “It introduced me to the cycling community and now I ride my bike everywhere. Now it’s a part of transportation whereas before MTP it was only up and down the block. I participated in Earn-a Bike, and that’s the bike I have now.” At the time of the interview, Ernesto planned to start riding his bike to school again and to volunteer with MTP. Kelly still occasionally rides “a really old road bike with shifters on the down tube” and also rides on her bike trainer during the winter. Jordan plans on “going to a college that’s a biking friendly community. […]. Mainly for recreation—depending on finances, possibly transportation as well.”

MTP participants also expressed insight about the conditions that facilitate or impede bicycling in their communities and the role youth can play in changing the culture and norms around biking. Kelly pointed out the lack of infrastructure to support students biking to school, noting, "It would help to have bike racks." Ernesto also spoke to the need for safe bicycling opportunities: "[My city] isn't safe to ride bikes--[…]There's no bike lanes, people aren't used to bikes[…]. And then I joined Bike Club, and they taught us how to ride […] safely and showed us the road signs and hand signals. And I thought if I do this, my parents will feel [safer] and like I know how to ride on the road." Speaking about bike culture, Ernesto said, "This thing exists, and you can be part of it. You can make it happen in your own neighborhood. You just need to teach people it's OK to ride bikes. It's not safe because nobody's currently riding bikes in [my city]. But if kids start wanting to ride—people will say […] 'we need to make these roads safer.'" Jordan noted, "I see a lot more youth being involved in biking, and a lot more youth getting involved in the things Major Taylor is involved in—and other clubs as well. 'Cause it's not just about biking, they're about community service and being a community as well."

Students underscored the idea that bicycling is fun for them and doesn't need to be an elite activity. "People in [my city] think they're too expensive, but they don't have to be […]. Safeway is half a mile from my house, you could totally ride there; you don't need carbon fiber." Anthony said, "It calms me down and it's kind of therapeutic." Jordan echoed that, nothing, "I feel like [participants] really enjoy it because it's a great way to get out of the stresses of life. It's very relaxing."

Discussion

In Fall 2014, the Major Taylor Project served students from six middle and high schools in South King County school districts with more diverse populations and lower socioeconomic status than much of the county. This evaluation examined participants' changes in physical activity and cycling, attitudes, and behaviors over eight weeks of the fall program in five high schools. Overall, total self-reported physical activity was not improved but there was an increase in minutes spent cycling, and important attitudes and skills improved. As there are few evaluations of youth bicycling programs, this adds to what is known about changes in adolescents' self-reported physical activity and bicycling attitudes and behaviors before and after programming.

Participant interviews highlighted that there is a demand for bicycling, and the club appeals to students' interests, although neighborhood and school infrastructure and community norms may not necessarily support bicycling for transportation or recreation. Participants described physical achievements and personal transformations as a result of joining.

While we did not see increased overall physical activity among all students, we did see significantly increased weekly minutes of cycling. This is an intuitive result, as the MTP is more specifically focused on bicycling than on overall physical activity. The proportion of students achieving CDC-recommended levels of physical activity remained stable. The proportion of students bicycling to school also remained the same, and since the follow-up was conducted in November, which is the month with the greatest average rainfall in Seattle,[32] it is encouraging that those students who were commuting by bicycle were not dissuaded by inclement weather. Mean minutes ridden outside of the club also increased, as well as the proportion of participants that reported enjoying riding in a group and that were riding more now than a year ago.

Results of the evaluation also highlight the potential for positive change in bicycle safety knowledge, attitudes, and comfort with bicycling after participating for a season. The proportion of students who reported knowing how to choose a safe bike route, fix a flat tire and enjoying biking alone increased, while the proportion of those who felt confident riding around Seattle decreased. Given that a higher proportion reported feeling confident riding around their neighborhoods, near their house, and to school at post-test, this could be due to increased awareness of citywide built environment barriers to bicycling, or from discovering more safe bike routes near their homes and schools.

Some measures decreased, including the proportion that would like to bike more than they were now, likely reflecting the increased levels of cycling achieved during the fall program. The proportion of those who felt that biking was a great form of exercise for them decreased slightly, perhaps reflecting the physical fitness attained during the fall season that made bicycling feel easier. The fact that the proportion of participants seriously injured while bicycling during the past year remained the same is also encouraging, although the 17% injury rate reported at baseline suggests that cycling among youth is not without some risks.

