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BICYCLE COALITIONS AND UNIVERSITIES PRIORITIZATION OF EQUITY: WHY AND WHY NOT? A SHIFT TOWARDS MORE EQUITABLE OPPORTUNITIES

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Emily Dzieniszewski, et al. Purpose: Travel by walking or bicycling has a wide range of health benefits, from lowering the risk of obesity to all-cause mortality. Although the benefits of bicycling are well-known, there are various disparities and inequities seen in participation levels and safety in underserved and underrepresented communities (e.g., racial/ethnic minorities, women, low-income, youth, LGBTQ+). Community coalitions and universities have the potential to play a large role in reaching underrepresented populations and establishing equitable programming. The purpose of this study was to understand why equity is or isn't prioritized throughout bicycle coalition and universities' programming efforts. **Methods**: A volunteer sample of bicycle coalitions (n=71) and universities (n=51) were surveyed to identify common themes from the participants' responses regarding why or why not equity was prioritized. **Results**: Common themes among coalitions and universities who ranked equity first, was awareness of the inequality present in their communities, identified equity as an important element, and planned to prioritize equity in their programming. Common themes among those who ranked equity last was the lack of awareness, knowledge, and demand for equity-related issues. **Conclusions**: Equity is a concern for coalitions and universities. Implementation of different resources has the potential to increase equitable programming in both community and university settings.

Key Words: programming equity, bicycling, underrepresented populations, bicycle coalitions, universities, health promotion.

Introduction

Considering the array of health and community benefits that arise from AT, there are still many disparities seen based on various neighborhood and demographics. Specifically, perceptions of poorly designed neighborhoods are associated with reduced likelihood of bicycling (Heesch, Giles-Corti, Turrell, 2014). Physical environmental influences, such as the presence, proximity, and accessibility of bicycle paths/lanes, street connectivity, aesthetically pleasing neighborhoods, and time to destinations have been seen to influence AT (Panter & Jones, 2010). Due to the lack of safe streets, Hispanic and African-American bicyclists throughout the U.S. have seen a 23% and 30% higher fatality rate compared to white bicyclists, respectively (League of American Bicyclists, 2020). Similarly, the lack of safety throughout these neighborhoods and communities has led 22% of lower income populations to perceive bicycling as an activity that has the potential to lead to harassment or crime victimization (McNeil, Dill, MacArthur, Broach & Howland, 2017b).

Additionally, men have significantly higher levels of AT compared to women, which may be influenced by various social and environmental factors, such as neighborhood safety, cleanliness, incivilities, and lighting (Heesch, Sahlqvist & Garrard, 2012; Saffer, Dave, Grossman & Leung, 2013; Taylor et al., 2007). Although limited research is available, members of

the LGBTQ+ community may participate less in AT due to stereotypes and low self-esteem (Calzo et al., 2014). Underserved populations report low availability, access/affordability of bicycling equipment, as lack of bicycle storage/parking as common barriers to bicycling (McNeil et al., 2017b). In one study looking at barriers to bicycling, 41% of lower-income and racially diverse respondents, as well as 37% of white respondents claimed lack of access to equipment to be a barrier to participation, while only 13-17% of higher-income respondents reported as a barrier (McNeil, Dill, MacArthur, Broach & Howland, 2017a).

Community coalitions and universities are presented with an ideal situation to reach a large diverse population to promote AT participation (Sandt, Combs, & Cohn, 2016). Additionally, bicycle coalitions and universities may also have the opportunity to play a large role in providing equitable opportunities for underserved populations with the incorporation of the Bicycle Friendly elements. These five elements, or "E's", engineering, education, encouragement, equity, and evaluation, are consistent in making communities ideal places for bicycling for everyone (League of American Bicyclists, 2021b). Coalitions typically operate as non-profit organizations that work towards establishing equal bicycle access for all populations and improving the safety of communities' infrastructure (Bicycle Coalition of Greater Philadelphia, 2021; Bopp et al., 2017). Members and leaders of the coalitions help advocate for policies, educate the community about bicycling, and support various other advocates to increase bicycling in their local communities (New York Bicycling Coalition [NYBC], 2021). Moreover, universities may collaborate with their local community to enhance equity in both student and community populations. The defined boundaries and unique environment of a university makes it the ideal place to incorporate bicycling (League of American Bicyclists, 2021a). Over the recent decade, U.S. higher education universities have noted increases in diversity (e.g., race/ethnicity, income, gender identity, sexual orientation, and age) in their enrollments and may require proper resources and supportive bicycling environments to assist this growth (de Brey et al., 2019; Dill, 2009; Smith et al., 2017).

