

THE LADIES' 4-WEEK CYCLE CHALLENGE: EXPERIENCES AND INSIGHTS

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Abstract

Limerick was designated as Ireland's National Smarter Travel demonstration area in 2012. Limerick Smarter Travel (LST), which aims to promote sustainable travel in the City and suburbs, is a partnership between the Limerick Councils and the University of Limerick (UL). Within UL, final year projects and other research is on-going in the smarter travel subject area.

Although cycling participation in Ireland is on the rise both nationally and locally within the Limerick community, travel survey data conducted by the LST team has demonstrated a significant gender gap exists among cyclists with far less women cycling than men.

This paper is based on a final year project thesis: The Ladies' 4-Week Cycle Challenge: An active research study of females investigating the barriers and motivators regarding cycling participation in Ireland.

The research involved a group of females taking up cycling over a period of 4 weeks as a means of commuting to work/college. Following pre- and post-challenge interviews with the female participants a number of measures to encourage cycling participation among women are outlined along with recommendations for further research.

1. The 20 Weeks of Change

The idea for 'The Ladies' 4-Week Cycle Challenge' was inspired by the success of the '20 Weeks of Change' campaign which was organised by Limerick Smarter Travel in 2013. This was a campaign that saw 30 active travel champions chosen to take part in incorporating walking, cycling, car-pooling and public transport into their daily routines. The initiative set out to change the attitudes of the champions regarding sustainable transport; open their minds to travel alternatives; spread the word about active travel; provide information and first hand practical advice to the wider community and promote their experiences through the website and social media platforms. [1]. Their progress over the 20 weeks was documented through weekly diaries and they each participated in short video documentaries sharing personal accounts of their experiences. These videos are available to watch on YouTube. [2]

1.1 The Gender Gap

Results from the Irish National Travel Survey in 2009 [3] showed that out of all women surveyed, only 1% said they cycled for transport. Out of all men surveyed, 2% cycled.

Mode	Male	Female	All Persons
	<i>percentage</i>		
Private Car - Driver	65	63	64
Private Car - Passenger	5	12	9
Van/Lorry and Other	8	1	4
Walk	15	17	16
Bus	3	5	4
Rail/Dart/Luas	2	1	1
Cycle	2	1	1
All Modes	100	100	100

Figure 1: Percentage Distribution of Journeys by Mode of Travel and Gender - CSO National Travel Survey 2009

Although these results showed that cycling participation in general is low, they also showed that double the amount of men were participating in cycling in comparison to women. Similarly, results from the Irish Sports Monitor in 2009 which surveys the participation in sport and physical exercise in Ireland found that there was an increase in men cycling in recent decades but a decrease for women with women being more inclined to walk than men, and men more likely to cycle than women. [3]

The 2011 Sports Monitor found that participation in cycling had risen since 2009. A number of key developments took place in Ireland to encourage the Irish people to cycle including the 'Cycle to Work' scheme and the 'Dublin Bikes' initiative. However, the proportion of people cycling for transport remained unchanged at 10%. The most striking of the results though revealed yet again a distinct difference between the genders regarding cycling with female participation significantly lower than males. The strongest differences were found in the younger age groups. [3]

Interim results from the 2013 Sports Monitor again showed an increase in cycling participation but only a marginal increase of 1% of women cycling since 2011. [3]

2.0 Literature Review

The purpose of the Literature Review was to carry out a background study on the chosen research topic and gather existing information that would inform the content of the primary research and provide a theoretical framework for the research topic. The content of this Literature Review was collected mostly electronically through sociology databases and appropriate online journals, books, articles and papers.

2.1 The Beauty and the Bike

It is true for Britain also that the number of women participating in cycling is low. In 2012, the British National Travel Survey revealed the gender split for cycling was 73% male and 27% female. [4]

The 'Beauty and the Bike' is a channel on You-Tube that was created by Darlington Media group which set out to engage with the local young women from the cycling demonstration town of Darlington in England and find out about their individual reasons for making decisions about how to get from A to B. [5] They also bring in a group of German girls from Bremen and document their experiences cycling in the UK town. In turn, they bring the Darlington girls to Bremen and compare their cycling experiences in both places. The videos give some answers as to why girls do not cycle and why they stop cycling in their teenage years. They also explore the cultural backgrounds and political constraints and compare the current policies on cycling in the UK and in Bremen, Germany.