The proportion of participants who felt biking was a great form of transportation where they lived remained the same, while the proportion who felt comfortable taking risks and felt they could accomplish

difficult tasks increased, perhaps reflecting the gains in bicycling ability and physical stamina achieved through the season.

There are several evaluation limitations. As this was an evaluation of an existing program with limited staff and no external funding to support data collection activities, we ended up with a low follow-up rate and a small sample size to detect pre-post effects. Those students who did not complete the follow-up survey were also younger and newer to MTP, had less bike ownership, less confidence in biking, and lower bicycling attitude scores. This has important implications for retention efforts if the program is to reach those students who may be least experienced or comfortable bicycling. MTP may also be most effective and rewarding for those with an existing interest in bicycling at baseline. Attendance also varied by school, highlighting a potential need for further adapting program delivery to each school environment. Also, it is known that self-reported measures of physical activity, particularly among youth, are not ideal. More robust methods such as GPS or accelerometers would provide a more objective reflection of physical activity obtained through MTP. In the future, collecting both attendance from every session and group ride for each student would help specify program dose received. Also, many returning participants had already been involved in MTP for one or more years prior to taking the baseline survey, so effects of participation in the single fall season evaluated are likely to be attenuated among that group. Perhaps most salient for the outcome measures in this evaluation, results were likely influenced by the seasonality of the follow-up survey being administered in late Fall, which is expected to underestimate effects of program participation on minutes of bicycling and physical activity.

Conducting the evaluation at five schools presented a challenge for standardizing a procedure for survey administration and likely explains why response rate varies by school. The logistics of coordinating between three organizations to conduct an evaluation at external community sites was also challenging. MTP staff who administered the survey were adding a task to their already busy programming, and this survey required more effort and time from participants than the previously used survey instrument.

The evaluation's strengths include the diversity of participating students, which offers insight into perceptions of bicycling in communities not always included in the prevailing image or outreach efforts of many bicycle advocates or organizations. In addition, the contribution of survey design input and questions by MTP staff ensured that questions asked were relevant and poised to obtain useful information.

Despite the lack of significant differences in physical activity levels found in this evaluation, the low proportion of participants enrolled in a PE class (18.4%) underscores the value of participation in active afterschool programming. Results were shared with Cascade Bicycle Club and Major Taylor Project staff, and the survey instrument was adapted to more closely match the program's stated goals by removing several questions not targeting bicycling behaviors and knowledge and by replacing open-ended minutes of physical activity and cycling questions with response categories.

Implications

More evaluations of youth bicycling programs are needed to ascertain changes in knowledge, attitudes, and behaviors. Participation at the five schools depicted here and the recent expansion of MTP into two additional cities shows the demand for this type of programming. Evaluation results highlight the need to use objective measures such as GPS to more accurately capture cycling and physical activity data Prospective studies with a comparison group are needed to show longer-term effects of participation in youth bicycle programs and to provide evidence that changes are due to programming rather than secular trends in awareness and uptake of bicycling in urban environments.

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Appendix

TABLE 1: Baseline Variables from the Major Taylor Project Pre-Survey: Seattle, WA, September 2014 (N=49)

Variable	Total Sample at Baseline
Age n(%)	
14 y	7(14.3)
15 y	25(51)
16 y	6(12.2)
17 y	4(8.2)
≥18 y	3(6.1)
Missing	4(8.2)
Race n(%)	
African American, Black, Black African, Black American	4(8)
Asian, Asian-American	7(14.2)
Asian (Vietnamese), Vietnamese	4(8)
Hispanic	2(4)
Indian (Asian)	1(2)
Iraqi	1(2)
Latino, Latina/White	2(4)
Mexican	6(12.2)
Mexican American	3(6.1)
Muslim	1(2)
Pacific Islander	1(2)
Somali	4(8.2)
White	5(10.2)
Missing	8(16.3)
School n(%)	
School 1	8(16.3)
School 2	21(42.9)
School 3	6(12.2)
School 4	4(8.2)
School 5	10(20.4)
Language(s) n(%)	
Alcio	1(2)
Amharic & English	3(6.1)
Arabic & Farsi	1(2)
Cham, English & Vietnamese	1(2)
English	12(24.5)
Nepali, English	1(2)
Somali	6(12.2)
Spanish	8(16.3)
Spanish & English	4(8.2)
Swahili	1(2)
Tagolog & English	1(2)
Vietnamese	4(8.2)