Previous mixed-methods studies have suggested that universities and coalitions lack the organizational capacity to reach underserved populations throughout their campus/community (Elliott, Wilson, & Bopp, 2021; Elliott & Bopp, Under Review a, b, c). Barriers in reaching underserved and diverse populations were a lack of diversity in coalition leadership and membership, a lack of trust between coalitions and underserved communities, and a lack of personnel and finances. Motivators and best practices were partnering with off-campus organizations, conducting needs assessments, diversity, equity and inclusion training, and connecting community/university infrastructures (Elliott et al.; Elliott & Bopp, Under Review a, b). The purpose of the current study was to qualitatively examine and understand why bicycle coalitions and universities throughout the United States prioritize equity last, or first, in their organization/institution's bicycle programming efforts.

Methods

Participants and Procedures

A web-based survey (Qualtrics, Provo, UT) was sent out to bicycle coalitions and universities throughout the United States, as described in previous studies (Elliott et al., 2021; Elliott & Bopp, Under Review c). Coalitions (n = 287) and Universities (n = 123) were identified for distribution through the League of American Bicyclists (LAB) website (League of American Bicyclists, 2021), a national advocacy organization which incorporates a Bicycle Friendly America Program, which recognizes efforts for promoting and providing a more bicycle friendly environment in Bicycle Friendly Communities (BFC) and Bicycle Friendly Universities (BFU). Currently, there are 487 BFCs, as of May 2021, and 212 BFUs, as of February 2021 (League of American Bicyclists, 2016; League of American Bicyclists, 2021a). Their efforts are evaluated in five primary areas, known as the "Bike Friendly E's": engineering, encouragement, education, evaluation, and equity (League of American Bicyclists, 2021a).

Emails were gathered from coalition and university websites from executive directors, general information individuals, and sent to alternative transportation and/or bicycling department

representatives. Participants received a description of the survey as well as a hyperlink to access the survey in an email. Informed consent was presented to the coalition participants when opening the link to the online survey. The response rate was 33.1% (n = 95) for coalitions and 48.8% (n = 60) for universities. Incomplete survey data was discarded, resulting in a completion rate of 74.7% and a final sample of n = 71 for coalitions, and a completion rate of 85% and a final sample of n = 51 for universities. The Pennsylvania State University Institutional Review Board approved this study.

Measures

Description of Biking-related Community and University Demographics

Participants were asked to describe their community's and/or university's League of American Bicyclists (LAB) Bicycle Friendly Community (BFC) recognition level (none, honorable mention, bronze, silver, gold, platinum). The names and additional demographics of the coalitions and universities were excluded for anonymity.

Bicycle Friendly E's

Participants (both coalition and universities) ranked the five E's (elements) of bicycle friendliness (engineering, education, encouragement, equity, and evaluation) that their organization prioritized the most (1 being the most, 5 being the least). Only the participants who ranked equity first or last then answered an open-ended question to explain the prioritization of equity in their programming. Participants who ranked equity as 2, 3, or 4 were not asked to explain their prioritization and were not used to identify common themes among the responses.

Data Analysis

Data were analyzed using SPSS version 26.0 (IBM, Armonk, NY, USA). Basic frequencies and descriptive statistics were used to describe the sample. Qualitative coding and thematic analysis were completed using Atlas.ti Version 8.4.5 (Berlin, Germany).

Results

Common themes were identified from the participants' responses regarding why or why not equity was prioritized. These themes are outlines below, considering the organization/institution's LAB BFC/BFU recognition level (none, honorable mention, bronze, silver, gold, or platinum). University and community type, as well as full frequencies of LAB recognition level for BFU's and BFC's can be found in Table 1.

Table 1

University (BFU) and Community (BFC) Demographics

	BFU		BFC	
	n	%	n	%
University Type				
National or Regional University	42	85.7		
Liberal Arts College	4	8.2		
Baccalaureate College	1	2.0		
Community college	2	4.1		
Type of Community Served				
City/Town			22	31.9
Entire County			18	26.1
Region w/ Several Cities/Towns			17	24.6
Entire State			12	17.4
LAB Bicycle Friendly America Program Recognition Level				
None	1	2.0	17	29.8
Honorable Mention	1	2.0	5	8.8
Bronze	12	24.0	20	35.1
Silver	17	34.0	10	17.5
Gold	12	24.0	1	1.8

Platinum	7	14.0	4	7

Note. LAB = League of American Bicyclists; BFU = Bicycle Friendly University; BFC = Bicycle Friendly Communities

Participants Ranking Equity Last

Coalitions: Of the 71 coalitions that participated in the survey, 12 ranked equity last (five bronze, three none, and four statewide). The responses from the participants made it evident that these organizations have not put much attention on equity, especially since one participant responded that "the demand had not presented itself". Small populations, low funding, lack of diversity within the staff and the community, and new leadership, were common issues for coalitions to consider equity a priority. Lastly, one coalition representative states that they were "not sure what equity means," indicates that equity is completely unknown to some organizations. Illustrative quotes for coalitions ranking equity last can be found in Table 2.