When the girls of Darlington were asked why they didn't cycle, most girls revealed that they had cycled when they were younger but had grown out of it as they got older and just never thought of cycling as an option for getting around. All girls had fond memories of cycling as children. Others admitted to the image of cycling not being attractive or cool and the fear of

being laughed at by others or being seen as weird or abnormal. Their motivations to return to cycling stemmed from their love of cycling as children. However, when asked about their experience cycling in the town of Darlington, all girls reported a daily battle with infrastructure and inconsiderate motorists. Similarly, as regular cyclists, the girls from Bremen were also shocked at the inconsideration of British motorists.

Overall, the biggest barrier for these young women was the infrastructure. They believe that in order to incentivise British girls to cycle, more cycling infrastructure needs to be provided so that girls can feel safe.

2.2 Revolutions for Women

'Revolutions for Women – Increasing women's participation in cycling for recreation and transport' is a research study that was carried out in 2006 by Dr Jan Garrard, Ms Sharyn Crawford and Ms Natalie Hakman from Deakin University in Melbourne, Australia. [6] The research was carried out in light of data that showed low levels of female participation in cycling in Australia in comparison to several European and Asian populations. The aim of this study was to investigate the gender differences in cycling and identify successful interventions for promoting cycling for women. (Garrard et al, 2006)

Following case studies of women's cycling programs and an online survey of female and male cyclists, key constraints and motivators were identified along with recommendations to promote female cycling participation for the future.

Key findings from the online survey indicated that men and women had similar patterns in motivations and constraints regarding cycling. Key constraints included cycling in traffic, motorist aggression and breathing in toxic car fumes. Due to the unexpected similarities between males and females, Garrard suggested that future strategies to promote cycling for women would be aimed at the whole population as well as interventions directly targeted at women. These population wide strategies included new cycling friendly policies, enforced road safety measures and mass media promotion which would address three of the five most important constraints identified in the quantitative study by both males and females. Driver harassment was found to be more concerning for females than males and therefore Garrard concluded that this could explain at least some of the gender differences in cycling due to Australia being more prevalent in aggressive drivers than any other European State. [6]

As part of Garrard's target interventions for women, he concluded that in terms of motivating women to commence/return to cycling, messages had to focus on health and fitness, building physical activity into a busy lifestyle, fun and enjoyment, getting outside in the fresh air and relaxation/stress reduction. Other motivating factors included being active with families, environmental benefits, a new challenge and encouragement from family and friends. These were of lesser importance to women but yet had a higher influence over women rather than men. Cycling programs were also of lesser importance compared to cycling events which were big motivators such as the UL-Limerick City Cycle Tours and BeSPOKE – Limerick's Cycling Festival in association with Bike Week which takes place during the summer and involves various cycling events organised by Limerick and UL Smarter Travel. Finally, he suggested that the promotion of cycling for recreation as well as transport would represent good investment in individual health and well-being for women and men.

2.3 Gender Identity and the Image of Cycling

"Gender has been identified as an important predictor of travel patterns." [7]

In the paper by Dickinson et al, an observation was made that women travel shorter distances than men yet they cycle less and make equal use of cars. It is further suggested that shorter commuting by women is attributed to time constraints imposed by family orientated and household commitments. Transport studies undergone by Whipp and Grieco, (1989) and Root and Schintler, (1999) cited in Dickinson's paper [7] examined the gender gap and also reported that women tended to exhibit more complex trip characteristics than men regarding household tasks such as transport for children and shopping. Historically, these roles have always been dominantly adopted by women.