Variable	Total Sample at Baseline
Vietnamese & Chinese	1(2)
Vietnamese & English	3(6.1)
Missing	1(2)
Gender^ n(%)	
Male	31(63.3)
Female	15(30.6)
Missing	3(6.1)
How many years in MTP n(%)	
Less than 1	29(59.2)
1	10(20.4)
2+	7(14.3)
Missing	3(6.1)
Years in MTP (N=46), mean(SD)	0.72(1.2)
Own a bike n(%)	27(55.1)
Ride for fun outside MTP n(%)	28(58.3)
How many days ridden for fun in past week n(%)	
None	24(48.98)
Some	13(26.5)
Every day	1(2)
Missing	10(20.4)
Mean minutes in past week (SD)	23.4(51.2)
Mean minutes in past week among those>0 (SD)	65.2(68.8)
Ride bike to school n(%)	11(22.5)
How many days in past week	
None	39(79.6)
Some	5(10.2)
Every day	4(8.2)
Missing	1(2)
PE class n(%)	
Yes	9(18.4)
No	38(77.6)
Missing	2(4.1)
Mean minutes in past week (SD)	13.4(39)
Mean minutes in past week for those >0 (N=8) (SD)	78.8(64.2)
Another sport/activity outside MTP n(%)	
Yes	22(44.9)
No	27(55.1)
Missing	0(0)
Mean minutes in past week (N=42) (SD)	103.9(274.4)
Mean minutes in past week for those >0 (N=14) (SD)	311.7(409.5)
Bicycling Confidence* n(%)	n(%)
I feel confident riding a bike on roads near my house (N=47)	35(71.4)
I feel confident riding a bike to school (N=47)	29(59.2)
I feel confident riding a bike in my neighborhood (N=42)	33(67.4)
I feel confident riding a bike around Seattle (N=47)	27(55.1)

Variable	Total Sample at Baseline
I know how to fix a flat tire (N=47)	12(24.5)
I know how to choose a safe bike route (N=47)	15(30.6)
Days of Vigorous PA in past week n(%)	
None	13(26.5)
1-6	27(55.1)
Missing	5(10.2)
Mean minutes of vigorous PA (N=42) (SD)	45.3(58.3)
Mean minutes of vigorous PA if days >0 (N=30) (SD)	63.5(61.3)
Days of Moderate PA in past week n(%)	
None	21(42.9)
1-6	19(38.8)
Missing	6(12.2)
Mean minutes of moderate PA (N=38) (SD)	28(53)
Mean minutes of moderate PA if days>0 (N=17) (SD)	61.4(65.7)
Compared to one year ago, riding bike more, less, or same n(%)	
More	19(38.8)
Less	5(10.2)
Same	13(26.5)
Missing	13(26.5)
In past year, injured badly enough while biking to go to doctor n(%)	
Yes	8(16.3)
No	33(83.7)
Missing	8(16.3)
Longest distance ridden outside MTP Mean(SD)	
Mean (miles) (N=36)	13.56(23.7)
Missing	13(26.5)
Attitudes toward Bicycling and Self-Esteem* n(%)	
I would like to bike more than I am now (N=46)	42(85.7)
Biking is a great form of transportation where I live (N=47)	27(55.1)
Biking is a great form of exercise for me (N=47)	36(73.5)
I enjoy riding a bike alone (N=47)	19(38.8)
I enjoy riding a bike in a group (N=46)	33(67.3)
I feel comfortable taking risks (N=46)	24(48.97)
I can accomplish difficult tasks (N=46)	21(42.9)
I feel like I can make a difference in my community (=46)	23(46.9)
I would recommend MTP to a friend+	25(51)
I plan to keep riding after graduation+	23(46.9)
Total	49

Note. The pre-test sample size was N=49.

