Cricket & Sustainability
Findings from Four Surveys amongst Recreational Cricket Players in England & Wales

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1. Introduction

Sustainability considerations related to the lifecycle of cricket gear and clothing, including cricket gear's use phase, remains under-researched. User/player surveys conducted by The Centre for Sustainable Design ® (CfSD) at UCA, as part of the Circular Cricket Gear[1] project funded by the CE-Hub and the Accelerating Circular Cricket Gear (ACCG) project, funded by UKRI via UCA's IAA account highlighted an increased level of interest in the use of plant based vegan leathers (PBVL) and the use of repair and refurbishment services. These surveys based on a sample of 42 and 548 respondents respectively, also highlighted that most cricket gear is kept for 2 to 3 seasons by players between 18 and 35 years old and over 8 seasons by players 55 years and older. However, while these two surveys provided valuable insight into cricket gear lifecycle considerations, specific areas required further probing to gain a more in-depth understanding of the high levels of interest in the use of PBVL and repair and refurbishment services. Two further surveys (507 and 507 respondents respectively) were completed between April and July 2024. These surveys were funded by the Circular Cricket Project funded by UKRI AHRC's Design Accelerator programme, totalling four surveys with an overall sample of 1604 recreational players. The aim of this report is therefore, to present the findings form all four surveys and supersedes the two previous reports available of the CfSD website and was completed within the Product Circularity for Cricket: Reuse, Education & Prototyping (PC4CREP) funded by UKRI via an Arts and Humanities Research Council (AHRC) Impact Acceleration Account (IAA) grant awarded to UCA.

The first survey[2] amongst 42 cricket players - primarily male respondents and over the age of 55 – was completed during August 2023 - highlighted that a significant number of respondents had considered the environmental impact of their cricket gear, suggesting awareness among players. The main environmental impacts considered were gear disposal and the carbon footprint associated with the cricket gear manufacturing. Furthermore, 71% indicated willingness to use Plant-based Vegan Leather (PBVL) gear if it matched current durability and performance. However, the survey also revealed that participants currently had low confidence in PBVL's quality and performance. The survey also highlighted that awareness of repair and reuse services is low, but 86% were willing to try such services. Likewise, there appears to be a lack of aftercare practices among male players and the main reasons for purchasing new gear was wear and tear, performance upgrades, and sponsorship changes e.g. team kit. However, due to the small sample of this survey, and a number of respondents already having been identified as environmentally aware, a larger survey was deemed necessary for a more representative assessment.

As a follow-up to the first survey, a second survey was completed with 548 recreational[3] players across England and Wales between 16th January and 24th January 2024. The aim was to increase understanding of cricket players' attitudes towards the potential use of

[1] For further details on CCG project, see: https://cfsd.org.uk/projects/ccg/research/.

[2] https://cfsd.org.uk/wp-content/uploads/2023/09/Survey-of-Cricket-Gear-Users_Players_August-2023.pdf

[3] Recreational player refers to a cricket player under the jurisdiction of the ECB, excluding: (i) the England Men's or England Women's teams; (ii) a First-Class County in relation to men's professional cricket; (iii) a Regional Host; or (iv) any Hundred Team.

sustainable materials to replace traditional materials[4], and assess interest in repair and refurbishment services for cricket gear. Building on the findings from the first two surveys, a third 507-sample survey was conducted between 22nd April and 30th April 2024 that focused on identifying sustainability trends across different demographic backgrounds (geographical, ethnographic, and socio-economic. The third survey included a 50/50 split between male and female respondents with the aim to delve into more detail from a female perspective as the profile from the previous two surveys were representative and therefore primarily from a male perspective. The third survey also focused on gaining in-depth insight into the high level of interest in PBVL cricket gear and repair and refurbishment services highlighted in the first two surveys. The fourth and final survey, was conducted in July 2024 included 507 respondents and aimed at further exploring consumer attitudes towards the use of PBVL and repair and refurbishment services. It is important to mention that the research related to survey two, three and four was constrained by the survey design which meant that the questionnaire was limited to two open-ended questions per survey. Therefore, in-depth insights into the rationale behind responses are not available. However, in surveys two and three, cross tabulation was used to further analyse the data, alongside the use of a customised AI tool to provide more insights into the responses to open-ended questions. To start to check the survey responses and fill in some of the remaining gaps, a follow-up discussion was held with three recreational players as part of an in-person repair and refurbishment workshop that took place on May 14th, 2024, at East St Arts in Leeds.