As well as the gender identity battle that discourages women from cycling, there are also the negative images of cycling that people have regarding cyclists in general. In a report by Scott in 2009 [8] investigating the barriers for women in cycling, commuter cycling was not seen as a legitimate form of transport with cyclists seen as 'law breakers' that didn't have any business being on the road or footpaths. This negative attitude was observed by non-cyclists who had been affected by their experiences as drivers and pedestrians. Therefore, encouragement to undertake cycling for these non-cyclists was clouded by their feelings of dislike for existing cyclists. Furthermore, this overall negative attitude towards cyclists caused these non-cyclists to see only the negatives regarding taking up cycling and ignored the potential benefits that cycling could bring. [8]

It has been proven in various studies that image does in fact pose a constraint on cycling for women where perceptions by others are a genuine anxiety. Cycling campaigns, studies and initiatives that have been targeted at introducing cycling as attractive and interlink looking good on a bike with the health benefits of cycling have worked in many instances. The Beauty and the Bike project concurs with this. Cycle chic is a modern term that is now being used to describe cycling by women in attractive and fashionable clothing. The Cycle Chic Republic is an international blogging community that originated in Copenhagen and set out to inspire people around the world to create a cycling city. Today the Cycle Chic family has expanded and grown internationally with cycle chic blogs in over 50 countries worldwide. [9]

3.0 Methodology

3.1 Designing the Challenge

After discussions with the research supervisors, the details of the challenge were decided. The challenge would run for a period of 4 weeks and 10 females would take part. These participants would be invited for a pre-challenge interview. The challenge would run from Monday 10th November 2014 until Sunday 7th December 2014 inclusive. Those selected to take part would be required to cycle for transport to their place of work/college over these 4 weeks and record their activity in weekly diaries and with use of a sports tracker application for their smartphone. Communication would be maintained with participants through an interactive Facebook page and through email. A 'meet up' would be arranged in Week 3 of the challenge for all those involved to share their personal experiences and to discuss issues and concerns that may have arose. Post-challenge interviews would then be held a week after the challenge is completed. The high level aim of 'The Ladies' 4-Week Cycle Challenge' was to get women on their bikes but ultimately, learn from their experiences, identify their motivators and constraints and produce a list of recommendations in an attempt to sew up the existing gender gap between males and females.

3.2 Interview Design

The purpose of the pre-challenge interview was to meet the potential participants, learn about them and determine their suitability regarding the following:

- Background;
- Age;
- Occupation;
- Typical mode of transport for commuting;
- Distance they travel each day and the time it takes on average;
- Reasons behind their choices;
- Travel routes;
- Travel commitments;
- Motivations to take part;
- Current barriers to cycling;
- History of cycling and
- Influences.

The pre-challenge interviews allowed the researcher to assess the level of contemplation of the interviewees and categorise them into their appropriate and current stage of behaviour change. This was to be assessed both pre and post challenge. The stages of behaviour change refer to the process that an individual goes through when they are integrating a change into their lives. It essentially assesses the 'stage' or 'level' of readiness of an individual while making that change from their normal habits and behaviours. There are 5 stages of behaviour change: Research has demonstrated, that progress through these stages by an individual is not linear but rather, cyclical and described by Prochaska and DiClemente (1986) [10] as the Cycle of Change.