*Percentage who strongly or somewhat agree with the statements in this section

[+]Only returning students prompted to answer these two questions

^Participants given open-ended response for gender and responded with M or F

Table 2: Changes from Baseline to Posttest for Major Taylor Project Participants (N=27)

Outcomes	Pre-test	Post-test	Change	*P*
Ride for fun outside MTP (N=25) n(%)	14 (56)	11 (44)	-12	0.002
How many days for fun in past week (N=19) n(%)				
None	12 (63.2)	12 (63.2)	0	0.00
Some	6 (31.6)	6 31.6)	0	
Every day	1 (5.3)	0 (0)	-5.3	
Mean minutes in past week (N=17) (SD)	18.4(8.5)	30.7(14.5)	12.4(6.5)	0.039
Mean minutes in past week among post-test>0 (N=5)	60(18.98)	104.5(30.3)	44.5(14.5)	0.019
Ride bike to school (N=26) n(%)	6 (23.1)	6 (23.1)	0	0.000
How many days in past week (N=26) n(%)				
None	20 (76.9)	20 (76.9)	0	0.000
Some	3 (11.5)	2 (7.7)	-3.8	
Every day	3 (11.5)	4 (15.4)	3.8	
Another sport/activity outside MTP (N=25) n(%)				
Yes	10 (40)	14 (56)	16	0.000
No	15 (60)	11 (44)	-16	
Mean minutes in past week (N=20) (SD)	121.5(65.8)	112(59.3)	-9.5	0.57
Mean minutes in past week among post-test>0 (N=6)	300(182.8)	373.3(158)	73.3(162.4)	0.45
Attitudes toward Bicycling* n(%)				
I feel confident riding a bike on roads near my house (N=27)	21 (77.8)	23 (85.2)	7.4	0.148
I feel confident riding a bike to school (N=27)	16 (59.3)	19 (70.4)	11.1	0.135
I feel confident riding a bike in my neighborhood (N=26)	18 (69.2)	19 (73.1)	3.8	0.561
I feel confident riding a bike around Seattle (N=27)	15 (55.6)	13 (48.1)	-7.4	0.003
I know how to fix a flat tire (N=27)	7 (25.9)	8 (29.6)	3.7	0.000
I know how to choose a safe bike route (N=27)	9 (33.3)	11 (40.7)	7.4	0.268
Days of Vigorous PA in past week (N=23) n(%)				
None	4 (17.4)	11 (47.8)	30.4	0.32
1-6	18 (78.3)	10 (43.5)	-34.8	
7	1 (4.3)	2 (8.7)	4.3	
Mean minutes on one of those days (N=19) (SD)	50.8 (15.6)	39.7 (12.7)	-11.1 (15.6)	0.76
Mean minutes on one of those days if days >0 (N=8) (SD)	82.5 (33)	83.1 (21.3)	0.63 (33.7)	0.49
Days of Moderate PA in past week (N=24) n(%)				
None	11 (45.8)	10 (41.7)	-4.2	0.501
1-6	11 (45.8)	11(45.8)	0.0	
7	2 (8.3)	3 (12.5)	4.2	
Mean minutes on one of those days (N=16) (SD)	22.8 (13)	23.9 (8.3)	1.1 (10.5)	0.46
Mean minutes on one of those days if days>0 (N=6) (SD)	55.8 (31.6)	48.3 (17.1)	-7.5 (27.4)	0.602
Weekly PA Indices Mean(SD)				
Mean minutes of Moderate PA in past week (N=15)	139 (93.3)	76.1 (29.3)	-62.9 (75.3)	0.79
Mean minutes of Vigorous PA in past week (N=19)	183.2 (59.6)	149.7 (52.1)	-33.5 (60)	0.71
Mean total minutes of PA in past week (N=22)	265.7 (76.5)	224.9 (80.1)	-40.8 (82.5)	0.69
Mean total minutes of PA in past week if post-test>0 (N=14) (SD)	323.9(107.2)	353.4(113)	29.4(116.6)	0.402