2. Survey Demographics

The following section provides an overview of respondents' demographics, including a breakdown for player's level, age, gender, ethnic background, and geographic location.

Survey 1

The first survey included 42 respondents consisting of: 16 recreational players (38%); 20 league players (48%); 4 'friendlies/'friendly club' players (10%); 1 intermediate recreational/university level player; and 1 from a 'former professional player (5%). The demographic breakdown of the respondents (by percentage) was: 83% of respondents identified as male and 41% of the total respondents age were over 55 years old. Other age group represented were: 14% between 18-25, 7% between 25-35, 12% between 35-45 and 26% between 45-55, making it the second largest age group after the over 55s. Lastly, respondents indicated that the average number of cricket games played per year was 13.

Survey 2

The second survey included 548 respondents. The demographic breakdown was 87% (475 respondents) identified as male and 73 identified as female. 28% of respondents were 25-35 years old followed by 25% being between 35-45 years old and an additional 25% aged between 18 and 25. Only 7% of respondents were within the category of over 55-year-olds. The respondents to the survey - by age and sex - appear to be reasonably representative of the cricket playing population, compared to the first survey which was biased towards responses from older players.

[4] Respondents were identified through a panel that was recruited by Centiment through social media sites e.g., Facebook and LinkedIn. The sample panel focused on respondents who actively play cricket, thus excluding individuals who only follow the sport.

Survey 3

The third survey included 507 respondents of which 52% (262 respondents) were identified as male and 48% (240 respondents) as female. This even split was set up to gain further insight into a female perspective in relation to sustainability considerations for cricket gear. 30% (152 respondents) were 25 to 35 years old, followed by 27% being 35 to 45 years old and 22% (113 respondents being between 18 and 25 years old. Only 6% (33 respondents were over 55 years old). Lastly, 32% (163 respondents) indicated that they played at recreational level, 33% (167 respondents) played league cricket and 34% (171 respondents) played at a friendly level. The third survey included further demographic questions related to ethnic background and geographical location with the aim of identifying any correlation between these demographic criteria and player attitudes towards cricket gear sustainability considerations.

The third survey also included questions regarding players' ethnic background and geographic location. From the 507-respondent sample, 59% (298 respondents) of respondents indicated white as their ethnic background with the second largest ethnic group being represented by Asian, Asian British players with 31% (156 respondents). Furthermore, the survey was geographically distributed evenly across England & Wales with 20% of respondents being located within the Greater London area, 15% in the South-East, 13% in the West Midlands, 12% in the North West, 11% in Yorkshire & Humberside, and 7% in the South East. A crosstabulation analysing revealed that there is no correlation between trends in repair and ethnic and geographic location as initially thought e.g., increased repair practices in the Northern region of E&W compared to the South-East.

Survey 4

The fourth survey included 507 respondents from a similar geographic and ethnic distribution to survey 3. The demographic breakdown (%) was 68% (346 respondents) identified as male and 120 as female. 35% (177 respondents) were 25 to 35 years old, followed by 25% (127 respondents) being 35 to 45 years old and 19% (96 respondents) being between 18 and 25 years old. Only 7% (37 respondents) were over 55 years old. Lastly, 47% (240 respondents) indicated that they played at a friendly level and 32% (161 respondents) played league cricket.

Summary (Surveys 1 – 4)

Below is a breakdown of gender demographics and player level category (by %) based on the 1604 responses to the 4 surveys. The graph shows that there is gender split corresponding to 70% (1125 respondents) male and 30% female respondents (479) and an even spread of level of playing level across the 1604 respondent sample.