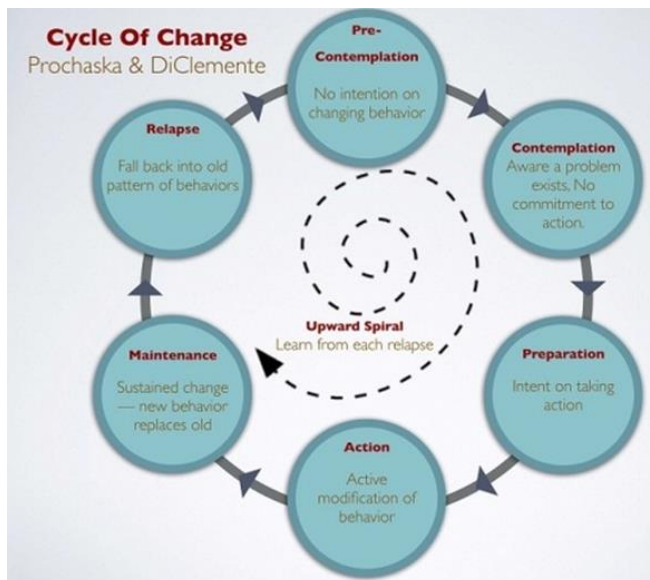


Figure 2: Cycle of Change Model by Prochaska and DiClemente 1986

The interview guide consisted mostly of topics and issues that the participants had mentioned in their weekly diaries and of points that had arisen in the pre-challenge interviews. The interviews then finished off with a set of generalised questions of relatively the same structure and wording for all interviewees. All interviews were audio-recorded and transcribed.

The nature of the methods used to collect the qualitative data allowed vigorous analysis by the researcher. The pre- and post-challenge interviews provided the researcher with both quantitative and qualitative information and interaction through Facebook and at the Early Lunch meeting provided additional qualitative data. The key findings and results from these interviews and interactions are discussed in the next section.

4.0 Results

4.1 Participant Characteristics

The main characteristics of participants are as follows:

- Age of participants ranged from 20 to 50 years.
- The sample consisted of Irish/International students and full time/part time employees.
- 9 out of the 10 participants lived in the Limerick region or else lived in Limerick during the week days for college and 1 participant was living/working in London.
- Commuting distances ranged between 9 miles and 1.5 miles.
- The majority of the females were novice cyclists who had either previously drove or walked for transport.
- The challenge only required that the females cycled for transport.

- Transport related commitments included school pick-ups/drop-offs, children's extra-curricular activities, commitments to household pets and work related travelling.

Participants were also asked their reasons behind using their current mode of transport. Responses were prompted and each participant was free to choose more than one option. They were also free to respond with reasons not prompted.

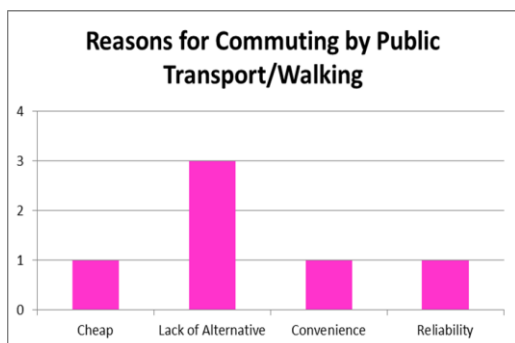


Figure 3: Reasons for Commuting by Public Transport/Walking, n=4

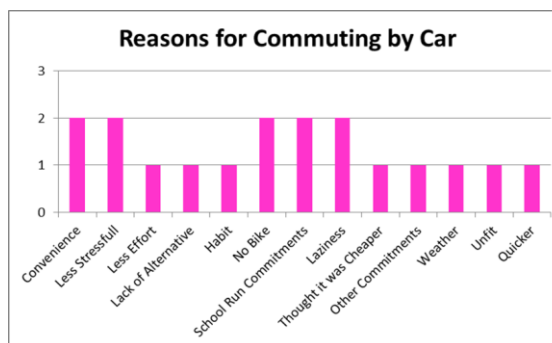


Figure 4: Reasons for Commuting by Public Transport/Walking, n=6

4.2 Motivations for Returning/Commencing Cycling

When discussing the reasons for commencing or returning to cycling, most of all the females said they had always cycled as a child/teenager and had learned to cycle between the ages of 3 and 10 years old. All were able to recall fond memories of cycling in the past. Some had also cycled for transport in their younger years and wanted to get back into it. All girls admitted to stopping cycling in their teenage years or early 20s. The reasons for stopping cycling included:

- Moving to a different area;
- Children starting school;
- Getting a new job and a new car;
- The image of cycling and
- Some said they didn't know.

