

1-1-2019

Collaborating to Develop and Implement a Family Bike Program.

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Recommended Citation

Hunsicker, J. (2019). Collaborating to Develop and Implement a Family Bike Program. Poster presentation at the Ohio League for Nursing Education Summit.

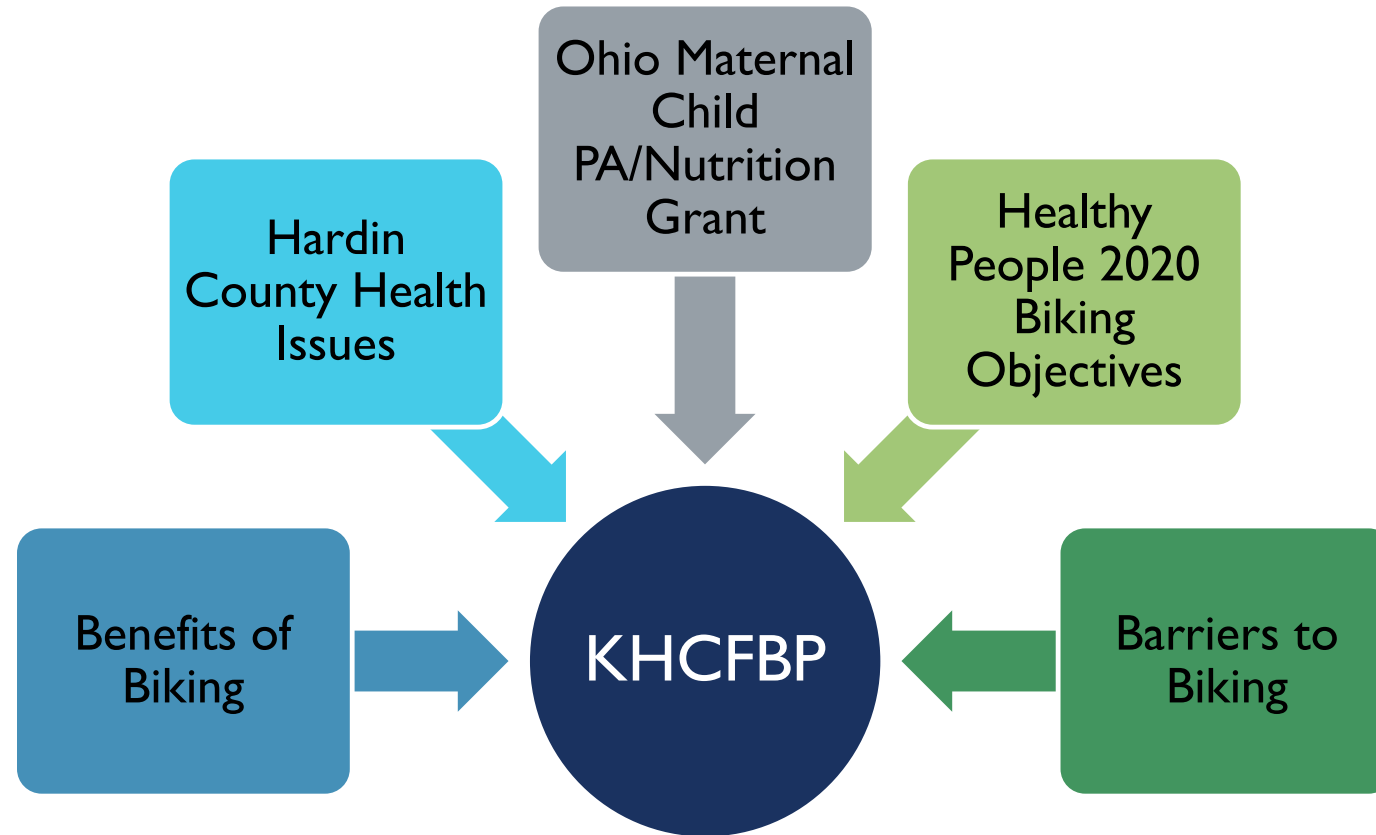
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EVALUATION OF THE KENTON HARDIN COUNTY FAMILY BIKE PROGRAM (KHCFBP)

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BACKGROUND & PROBLEM



KHCFBP

- Community partnerships established to assist with development and implementation
- Curriculum included lessons on bike safety, bike maintenance, biking skills, & nutrition to support biking
- Designed to be completed with family
- Workbook, bike helmet, bicycle, & other biking equipment provided during the program and upon completion