Figure 1: Gender breakdown

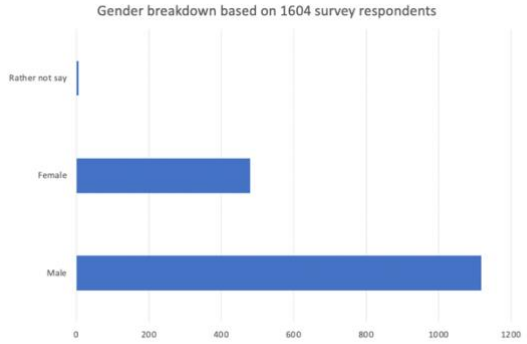
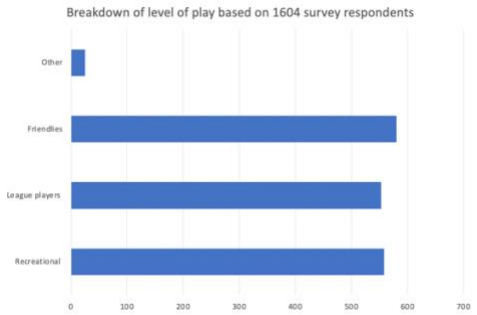


Figure 2: Breakdown of respondents' level of play



3. Findings

The below highlights the main findings from the four surveys.

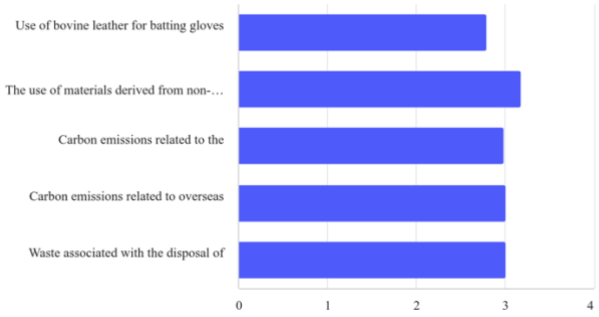
3.1 Sustainability Considerations

In surveys one and two, players were asked whether they had considered the environmental impact of cricket gear (batting pads, batting gloves, and balls). Based on the 590 respondents from survey one and two, 58% of respondents (342 respondents) indicated that they had not considered environmental impacts associated with the production of cricket gear. In addition, respondents were asked if they were aware of any organisation or programme available to reduce the amount of waste generated by the cricket sector, with 70% of respondents indicating that they were unaware of any organisation.

In survey one, respondents (players) were asked to indicate which of the following topics they considered to be the highest contributing factor to negative environmental impacts associated with cricket gear: a) use of bovine leather for batting gloves and balls; b) the use of materials derived from non-renewable sources (e.g., high-density-foam for paddings, synthetic leather, etc); c) carbon emissions related to the manufacturing process; d) carbon emissions related to overseas manufacturing and transportation; or e) waste associated with the disposal of cricket gear. In survey one, 40% of respondents rated carbon emissions related to overseas manufacturing as the highest contributor to the negative environmental impacts associated with cricket gear. This was followed by the use of materials derived from non-renewable sources as indicated by 31% of respondents. A caveat was this was a small sample, an older age group and included a number of more environmentally respondents.

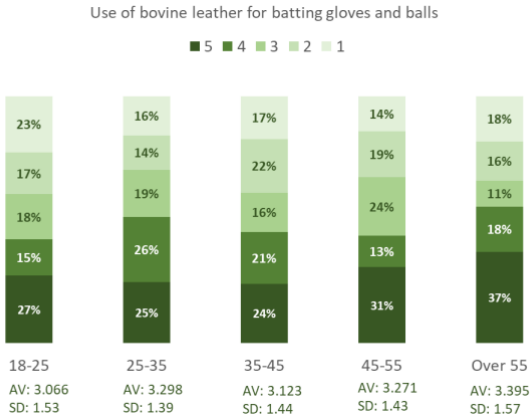
When asked to rank the five topics in Figure 3, on a scale from 1 to 5 with 1 being the least environmentally negative and 5 the highest, respondents indicated that the use of materials derived from non-renewable resources was considered to have the highest environmental impact in relation to the production of gear. Conversely, the use of bovine leather for batting gloves and balls was considered to have the least negative impact. respondents ranked the five topics as being of almost equal importance, which may indicate a potential lack of awareness of the specific environmental impacts associated with the production of cricket gear.