When asked about their motivations to return to cycling, fitness (cardiovascular) was the number one motive for all women. A close second to this related to cycling being a faster commuting alternative with claims of congested peak morning/evening traffic slowing their journeys as well as the daily struggle to find parking. Those who would usually walk said that cycling would significantly reduce their commuting time also. Other motivations included the environment, the convenience, saving on the cost of driving/public transport and the prize incentive at the end.

4.3 Pre-Meditated Barriers towards Returning/Commencing Cycling

All participants had showed willingness to change their mode of travel. After identifying the motivators, participants were asked what existing barriers had prevented them from cycling in the past or which they were anticipating to be a deterrent during the challenge. Half admitted to the weather and poor visibility (seeing where they were going and being seen) being the biggest barrier for them. The second biggest barriers were personal fitness and laziness. Other contributing factors were the lack of cycle lanes, self-consciousness and too much effort required. There was no mention of safety. However, when the girls were asked directly if safety would be an issue for them, more than half said yes it would be.

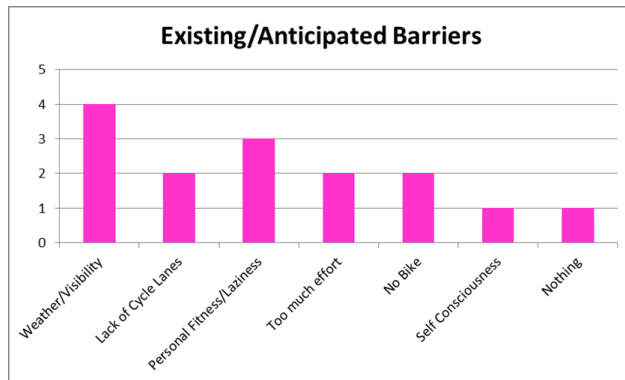


Figure 5: Graph of Existing/Anticipated Barriers. n=10

4.4 Key Motivators/Incentives throughout the Challenge

Key motivators and incentives for the ladies throughout the challenge included being involved in the challenge itself. The challenge provided incentive to set personal goals and targets, provided a sense of involvement, a fear of not only failing themselves but letting the challenge down and the determination to complete the challenge to the best of their ability.

Participants found that their mental fitness was a huge factor and the sense of independence, freedom and self-confidence associated with cycling was found as far more beneficial than their physical fitness, where physical fitness had been the biggest motivator at the pre-challenge interviews. However, being able to incorporate activity into their busy lives was also a plus. The cold mornings gave a sense of liberation rather than discontent and the environment offered a healthier alternative to sitting in an artificially heated car.

Cycling was also found to be a lot easier and convenient than driving or walking. There was far more ease in finding parking, faster and definitive timing for commuting in the mornings/evenings as well as being useful for running errands and picking up shopping. Some girls also said that they had motivated friends and family to get out cycling and that in itself was a real motivator for themselves that they could inspire others to follow in their footsteps.

4.5 Cycling Constraints throughout the Challenge

Constraints on cycling included personal and socio-environmental factors. Personal factors mentioned were the lack of confidence and cycling skills (especially in traffic and where the ground conditions were not in their favour) and cycling in the dark where some places were badly lit. Some cyclists had concerns about the rules of the road and were too frightened to cycle on the road where manoeuvring safely and operating the bike at the same time proved challenging. Manoeuvres including crossing from one side of the road to the other, merging with traffic to make a right-hand turn, crossing over narrow bridges and pedestrian crossings were also challenging for most cyclists.

Key socio-environmental factors mentioned by the majority of women included problems with road sharing with motorists and pedestrians and poor road layout. There were many reports of aggressive motorists/pedestrians. The issue with aggressive drivers concurs with findings in the Literature Review by Garrard et al. [6]

Cycle lanes were another cause of concern. Regarding existing cycle lanes, key issues mentioned included the layout, shared usage, the lack of designated lanes for cyclists, maintenance and near collisions associated with unaware pedestrians. Many suggested that they were too narrow and confusing regarding their colour with not enough cycle markings on the cycle lane surfaces. The general consensus of all participants was that the shared cycling and pedestrian walkways do not work. There is not enough room especially during peak times of the day where the paths are taken up with pedestrians and there is confusion as to the rules of use i.e. what side of the path should cyclists/pedestrians be on.