AIMS

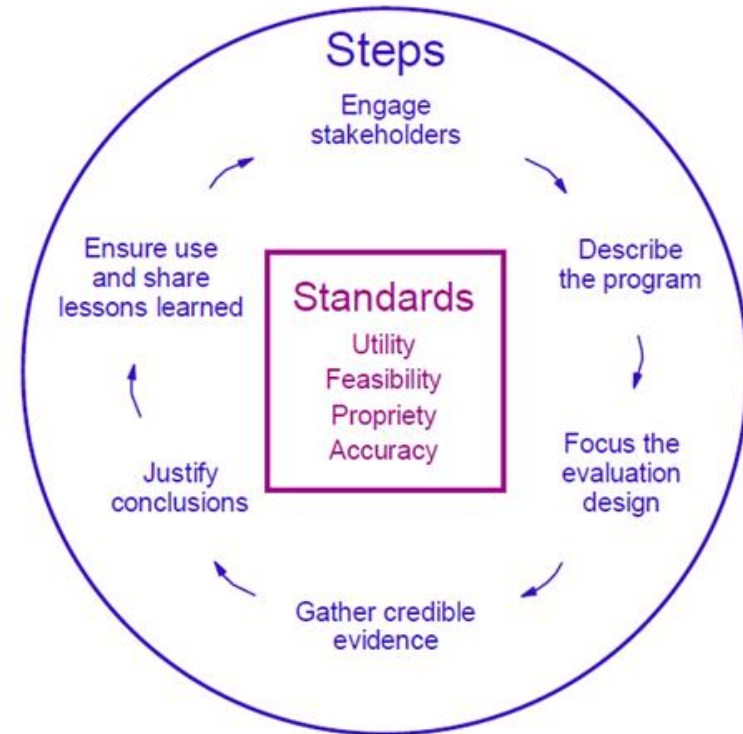
To evaluate the effect of the KHCFBP on participants' bike safety knowledge, bike helmet use, bike riding, and physical activity



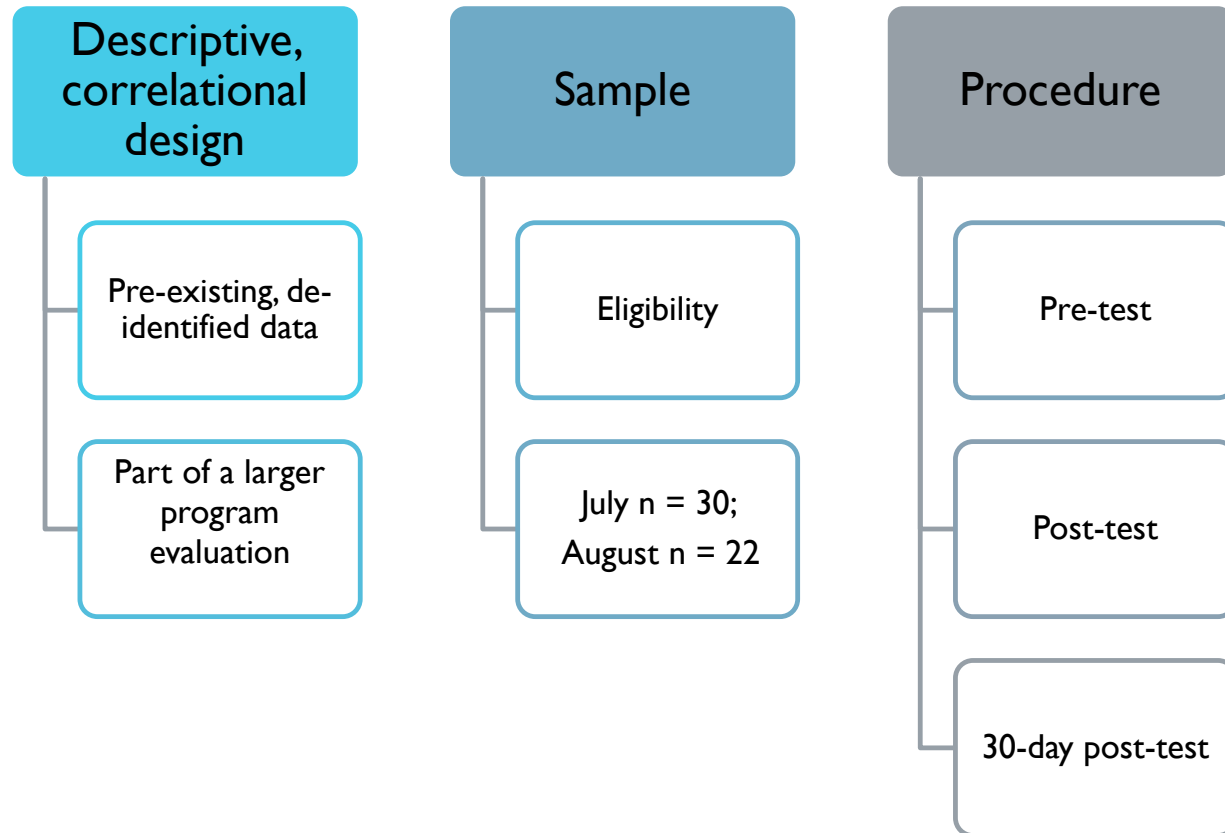
EVALUATION FRAMEWORK

Framework for Program Evaluation in Public Health (CDC, 1999)