Figure 3: Ranking of environmental topics related to the production of cricket gear[5]



A cross-tabulation of the data related to the ranking of environmental topics above indicated that there appears to be a slight correlation between age and ranking >4. For example, Figure 4 below shows that respondents between 45 and 55 years old (31% from the 548 sample) and over 55s (37% from the 548 sample) ranked the use of bovine leather as the highest contributing factor to the negative impacts associated with the production of cricket gear, compared to under 45-year-olds who ranked it <4.

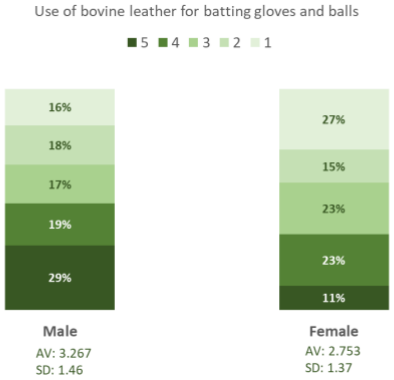
Figure 4: Level of importance assigned to the use of bovine leather for batting gloves and balls in relation to environmental impact associated with the production of cricket gear by age.



In addition, Figure 5 below shows a gender difference with regards to the importance assigned to the use of bovine leather (in relation to the environmental impacts associated with the production of cricket gear). The cross-tabulation of the data indicates that male respondents ranked the use of bovine leather as having a higher impact compared to female respondents.

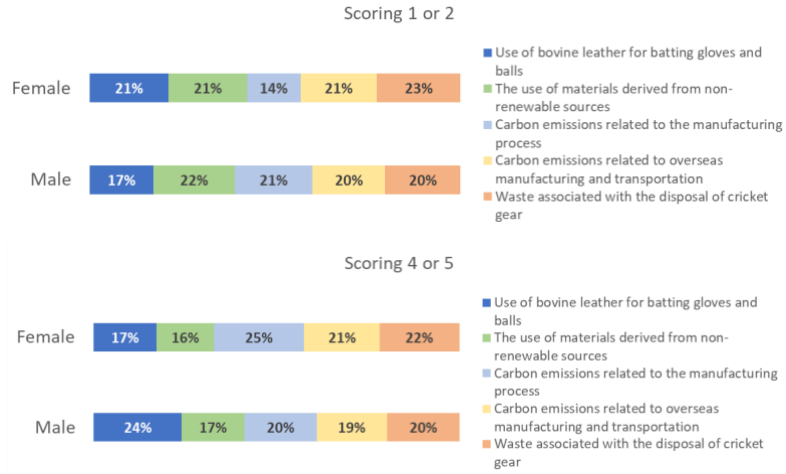
[5] The five topics are the following: use of bovine leather for batting gloves and balls, use of materials derived from non-renewable sources (e.g. high-density foam used in batting pads, synthetic leather, etc.), carbon emissions related to the manufacturing process, carbon emissions related to overseas manufacturing and transportation, and waste associated with the disposal of cricket gear.

Figure 5: Level of importance assigned to the use of bovine leather for batting gloves and balls in relation to environmental impact associated to the production of cricket gear by gender.



When further analysing the data on environmental impacts considered by gender, Figure 6 highlights that female respondents were more likely to rank emissions from manufacturing more highly and all respondents were more likely to score the use of non-renewable materials as having a low environmental impact. While these two figures highlight the slight differences in environmental concerns related to the production of cricket gear amongst males and females, overall green consumer studies indicate a significant gender difference between males and females which requires further exploration.

Figure 6: Level of importance assigned to the use of bovine leather for batting gloves and balls in relation to environmental impact associated with the production of cricket gear by gender.



A further question investigated the *use* of cricket gear. Based on the 1097 responses from surveys one, two and three, 49% of respondents indicated that they kept their cricket gear for two to three seasons. It is important to highlight that from the total of 1097 respondents from these surveys, 76% of respondents are under 45 years old (839 respondents) which may influence the high usage rate. Conversely, when solely considering responses from survey one which was represented by a sample of primarily over 55-year-olds, 57% of respondents indicated that they kept cricket gear over eight seasons.