Outcomes	Pre-test	Post-test	Change	*P*
Weekly Physical Activity Categories (N=22) n(%)				
None	4 (18.2)	8 (36.4)	18.2	
Some (1-419 min)	14 (63.6)	10 (45.5)	-18.2	
CDC Recommendation (420+min)	4 (18.2)	4 (18.2)	0.0	).068
Compared to a year ago, riding bike more, less, or same (N=19) n(%)				0.138
More	10 (52.6)	15 (78.9)	26.3	
Less	1 (5.3)	1 (5.3)	0.0	
Same	8 (42.1)	3 (15.8)	-26.3	
In past year, injured badly enough to go to doctor (N=18) n(%)				
Yes	3 (16.7)	3 (16.7)	0	
No	15 (83.3)	15 (83.3)	0	0.011
Longest distance ridden outside MTP? Mean(SD)				
Mean (miles) (N=15)	17.7 (6.9)	15.6 (4.1)	-2.1 (7.3)	0.61
Mean miles among those >0 (N=12)	22 (8.3)	17.4 (4.7)	-4.6 (8.9)	0.69
Attitudes toward Bicycling and Self-Esteem* n(%)				
I would like to bike more than I am now (N=26)	25 (92.6)	23 (88.5)	-7.7	0.713
Biking is a great form of transportation where I live (N=25)	16 (64)	16 (64)	0.0	0.127
Biking is a great form of exercise for me (N=26)	22 (84.6)	21 (80.8)	-3.8	0.002
I enjoy riding a bike alone (N=26)	10 (38.5)	11 (42.3)	3.8	0.024
I enjoy riding a bike in a group (N=25)	19 (76)	21 (84)	8.0	0.959
I feel comfortable taking risks (N=25)	14 (56)	17 (68)	12.0	0.000
I can accomplish difficult tasks (N=22)	13 (59.1)	15 (68.2)	9.1	0.047
I would recommend MTP to a friend+ (N=15)	13 (86.7)	14 (93.3)	6.6	0.685
I plan to keep riding after graduation+ (N=15)	14 (93.3)	13 (86.7)	-6.6	0.685

Note. The pre-test sample size was N=49.

*Percentage who strongly or somewhat agree with the statements in this section

[+]Only returning students prompted to answer these two questions

TABLE 3: Baseline Variables for Post-test completers and non-completers from the Major Taylor Project Pre-Survey: Seattle, WA, September 2014

Variable	Post-test Completers	Post-test Non-completers	Difference	P
Age n(%)				0.08
14 y	1(3.7)	6(27.3)	23.6	
15 y	15(55.6)	10(45.5)	10.1	
16 y	5(18.5)	1(4.6)	13.9	
17 y	2(7.4)	2(9.1)	1.7	
≥18 y	2(7.4)	1(4.6)	2.8	
Missing	2(7.4)	2(9.1)	1.7	
Mean (SD)	15.6(1)	15.2(1.3)	0.4	0.23
Race n(%)				0.103
African American, Black, Black African, Black American	-	4(18.4)	18.4	
Asian, Asian-American	7(25.9)	-	25.9	
Asian (Vietnamese), Vietnamese	2(7.4)	2 (9.1)	1.7	
Hispanic	2(7.4)	-	7.4	
Indian (Asian)	-	1(4.6)	4.6	
Iraqi	1(3.7)	-	3.7	
Latino, Latina/White	1 (3.7)	1(4.6)	0.9	
Mexican	4(14.8)	2(9.1)	5.7	
Mexican American	3(11.1)	-	11.1	
Muslim	1(3.7)	-	3.7	
Pacific Islander	-	1(4.6)	4.6	
Somali	2(7.4)	2(9.1)	1.7	
White	2(7.4)	3(13.6)	6.2	
Missing	2(7.4)	6(27.3)	19.9	
School n(%)				0.182
School 1	2(7.4)	6(27.3)	19.9	
School 2	13(48.1)	8(36.4)	11.7	
School 3	3(14.8)	4(18.2)	3.4	
School 4	-	2(9.1)	9.1	
School 5	8(29.6)	2(9.1)	20.5	
Language(s) n(%)				0.28
Alcio	1(3.7)	-	3.7	
Amharic & English	1(3.7)	2(9.1)	5.4	
Arabic & Farsi	1(3.7)	-	3.7	
Cham, English & Vietnamese	-	1(4.6)	4.6	
English	4(14.8)	8(36.4)	21.6	
Nepali & English	-	1(4.6)	4.6	
Somali	2(7.4)	4(18.2)	10.8	
Spanish	6(22.2)	2(9.1)	13.1	
Spanish & English	4(14.8)	-	14.8	
Swahili	-	1(4.6)	4.6	
Tagolog & English	1(3.7)	-	3.7	
Vietnamese	3(11.1)	1(4.6)	6.5	