Universities: Of the 51 universities that responded to the survey, 13 universities ranked equity last (two bronze, four silver, four gold, and three platinum). Some universities did not see an equity issue within their communities claiming that they believe "there is already equity in the bicycle environment on the campus and in the city." On the other hand, other universities are working towards adjusting their institution to improve equity. A lack of resources and proper framework seem to be holding universities back, but there is hope with universities "working to change" their programs to provide more equitable opportunities. Illustrative quotes for universities ranking equity last can be found in Table 2.

Table 2

Illustrative quotes from university and community participants who ranked Equity last

LAB Recognition		***Illustrative Quote***
Bronze	BFU	*"Our biking resources are open to all and there are no major equity issues."*
Bronze	BFU	*"Our population isn't very diverse to begin with so outreach to underrepresented sectors."*
Silver	BFU	*"We believe that there is already equity in the bicycle environment on the campus and in the city."*
Silver	BFU	*"We haven't had the capacity to develop relationships to focus more on equity."*
Silver	BFU	*"Equity is a new E, it wasn't on the application in 2019 when we last applied. We previously addressed Equity as an integral part of Encouragement."*
Silver	BFU	*"There are not consistent programs to make biking more affordable and accessible to all people."*
Gold	BFU	*"Hasn't been a framework in place to address this. Our department is currently working on an equity assessment of our transportation programs."*
Gold	BFU	*"We are working to change this."*
Gold	BFU	*"Unfortunately, we do not have any programs targeted specifically at underrepresented groups"*
Platinum	BFU	*"Hardest to manifest with our current resource allocation"*
Platinum	BFU	*"Equity is more nuanced area that we work on similar to the others, but still has underrepresented groups."*
Platinum	BFU	*"I think we don't do a good job on focusing on underrepresented communities."*
None	BFC	*"The demand has not presented itself."*
None	BFC	*"Our limited resources dictate a "general population" approach, and we focus more specifically on underrepresented or disadvantaged populations when opportunities arise to assist the projects of larger organizations. Such as the County Health Department and Building Healthy Communities. program."*
Bronze	BFC	*"Very small population of low-income families/people in our community."*
Bronze	BFC	*"Not sure what equity means."*

Bronze	BFC	*"We believe everyone is equal, we have no focused much on this as it hasn't been an issue, but something that needs to addressed."*
Bronze	BFC	*"Lack of diversity on staff/board means fewer relationships in other communities which hampers ability to connect with and serve them (currently staff & board are ALL white, staff is 80% women)."*
None	BFC	*"Priorities."*
None	BFC	*"It goes along with everything so it's less a focus than a constant consideration."*
None	BFC	*"Because we have yet to address as an organization. Just beginning these conversation under new leadership."*
None	BFC	*"No matter what funds we have, we have a heart for the people."*
None	BFC	*"State DOT does not have the resources or staff."*

Note. LAB = League of American Bicyclists; BFU = Bicycle Friendly University; BFC = Bicycle Friendly Communities

Participants Ranking Equity First

Coalitions: Of the 71 coalitions that participated in the survey, five coalitions ranked equity first (two bronze, one silver, one gold, and one platinum). These coalitions mentioned that their previous approaches were "reinforcing the racial inequalities in access to safe, affordable and sustainable transportation," and have "recently made a shift focusing clearly on equity." Some of these coalitions have noted what they have done already in hopes of minimizing these disparities. For example, one participant responded that their organization runs "a bike recycling program where we provide a bike, lock, helmet, lights, and basic safety education to people in need." Illustrative quotes for coalitions ranking equity first can be seen in Table 3.

Universities: Of the 51 universities that responded to the survey, two universities ranked equity first (one bronze and one silver). These universities aimed to have access for students, faculty, and staff on their campuses. A major priority was "making sure our university has access for all". Illustrative quotes for universities' ranking equity first can be seen in Table 3.

Table 3

Illustrative quotes from university and community participants who ranked Equity first

LAB Recognition		***Quote***
Bronze	BFU	*"Providing an equitable service such as a bike share program that is open to all students, faculty, and staff for free is the low hanging fruit, and easiest to put into motion quickly and efficiently"*
Silver	BFU	*"Making sure our university has access for all."*
None	BFC	*"Equity is now centered in all of our work."*
Bronze	BFC	*"Our county has a high poverty rate, and nearly 10% of people lack access to a motor vehicle. We run a bike recycling program where we provide a bike, lock, helmet, lights and basic safety education to people in need."*
Bronze	BFC	*"We have recently made a shift to focusing clearly on equity before engineering. We have made this change due to a recognition that our previous approach was reinforcing the racial inequities in access to safe, affordable and sustainable transportation."*
Platinum	BFC	*"Because it's where we're most lacking."*