To generate insights into data related to cricket gear waste issues, survey two asked respondents to indicate how they disposed of unwanted gear. 27% (548 respondents) indicated that they donated unwanted gear to a club bag. This relatively high level of response

is contrary to conversations with players in the South-East of England that had highlighted an increase in ownership of individual cricket gear and the overall decline in the use of the 'club bag' to share cricket gear. Anecdotally, there are indications that the club bag might be primarily used by players who play on irregular basis rather than league or regular players. The second largest route for disposal of unwanted gear is through donations to charity (26%), followed by passing items on directly to family and friends (21%). This needs further investigation as the volume of cricket gear being received by Lords Taverners Cricket Gear Recycling Unit – the main cricket reuse scheme in England and Wales - does not align with these findings.

Survey three explored these findings further via an open-ended question that provided respondents with an opportunity to offer more in-depth details related to how they dispose of their used cricket gear. The analysis highlighted three overarching themes.

- Community and charity
- Recycling and reuse
- Disposal methods.

The findings emphasise a community-focused approach to gear lifecycle management while equally focusing on recycling and reusing gear through charitable donations, resale, or local recycling efforts. Lastly, with regards to disposal methods, respondents discussed a range of disposal methods from recycling and donating to simply throwing gear away, indicating varied practices based on personal values, gear condition and available local facilities.

Lastly, participants were asked to indicate within survey four which of the following options they considered as having the highest environmental benefit for cricket gear to assess respondents level of sustainability awareness : donating gear for direct reuse; repairing worn cricket gear to extend the life of the product; substituting high impact materials such as leather and high-density foams with sustainable material alternatives e.g., bio-based foams and plant based vegan leathers; using locally sourced materials; redesigning cricket gear so that it can be recycled or recovering parts and components from damaged cricket gear to reuse in new kit. 33% (167 respondents) from the 507-survey sample indicated that they considered donating unwanted gear for direct reuse as having the highest environmental benefit compared to for example, using locally sourced materials as indicated by 12% (61 respondents). This player awareness on environmental benefits is aligned to the circular economy which seeks to keep products in use for as long as possible (through for example, by direct reuse) and suggests that there is potential for establishing cricket gear reuse schemes among a segment of recreational players. It reinforces findings from the Cricket Gear Reuse project organised by The Centre for Sustainable Design ® at UCA.

3.2 Market Trends

To further assess the market acceptability of sustainability initiatives related to cricket gear, respondents were asked to answer a series of questions related to their views on substituting bovine leather with a Plant-based Vegan Leathers (PBVL) for cricket pads and gloves, and the use of repair and refurbishment (R&R) services for cricket gear.

The survey indicated that 90% of respondents from surveys one, two, three and four would consider using cricket gear made from PBVL, renewable and/or recycled materials and 70% of respondents indicated that they would be willing to use this gear, even if the unit prices were slightly higher.

Respondents were also asked to indicate their level of interest in using an R&R service for cricket gear. Based on the four surveys, 89% responded positively. Survey two asked a series of additional questions related to the use of R&R services, including how much players were willing to pay to have their gear repaired, along with acceptable levels of repair and waiting times. From the survey 2(548 respondents), 46% indicated that they would consider using R&R services for both financial and economic reasons. 43% also indicated that they would be prepared to pay up to half of the total cost of purchasing new gear to have their gear repaired. Over half of respondents (57%) indicated a willingness to wait between one and two weeks for their gear to be returned and 32% of respondents indicated that they were prepared to wait up to one week for their gear to be returned. With cricket being a seasonal game, repairs would need to take place during the winter months or pre-season or have a quick turnaround during the season e.g. within one week between games. A further open-ended question aimed to investigate any perceived barriers to R&R activities. Open-ended responses highlighted potential concerns by some players in relation to the quality of repaired or refurbished cricket gear. However, when asked to indicate how important they considered repair aesthetics and visibility of repair, findings highlighted that, surprisingly, 53% of respondents considered moderate signs of repair e.g., minor stains, stitches and/or visible patch work as being acceptable. This, despite conversations with Lords Taverners Cricket Gear Recycling Unit (LTCGRU) that indicated that the visual appearance of cricket gear is important, particularly for young players. Of note is that young players within the England and Wales tend to reject stained and/or slightly ripped gear, compared to other countries where are low incomes. As a result, LTCGRU donates damaged gear overseas as there is a lack of market for it in England and Wales, and in, for example, developing countries children just want *any* cricket gear to play the game.