Variable	Post-test Completers	Post-test Non-completers	Difference	P
Vietnamese & Chinese	1(3.7)	-	3.7	
Vietnamese & English	2(7.4)	1(4.6)	2.8	
Missing	1(3.7)	0		
Gender^ n(%)				0.47
Male	18(66.7)	13(59.1)	7.6	
Female	7(25.9)	8(36.4)	10.5	
Missing	2(7.4)	1(4.6)		
How many years in MTP n(%)				0.22
Less than 1	14(51.9)	15(68.2)	16.3	
1	8(29.6)	2(9.1)	20.5	
2+	4(14.8)	3(13.6)	1.2	
Missing	1(3.7)	2(9.1)		
Years in MTP, mean(SD)	0.77(1.02)	0.65(1.3)	0.12	0.73
Own a bike n(%)	17(62.96)	10(45.5)	17.46	0.22
Ride for fun outside MTP	16(59.3)	13(59.1)	0.2	0.53
How many days in past week n(%)				0.52
None	13(48.2)	11(50)	1.8	
Some	7(25.9)	6(27.3)	1.4	
Every day	1(3.7)	0	3.7	
Missing	6(22.2)	5(22.7)		
Mean minutes in past week (SD)	17.1 (32.4)	30 (65.8)	12.9	0.44
Mean minutes in past week among those>0 (SD)	48.9 (38.9)	81.4 (90.1)	32.5	0.398
Ride bike to school n(%)	6(22.2)	5(22.7)	0.5	0.97
How many days in past week				
None	21(77.8)	18(81.8)	4	
Some	3(11.1)	2(9.1)	2	
Every day	3(11.1)	1(4.6)	6.5	
Missing	0	1(4.6)		
PE class n(%)				0.47
Yes	4(14.8)	5(22.7)	7.9	
No	22(81.5)	16(72.7)	8.8	
Missing	1(3.7)	1(4.6)		
Mean minutes in past week (SD)	17.7 (49.7)	8.1 (19.1)	9.6	0.41
Mean minutes in past week for those >0 (SD)	115 (75.1)	42.5 (22.2)	72.5	0.11
Another sport/activity outside MTP n(%)				0.22
Yes	10(37)	12(54.6)	17.6	
No	17(62.96)	10(45.5)	17.5	
Mean minutes in past week (SD)	101.3 (271.3)	107.4 (286.3)	6.2	0.94
Mean minutes in past week for those >0 (SD)	347.1 (427.4)	276.3 (421.7)	70.9	0.76
Bicycling Confidence* n(%)				
I feel confident riding a bike on roads near my house (N=47)	21(77.8)	14(63.6)	14.2	0.93
I feel confident riding a bike to school (N=47)	16(59.3)	13(59.1)	0.2	0.298
I feel confident riding a bike in my neighborhood (N=42)	18(66.7)	15(68.2)	1.5	0.11
I feel confident riding a bike around Seattle (N=47)	15(55.6)	12(54.5)	1.1	0.72