Safety was highlighted in all participants' responses. Manoeuvring in traffic in general was a big safety concern. 7 out of the 8 females said that they used the footpaths where no cycle

lanes were provided because of the fear of on-road traffic. Some were unsure of the rules of the road and therefore avoided cycling on the roadway or cycling into the city centre. A service road into the University was also cause of concern with reports of cars cutting across the cycle path abruptly. It was also indicated that road safety and motorist behaviour were major constraints on cycling for women. Many of the participants experienced aggressive behaviour from inconsiderate and impatient motorists such as shouting and screaming, beeping their horns, crude hand gestures and pulling out in front of them. Cycling in darkness was also a concern for some females and in addition to the safety gear that was provided at the pre-challenge interviews, they found it necessary to use extra accessories to ensure their safety especially cycling through badly lit areas.

Some women had issues with their dress and appearance at work and at meetings. Another issue was being on time with one woman suggesting there is an archaic view from society regarding the typical '9-5' working day.

"It's a time thing and it's our attitudes to time because we really have an archaic view of a 9-5 thing that you have to be at your desk if you're not seen at the desk... it's an institutional problem. Where if somebody thought it's fine I'm not late I'm just changing because you know you do get in a panic and it's wrong."

Other factors included the end of trip facilities on and off campus such as issues with the lack of parking. In particular, covered parking was an issue on campus for many participants. Some complained about damage caused to their bikes by the rain and people doubling up on the bike racks. There were also security concerns with one girl having her bike stolen. Changing and lack of storage/lockers were also issues. Two out of eight said they used the shower facilities but emphasized the lack of any storage/locker facilities. This was a big constraint for these participants.

The weather had been one of the biggest concerns for the participants at the pre-challenge stage. However, the weather was not found to be a big issue according to any of the women post-challenge.

4.6 Participants' Suggestions

Participants were asked for their suggestions to make improvements for cyclists and to encourage other women to engage in cycling. The main suggestions are as follows:

- 1. Cycle Lanes:** All participants suggested that there needed to be more cycle lanes provided both on campus and off campus and in particular, designated cycle paths for cyclists only. A few expressed the need for a direct cycling track linking the University and the City Centre and another on the Dublin Road where the road narrows and is particularly tricky for cyclists. The river bank was another frequently mentioned place that needs improvement and improved lighting in poorly lit area on/off campus.
 - 2. Parking:** More secure and covered parking for bikes on/off campus including overnight parking.
 - 3. Storage & Changing Facilities:** Improved changing facilities with available lockers for storage.
 - 4. Road Layout:** Better sign posting for all road users: Maps indicating routes with distances and durations for both recreational cycles and journeys for transport.
 - 5. Access to bikes & Affordable Bike Rental:** Affordable bike rental schemes for students (recommended by international students).
 - 6. Bicycle Trials:** One participant said that she would have never of taken up cycling before the opportunity to take part in the challenge arose as she didn't have a bike.
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She suggested that bikes be made available on a trial basis for those thinking about taking up cycling for transport.

7. Self-Service Station: One new suggestion that was piloted among all the participants was for the introduction of a self-service station on campus for cyclists where they can pump their own tyres in order to reduce the waiting time for the bike doctor. The idea was popular among everyone.

8. Public Awareness: Many of participants suggested that the public's awareness and attitudes towards cycling and cyclists needed to be promoted and emphasised more.

4.7 Reasons for Continuing to Cycle

The participants were asked if they would continue to cycle for transport in the future and their personal reasons for continuing. Some of these were as follows:

"I definitely will continue. I just don't see the purpose of sitting into a car when I now know the benefits."

"I will always make time for cycling absolutely because I am paying for my bike every month."

"Oh I will definitely. The only thing is that you know the excuse that I am not involved in something will kind of be a de-motivator."