Note. LAB = League of American Bicyclists; BFU = Bicycle Friendly University; BFC = Bicycle Friendly Communities

Discussion

Community coalitions and universities are important resources for promoting healthy behavior, including AT, throughout populations across the U.S. In both communities and universities, bicycle ridership as a form of AT and recreation has shown to produce many health benefits for individual health, community health, and economics (Chapman et al., 2018; Hamer & Chida, 2008; Sauders et al., 2013). In university settings, behaviors set in college have the

potential to continue into adulthood, making it important to promote AT and active lifestyles (Bopp et al., 2021). However, the needs of all populations are potentially not being met as a result of equity being one of the lowest priorities of both community and university settings. Underrepresented populations (racial/ethnic minorities, women, low-income, youth, LGBTQ+ communities) show lower rates of AT due to a variety of social and physical environmental factors (Ogilvie, Mitchell, Mutrie, Petticrew & Platt, 2008). This current study has identified and suggested some of the common themes why organizations/institutions are ranking equity as first or last, to propose recommendations to establish equitable environments.

Among the organizations/institutions that ranked equity first, it was commonly seen that there was an awareness of the inequality present in their communities. Each of these organizations identified equity as an important element and planned to prioritize equity in their programming. Common themes among organizations/institutions who ranked equity as their last priority was the lack of awareness, knowledge, and demand for equity-related issues. Considering the difference in prioritization of equity in both community and university settings, the lack of implementation and programming towards underrepresented populations needs to be addressed to meet equity. If no efforts are made towards improving this issue, then various populations are at risk of long-term negative health outcomes (Saunders et al., 2013).

Several interventions and strategies have the potential to increase bicycling in community and university settings. Studies have shown that multi-component interventions that are participatory rather than informational have been found to be more effective in long term behavior change (Page & Nilsson, 2016). Community-wide campaigns (Task Force on Community Preventive Series, 2001b), increasing access to places that promote physical activity (Task Force on Community Preventive Series, 2001c), and behavioral and social support interventions (Task Force on Community Preventive Services, 2001a), have successfully increased overall community and individual physical activity, including bicycling. Additionally, improvement strategies focusing on changes with policies, social norms of an organization/institution, and the physical environment can improve equity (Centers for Disease Control and Prevention [CDC], 2013). In university settings, institutions can organize student representatives with staff representatives from relevant departments (e.g., planning, housing, transport, police, etc.) to resolve issues pertaining to AT on campus (U.S. Department of Health and Human Services [HHS], 2020; Wilson et al., 2018). Federal legislation, such as Title IX (gender-based equity) and ADA (ability-based), also mandates diversity, equity, and inclusion on campuses (United States Department of Justice, 2001, 2010).

Organizational practices are an important area to target as well to make improvements. Organizations and institutions can benefit from diversity, equity and inclusion training by learning how to build culturally tailored events/programs for the community or reach underserved population through effect communication techniques (Buse, Bernstein, & Bilimoria, 2016; Elliott et al., 2021). Forming partnerships with local authorities, agencies, workplaces, on and off-campus organizations increases effective programming as connections are expanded and the needs of all populations within the community are addressed (Davis & Petrokofsky, 2016; Brinkerhoff, 2002; Elliott et al.,2021).

Despite the findings from the related study, there are numerous limitations. Questions from the survey were all self-reported, which could present biases or misrepresentation. Participation was voluntary, which could lead to response bias. Another limitation is the knowledge of the coalition or university depends on the participant's experience with that organization. Lastly, the small sample size limits the ability to gauge complete differences in coalitions and universities across the United States. Future research should attempt to use different methods to understand the best practices for providing equitable bicycling programming to underrepresented populations in community and university settings. Since coalition and university demographics were not included in the study, future studies should investigate what demographics relate to equitable programming as well as other potential impacting factors, like equity training. We hope to inform organizations/institutions about these common themes to consider adopting interventions and

strategies to provide equitable opportunities for all populations in their communities.

Conclusion

Bicycle coalitions and universities are key tools for increasing active travel across all populations in the United States. Although many benefits have been seen with AT, many underrepresented populations (racial/ethnic minorities, women, low-income, youth, LGBTQ+) do not participate due to several societal and environmental factors. Results from this study suggest that equity is a concern for coalitions and universities. Common themes identified among coalitions and universities that did not prioritize equity were lack of awareness, knowledge, and demand for equity-related issues. Many participants do not know how to improve this issue in their programming. These results suggest that implementation of different resources, such as community-wide campaigns, behavioral and social support interventions, and physical environment improvements, have the potential to increase bicycling equity in both community and university settings and impact health disparities within the greater population. By identifying the common themes among coalitions and universities and providing potential strategies, we hope that equity increases in bicycle programming in both settings.

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