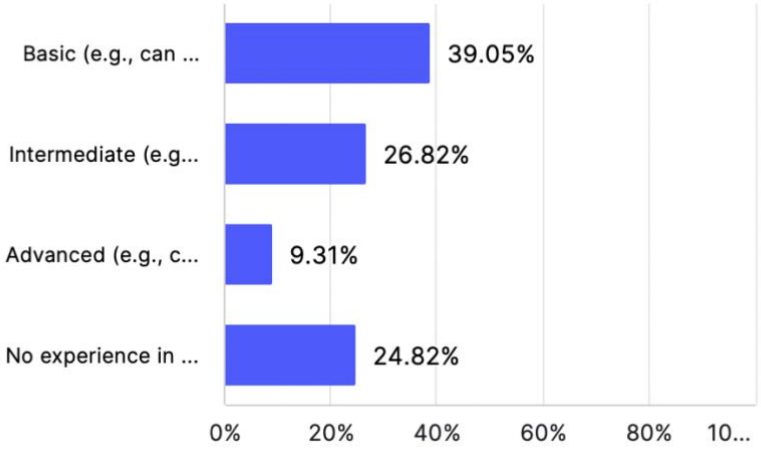
A further question within survey two explored the potential interest in self-repair, through, for example, the provision of tutorials for players to mend their cricket gear. Respondents were asked if they had any previous experience in sewing[6] and to rank their experience from no experience to basic, intermediate, or advanced. The figure below (Figure 7) highlights that 39% of respondents have at least a basic[7] level of sewing experience, followed by 27% indicating an intermediate[8] level and 25% indicating no experience. These figures were unexpected as it was anticipated that the majority of respondents (primarily male) would have a zero to basic level of experience in sewing.

[6] Participants were asked specifically for sewing skills, as this appears to be the predominant skill requirement for repair batting pads and gloves.

[7] Basic level was qualified as “can sew on/replace a button and repair a simple tear”.

[8] Intermediate level was qualified as “can sew a trouser hem”.

Figure 7: Level of player sewing skills



The findings have indicated that if provided with sufficient knowledge and training on how to repair or refurbish cricket gear, 83% of players from a 548 sample would seek to repair/refurbish rather than replace with new gear. In addition, 51% indicated that they would prefer to access training materials online via videos, compared to 29% opting for printed materials at point of purchase. Lastly, when asked to indicate the greatest barriers to the reuse, repair and refurbishment of cricket batting pads and gloves, an open-ended question, highlighted the following barriers:

- The potential stigma associated with the use of refurbished cricket gear and hygiene considerations, particularly for batting gloves.
- There appears to be a desire to keep up with the latest design developments in gear by some players e.g. buying new gear rather than refurbishing of old gear.
- Concerns in relation to the practicality of refurbishment for the average consumer (e.g. identifying a local repairer, dropping off repairs, postage costs associated with repair services, witing times, etc.) and the cost effectiveness of repair versus purchasing new cricket gear.

The fourth survey further investigated attitudes amongst recreational cricket players to cricket gear made with PBVL and R&R services. 71% of respondents (362 respondents based on a 507 sample) indicated that the potential reduction in carbon emissions and environmental impact related to the tanning process of animal hide leathers were key reasons for interest in PBVL. This was followed by 54% (276 respondents) indicating that they would consider using cricket gear made from PBVL to improve animal welfare and 22% (114 respondents) indicated alignment to a vegan/vegetarian lifestyle. The Vegetarian Society indicates that 4.5% of the UK population currently follows a vegetarian or vegan diet[9] with highest engagement among females aged between 18 and 34 years, at 3%[10] and the lowest amongst those over 60 years of age at only 2%.[11] In addition, a 2016 Ipsos MORI survey

[9] https://vegsoc.org/facts-and-figures/

[10] https://www.statista.com/statistics/1062343/adults-following-vegan-diet-in-great-britain-by-gender-and-age/

[11] https://www.statista.com/forecasts/1062341/adults-following-vegetarian-diet-in-great-britain-by-gender-and-age#:~:text=In%20the%20United%20Kingdom%2C%20the,vegetarians%20was%20only%20two%20percent.

conducted for the Vegan Society highlighted that from a sample of 10,000 respondents that classified as vegetarian or vegan, 64% were women.[12] In the context of the survey findings presented in this report which includes responses from 479 women, a cross tabulation analysis revealed only slight differences in attitudes towards the use of PBVL cricket gear and repair practices between female and male players. Gender and sustainability considerations in relation to cricket gear requires further research.