"Yes definitely. I will bring my car next semester but I will just be using it to visit places at weekends. I will never use it during the week because there is no space to park and I don't want to pay 3 euros every day."

The personal reasons for participants continuing to cycle for transport were similar to the reasons for commencing cycling and included: faster commuting; enjoyment; mental/physical health and fitness and convenience.

5.0 Conclusions & Recommendations

Regarding the constraints on the female participants in this study, it is clear that a lot of their key concerns can be addressed through improved infrastructure and increased road user awareness. Like the suggestion of Garrard et al [10] the researcher believes that implementing improved measures that target these key concerns for women can also be directed at the whole population which has the double effect of influencing both male and females. The research findings are presented as recommendations at the end of this section.

5.1 Recommendations for Further Research

The qualitative data collected provided insights into female motivations as well as their constraints. In hindsight, there are a number of things that the researcher would do differently. A recommendation for further research would be to undertake a similar active study with females at a larger scale. The researcher makes the following suggestions:

- Recruiting a larger group of females;
 - Holding the challenge at a better time of the year (not so close to Christmas and exams). Ideally during spring/summer;
 - Running the challenge over a longer period of time (not too long and not too short). i.e. 8 weeks;
 - Carrying out health and fitness checks pre-challenge that will provide participants with their current fitness statistics which would allow them to set personal fitness goals to be achieved during the challenge life time;
 - Organising a pre-challenge 'meet and greet' before the commencement of the challenge for relationship building between challenge participants and promoters.
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This in turn would also increase interaction on the Facebook page and the overall challenge involvement;

- Organising group activities and group meet ups or 'coffee mornings' throughout the challenge to keep challenge participants motivated and feeling involved;
- Making the challenge more competitive by introducing prize incentives for certain goals that are reached and
- Carrying out post-challenge health and fitness checks.

Aspects of the challenge that worked well for collecting resulting data included the use of weekly diaries which helped participants remember important things they would have otherwise forgotten; the Facebook page which was essential for maintaining contact with participants and facilitated interaction between each of them and the Endomondo sports tracker which was beneficial for participants and the researcher to both record and keep track of their cycling activity.

5.2 Researcher's Recommendations

Based on these insights and findings in the Literature Review, the researcher makes the following recommendations which may be divided into two categories: hard measures and soft measures. These recommendations are hoped to assist in engaging more women in cycling activity and are the proposed solutions to the research question: 'How to Get More Women on Their Bikes'.

Soft Measures

1. Policy Changes to Educate Young Schools about the Benefits of Cycling

Sustainable travel needs to be promoted at a population wide scale in schools as well as workplaces and colleges/universities. Policy changes also need to be implemented to bring about improved conditions for cyclists. It was identified in this research study that most of the female participants stopped cycling in their teenage years. This was mainly due to the 'growing up' process and reaching the age where they could start driving and therefore did not need to rely on a bike for transport. This suggests that new cycling policies and strategies should be targeted at educating young school girls about the many benefits of cycling to encourage them to continue/commence cycling.

2. Encouraging Promotion/Organisation of 'Women Only' Local Groups and Events

Women only cycling groups were found to be of big interest to participants in this study. Emphasis needs to be put on the promotion of existing groups and the organisation of cycling events such as the 'UL and Limerick City Cycle Tours' and 'One4all Women on Wheels' charity cycle in Dublin. These organised cycling events are believed to be important motivators for women given that some participants had already taken part in various organised events including this study which was a big motivator for all participants. Participation in these cycling events targets the key incentives for women.

3. Emphasise Incorporating Cycling for Transport into a Busy Lifestyle in Promotion to Women

In terms of encouraging females to take up cycling or return to cycling, messages should focus on incorporating cycling into a busy lifestyle. This was important for all participants in this research study whose key incentive was health and fitness and all of which worked/studied full time and part time with various transport related commitments. The opportunity to combine physical activity and transport was appealing. This recommendation also concurs with the research findings and conclusions of Garrard et al.