Variable	Post-test Completers	Post-test Non-completers	Difference	P
I know how to fix a flat tire (N=47)	7(25.9)	5(22.7)	3.2	0.41
I know how to choose a safe bike route (N=47)	9(33.3)	6(27.3)	6	0.36
Days of Vigorous PA in past week n(%)				0.23
None	5(18.5)	8(36.4)	17.9	
1-6	18(66.7)	9(40.9)	25.8	
7	2(7.4)	2(9.1)	1.7	
Missing	2(7.4)	3(13.6)		
Mean minutes on one of those days (SD)	49.6 (63.2)	39.6 (52.4)	10.03	0.59
Mean minutes on one of those days if days >0 (SD)	62.6 (65.1)	65.2 (56.4)	2.6	0.92
Days of Moderate PA in past week n(%)				0.81
None	12(44.4)	9(40.9)	3.5	
1-6	12(44.4)	7(31.8)	12.6	
7	2(7.4)	1(4.6)	2.8	
Missing	1(3.7)	5(22.7)		
Mean minutes on one of those days (SD)	20.2 (47)	37.6 (59.6)	17.4	0.32
Mean minutes on one of those days if days>0 (SD)	47.2 (63.9)	77.4 (68.2)	30.2	0.36
Compared to one year ago, riding bike more, less, or same n(%)				0.1
More	13(48.2)	5(22.7)	25.5	
Less	1(3.7)	4(18.2)	14.5	
Same	9(33.3)	5(22.7)	10.6	
Missing	4(14.8)	8(36.4)		
In past year, injured badly enough to go to doctor n(%)				0.88
Yes	5(18.5)	3(13.6)	4.9	
No	18(66.7)	15(68.2)	1.5	
Missing	4(14.8)	4(18.2)		
Longest distance ridden outside MTP Mean(SD)				
Mean (miles)	13.73 (24.2)	13.35 (23.8)	0.38	0.96
Attitudes toward Bicycling and Self-Esteem* n(%)				
I would like to bike more than I am now (N=46)	25(92.6)	17(77.3)	15.3	0.195
Biking is a great form of transportation where I live (N=47)	17(62.96)	10(45.5)	17.5	0.08
Biking is a great form of exercise for me (N=47)	22(81.5)	14(63.6)	17.9	0.62
I enjoy riding a bike alone (N=47)	10(37)	9(40.9)	3.9	0.09
I enjoy riding a bike in a group (N=46)	19(70.4)	14(63.6)	6.8	0.28
I feel comfortable taking risks (N=46)	15(55.6)	9(40.9)	14.7	0.049
I can accomplish difficult tasks (N=46)	14(51.9)	7(31.8)	20.1	0.23
Total	27	22		

Note. The pre-test sample size was N=49.

*Percentage who strongly or somewhat agree with the statements in this section

[+]Only returning students prompted to answer these two questions

^Participants given open-ended response for gender and responded with M or F

TABLE 4: Fall 2014 Major Taylor Project Attendance

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
School 1	7	9	10	10	7	7	6	1
School 2	14	19	15	10	11	8	5	6
School 3	6	4	4	4	2	3	2	3
School 4	4	no data	no data	no data	no data	no data	no data	no data
School 5	13	10	13	12	12	11	11	12
Total	44	42	42	36	32	29	24	22

This survey helps us understand your biking experience before you start riding with us. We use it a few times a year to see what you've learned and how we might improve the program. Remember, there are no right or wrong answers. Please be honest and do your best to answer all the questions. Thank you!

Name: _____ Date: ____/____/_____ Age: ____ Gender: ____

Name of your school _____

Race/Ethnicity: _____ Language(s) spoken at home: _____

Do you own a bike? _____ How many years have you been involved with Major Taylor? _____ years

Please circle yes or no. If you answer yes, please answer the extra questions to the right.

1. Do you currently ride a bike to school? **No Yes →**
   1a. How many days in the past week? _____
   1b. About how many minutes is your ride? _____
2. Do you ride a bike for fun outside of the Major Taylor Project (MTP)? **No Yes →**
   2a. How many days in the past week did you ride a bike for fun outside of MTP? _____
   2b. About how many **total** minutes did you ride outside of MTP in the past week? _____
3. Are you currently taking a physical education (PE) class during school? **No Yes →**
   3a. How many **total** minutes did you spend exercising in PE class in the past week? _____
4. Do you currently do another sport or activity other than the Major Taylor Project? Examples include running, soccer, dance, etc. **No Yes →**
   4a. What other activities? Please list them all:
   _____
   _____
   4b. In the past week, how many total minutes did you spend in those activities? _____

Please say how strongly you agree or disagree with these statements.	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
5. I feel confident riding a bike on roads near my house.	☐	☐	☐	☐	☐
6. I feel confident riding a bike to my school.	☐	☐	☐	☐	☐
7. I feel confident riding a bike in my neighborhood.	☐	☐	☐	☐	☐
8. I feel confident riding a bike around Seattle.	☐	☐	☐	☐	☐
9. I know how to fix a flat tire on a bike.	☐	☐	☐	☐	☐
10. I know how to choose a safe bike route.	☐	☐	☐	☐	☐

The next questions ask about different kinds of physical activities you might do.