Survey four revealed high levels of existing self-repair activities amongst recreational cricket players. For example, 32% of respondents (based on a 507 sample) indicated that they conduct bat repairs, while 18% highlighted that they had previously conducted repairs on batting pads, 15% on cricket batting gloves and 11% on cricket clothing. The survey anticipated high levels of self-repair for cricket bats, however, self-repairs of other kit was unexpected due to the need for sewing skills required to repair batting pads and gloves. Furthermore, the cross tabulation of the self-repair data and gender differences revealed that bat repair was higher amongst male players, while repair of batting pads, gloves, and clothing higher amongst female players.

Further in-depth research is required to understand the rationale for the relatively high levels of existing self-repair of cricket gear. There are likely to be a series of reasons for relatively high levels of self-repair that include the high cost of gear, cost of living crisis and emotional attachment to specific gear e.g., bats, etc. Regarding gender trends, survey four revealed that there is slightly higher interest in product care amongst female players compared to male players. Likewise, a cross-tabulation analysis of product self-repair highlighted that bat repair is more common amongst male players compared to the repair of batting pads and gloves which is more prevalent amongst female players. The cross-tabulation analysis also revealed that there appears to be no correlation between the acceptance of PBVL and R&R services and ethnic background or geographic location across England and Wales.

4. Conclusions and Recommendations

Four surveys were conducted amongst recreational players in England and Wales between August 2023 and July 2024. The surveys focused on sustainability considerations in relation to cricket gear and in particular the interest in Plant-based Vegan Leathers (PBVL), and repair and refurbishment (R&R) services. 1609 responses were achieved and the profile by age and gender was felt to be a reasonable representation of recreational cricket players in England and Wales.

The key conclusions are the following:

- Players' awareness of sustainability topics vis-a-vis cricket gear production appears to be low. This is evidenced by respondents assigning similar importance to five topics associated with the production of cricket gear and their contribution to the negative environmental impacts.
- Cross-tabulation of data has indicated that there appears to gender differences in relation to attitudes towards self-repair of cricket gear. With female players being

[12] https://veganfta.com/2023/02/17/is-veganism-led-by women/#:~:text=The%20Vegan%20Review%20has%20reported,they%20got%20these%20stats%20from

slightly more likely to repair their batting pads and gloves compared with male players. Conversely, male players appear to be more likely to repair their cricket bats.

- Unwanted gear appears to be primarily donated to charity, communal club bags or passed on directly to other players. However, there is some contradictory anecdotal evidence that the use of the 'club bag' has declined or used in specific instances. This in turn suggests that there may be a wider reuse of cricket gear than previously anticipated. However, further research is required to probe these findings.
- 89% of respondents to the four surveys indicated a significant interest in cricket gear made from PBVLs or renewable and/or recycled.
- The four surveys also highlighted a high interest in R&R services. However, concerns related to the durability and quality of repaired and/or refurbished gear remain.
- The surveys also highlighted that there is a potential stigma associated with the use of repaired/refurbished cricket gear, specifically related to hygiene and safety concerns. This could potentially be overcome through increased education.
- The findings also indicate a high percentage of repair skills amongst recreational cricket players. Survey two (548 respondents) highlighted that 39% of players have a basic level of sewing skills and 26% an intermediate level. This presents a potential opportunity for the implementation of new business models focused on product life extension. Likewise, survey four revealed that there is already a high level of self-repair practices amongst recreational cricket players. With 32% (from a 507-respondent sample) indicating that they repair their cricket bats, 18% their batting pads and 15% their batting gloves.
- A cross-tabulation revealed that there is no correlation between attitudes towards the use of R&R services and ethnic background or geographical location within England and Wales.