4. Education Regarding the Rules of the Road & Road User Awareness

All cyclists need to be educated about the rules of the road with respect to the use of roadways and shared cycle paths. Many participants admitted to their lack of knowledge regarding road use which in turn contributed to their fear of cycling. Cyclist road safety and

attitudes towards cyclists are also issues that need to be addressed among motorists and pedestrians to reduce the risk of accidents and restore confidence back to female cyclists who found the lack of awareness and negative attitudes towards them a big constraint.

5. Making Women Aware of the Health and Fitness Benefits of Cycling

The main incentive for females in this instance was health and fitness. The participants of this study also agreed that messages focused on the health and fitness benefits of cycling would encourage more females to cycle. These benefits should be highlighted during promotional campaigns.

6. Encourage Cycling for Recreation

Cycling for recreation should be encouraged among females so that they can realise the benefits of cycling which may lead to them taking up cycling more frequently as a result.

7. Access to Bikes and Affordable Bike Rental/Sales

Out of the 20 females that showed interest in taking part in the challenge, only 8 owned or had access to a bike. It is suggested that a 'borrow a bike' scheme should be made available for those who may be contemplating taking up cycling such as the UL Fleet Bikes scheme where staff and students can borrow a bike for up to a week [11]

8. Bicycle Trails and Maps

In addition to the new and existing cycle paths, there has been a suggestion for the introduction of cycle maps which define information such as routes, distances and approximate journey time. Having these features creates opportunities for females to make trips by bicycle for which they would otherwise use the car.

9. Promotion by Blogs

The researcher concluded that the results from the responses obtained about blogs concur with the findings in the literature review. The interest in blogs comes predominantly from the younger age groups. This can be related to the fact that blogging and social media have only reached high ground in the past several years. 'The Beauty & the Bike' states that the majority of females stop cycling in their teenage years. This also concurs with survey results obtained by the Irish Sports Monitor. The National Cycle Policy Framework 2009 also states that national and local promotional campaigns could be fronted by 'a well-known public figure'. Therefore, the researcher believes that there is potential for young Irish females to continue/commence cycling under the influence and example of their favourite bloggers.

Hard Measures

1. Providing more Cycling Infrastructure

Unanimous among all challenge participants was their request for more cycle paths, in particular, designated bicycle lanes for cyclists only, graded and separate from the roadway. The introduction of more cycle paths would directly address the safety concerns reported by all participants such as manoeuvring in traffic, using the footpath in the absence of a cycling path, collisions with pedestrians/motorists and fear associated with cycling alongside road vehicles. Direct cycling routes would also incentivise cyclists to make journeys by bicycle for which they would otherwise use the car.

2. Providing more Secure & Covered Bicycle Parking

Also unanimous among participants was their suggestion for more secure and covered parking both in UL and the surrounding area of Limerick City. It has been reported that the city centre has little to no facilities for parking bicycles. The introduction of these facilities would directly combat concerns associated with bike theft and damage caused to bikes by poor weather conditions and over-crowding on bicycle docks.

3. Storage and Changing End of Trip Facilities

To encourage more females to cycle, storage facilities and extra showering/changing facilities need to be provided and locations of these facilities clearly displayed. This will directly address females concerns with having to carry wet gear throughout the day, sanitation and image/dress anxieties.

4. Self-Service Bike 'Tune-Ups' On Campus

In addition to the bike doctor service, it is recommended that a 'self-service point' be made available similar to those provided at service station forecourts so that cyclists can attend to their own bicycle tune-up's when they need to. This is hoped will reduce queue waiting times.

5.3 Researcher's Comments

The researcher made contact with the participants 3 months post-challenge and as a result of this challenge, all 8 female participants continue to actively cycle for transport and have made a habitual behavioural change to their travel modes. The researcher has also re-kindled a much loved childhood activity and also actively cycles for recreation. This gives great potential to future promotional campaigns targeted at engaging more women in cycling. If this challenge was to be run at a bigger scale by recruiting a larger sample of women and incorporates the recommendations given by the researcher, they could only expect greater results.

6.0 References

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