FIGURE 1. Recommended framework for program evaluation



METHODS



PERTINENT FINDINGS: SAMPLE

Session	Age	Gender	Ethnicity	Own Bike	Own Helmet	Bike Experience
July (n = 30)	Range = 6 - 65 M = 22.83 SD = 17.65 Median = 11 Mode = 8	F = 53.3% M = 43.3% Miss = 3.3%	C = 76.7% AA = 3.3% NA = 6.7% Oth = 6.7% Miss = 6.7%	Yes = 50% No = 50% Miss =	Yes = 23.3% No = 76.7%	B = 20% I = 56.7% A = 23.3%
August (n = 22)	Range = 5 - 57 M = 20.91 SD = 17.92 Median = 10 Mode = 8	F = 54.5% M = 45.5%	C = 100%	Yes = 50% No = 45.5% Miss = 4.5%	Yes = 9.1% No = 90.9%	B = 36.4% I = 36.4% A = 27.3



PERTINENT FINDINGS: BIKE KNOWLEDGE

July participants	August participants
pre-test (n = 30): M = 3.13, SD = 1.252	pre-test (n = 21): M = 4.38, SD = 1.071
post-test (n = 25): M = 4.48, SD = 0.714	post-test (n = 18): M = 4.61, SD = 0.778

Bike Safety Knowledge Paired T-test with Listwise Exclusion							
Session						95% CI	
	n	M	SD	t (df)	p	LL	UL
July	25	1.36	1.22	5.57 (24)	<.001***	0.86	1.86
August	17	0.06	1.14	0.21 (16)	0.84	-0.53	0.65



Participants increased bike safety knowledge following the KHCFBP - July significant

Increased bike safety & bike helmet fit knowledge following bike safety programs
(Hooshmand et al., 2014; Lachapelle et al., 2013)

Increased bike safety knowledge decreases barriers to biking (Mendoza et al., 2017; Bernstein et al., 2017)



PERTINENT FINDINGS: BIKE HELMET USE

July participants	August participants
pre-test (n = 30): M = 0.73, SD = 1.29	pre-test (n = 22): M = 0.41, SD = 1.18
post-test (n = 15): M = 3.47, SD = 0.83	post-test (n = 18): M = 3.78, SD = 0.94

Bike Helmet Use: Wilcoxon Signed Rank Test					
Session	n	Pre M (SD)	Post M (SD)	Z	p
July	15	0.80 (1.42)	3.47 (0.83)	-3.22	0.001**
August	18	0.50 (1.30)	3.78 (0.94)	-3.77	<0.001***



Learning activities on bike helmet fit and use



Provide new bike helmet



Significant increase in use from never/rarely to often/always



PERTINENT FINDINGS: BIKING & PA

Biking Hours Paired T-test with Listwise Exclusion

Session						95% CI	
	n	M	SD	t (df)	p	LL	UL
July	13	0.80	1.20	2.42 (12)	0.032 *	0.81	1.53
August	8	0.47	0.51	2.61 (7)	0.035 *	0.04	0.89

Total Physical Activity Paired T-test with Listwise Exclusion

Session						95% CI	
	n	M	SD	t (df)	p	LL	UL
July	16	1.5	2.105	2.78 (15)	0.014 *	0.35	2.64
August	9	0.05	1.77	0.08 (8)	0.939	-1.13	1.40



Significant increase
in reported biking
hours

Biking programs
increase bike riding of
participants
(Mendoza, et al., 2017;
Bernstein et al., 2017)

Only July participants
significantly increased total
PA, but both groups met
adult PA guidelines following
the KHCFBP

Suggested use of bike
programs to increase PA to
levels recommended by PA
guidelines
(HHS, 2008)



CONCLUSION

- Findings support the use of KHCFBP as community based intervention to increase participants' bike helmet use, bike safety knowledge, and PA to levels recommended by PA guidelines.
- Bike programs may be one method to:
 - decrease barriers to biking
 - reduce risks associated with biking
 - increase bike riding (PA)



CONCLUSION

- Consider family biking programs as an innovative community based intervention to increase biking and physical activity, decrease barriers to biking, & increase bike safety of participants
- Secondary effects include:
 - increased visibility of the health department
 - increased awareness of issues related to safe biking and availability of safe bike paths within the community



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