Think about all the <u>vigorous</u> physical activities you did in the last 7 days. Vigorous physical activities involve hard physical effort and make you breathe much harder than normal. Think only about the vigorous activities that you did for at least 10 minutes at a time.

11. **In the last 7 days,** on how many days did you do **vigorous** physical activities like running, playing soccer or basketball, hiking, carrying heavy load s, or fast biking? **____days** ☐ **None (*Skip to #13)***
12. **How many minutes** did you usually spend doing vigorous physical activities on one of those days? **____minutes per day** ☐ **Don't know**

Now, think about all the <u>moderate</u> activities you did in the last 7 days. Moderate physical activities involve moderate physical effort and make you breathe somewhat harder than normal. Think only about the moderate

activities that you did for at least 10 minutes at a time.

13. **In the last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, biking at a regular pace, mowing a lawn, or doubles tennis? Do not include walking. **____ days** ☐ **None (*Skip to #15)***

14. **How many minutes** did you usually spend doing **moderate** physical activities on one of those days? **____ minutes per day** ☐ **Don't know**

Next, think about the time you spent walking in the last 7 days. This includes at school and home, walking from place to place, and any other walking that you did for fun or exercise.

15. **In the last 7 days**, on how many days did you **walk** for at least 10 minutes at a time? **____ days** ☐ **None (*Skip to #17)***

16. **How many minutes** did you usually walk on one of those days? **____ minutes per day** ☐ **Don't know**

Finally, think about the time you spent sitting on weekdays during the last 7 days. Include time spent at school, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, computer, visiting friends, reading, or sitting or lying down to watch TV.

17. **In the last 7 days**, how many minutes did you spend **sitting on a weekday**? **____ minutes per day** ☐ **Don't know**

Other questions about your biking experience

18. Compared to about a year ago, would you say you are now riding a bike more often, less often, or about the same amount? ☐ **More often** ☐ **About the same** ☐ **Less often** ☐ **Don't know**

19. In the past year, were you ever injured while riding a bike? Only count injuries that were bad enough that you had to see a doctor. ☐ **Yes** ☐ **No** ☐ **Don't know**

20. What is the longest distance you have ridden in one day, not including STP or club rides? **_____ miles**

Please say how strongly you agree or disagree with these statements.	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
21. I would like to bike more than I am now.	☐	☐	☐	☐	☐
22. Biking is a great from of transportation where I live.	☐	☐	☐	☐	☐
23. Biking is a great form of exercise for me.	☐	☐	☐	☐	☐
24. I enjoy riding a bike alone.	☐	☐	☐	☐	☐
25. I enjoy riding a bike in a group.	☐	☐	☐	☐	☐
26. I feel comfortable taking risks.	☐	☐	☐	☐	☐
27. I can accomplish difficult tasks.	☐	☐	☐	☐	☐
28. I feel like I can make a difference in my community.	☐	☐	☐	☐	☐
29. I am excited about the future.	☐	☐	☐	☐	☐

Questions for returning students only →

Please say how strongly you agree or disagree with these statements.	**Strongly disagree**	**Disagree**	**Neutral**	**Agree**	**Strongly agree**
30. I would recommend this program to a friend.	☐	☐	☐	☐	☐
31. I plan to keep riding my bike after graduation.	☐	☐	☐	☐	☐

32. Do you have any ideas about how we can improve the Major Taylor Project? _____

_____

_____

Interview Schedule

Questions asked included: “How long were you involved with MTP?”, “How did you get involved?”, “What do you think others got out of it? What did you get out of it?”, “Did MTP change the way you felt about school? If so, how? What about other areas of your life?”, “Did you make new friends through MTP?”, “Did MTP make you want to continue bicycling?”, “Do you use your bike for transportation? For recreation?”, “Do you feel MTP made you feel part of the larger culture of bicycling?”, “How could MTP be better?”, and “How could MTP reach more of your friends and peers?”