

Supplemental Material

CBE—Life Sciences Education

Hubert *et al.*

1 **Supplemental Material**

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3 **Emotion, fact, and anthropogenic disturbances: Undergraduate attitudes toward wildfire**
4 **and urbanization after a brief intervention**

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6 *CBE Life Sciences Education*

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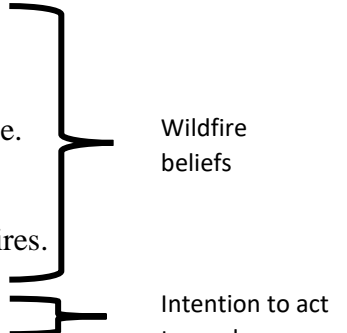
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27 **Table S1. WUAS- Pre- and Post-Intervention Wildfire and Urbanization Attitude Survey 2020-**
28 **2021**

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30 Are you age 18 or above?
31 What is your name?
32 What month were you born? (*only for intervention and post-survey*)
33 What class(es) are you currently enrolled? Check your class(es).

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35 **Wildfire Section**

36 Please respond to the following statements on a 5-point scale where 1 = strongly disagree and 5
37 = strongly agree.

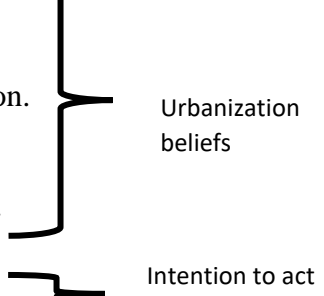
- 38 1) I believe our climate is changing.
 - 39 2) I believe that wildfire frequency is increasing.
 - 40 3) I am concerned about wildfires.
 - 41 4) I believe that there is evidence of an increase in global wildfire occurrence.
 - 42 5) Wildfires will impact future generations.
 - 43 6) Wildfires will impact our environment in the next 10 years.
 - 44 7) The actions of individuals can make a positive difference to reduce wildfires.
 - 45 8) Wildfires have a negative effect on our lives.
 - 46 9) We cannot do anything to stop wildfires.
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48 (*Open-ended question*)
49 Why do you feel the way you do about wildfires?
50 Have you ever been personally impacted by a wildfire?

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52 **Urbanization Section**

53 *Urbanization is the process in which there is an increase in the number of people living and*
54 *working in a city or metropolitan area (National Geographic).*

55 Please respond to the following statements on a 5-point scale where 1 = strongly disagree and 5
56 = strongly agree.

- 57 10) I believe that urbanization is occurring.
 - 58 11) I am concerned about urbanization.
 - 59 12) I believe that there is evidence of an increase in global urbanization.
 - 60 13) Urbanization will impact future generations.
 - 61 14) Urbanization will impact our environment in the next 10 years.
 - 62 15) The actions of individuals can reduce the impacts of urbanization.
 - 63 16) Urbanization has a negative effect on our lives.
 - 64 17) We cannot do anything to stop urbanization.
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66 (*Open-ended question*)
67 Why do you feel the way you do about urbanization?
68 Do you live in an urbanized area?

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72 **General Environmental Questions**

73 Please respond to the following statements on a 5-point scale where 1 = strongly disagree and 5
74 = strongly agree.

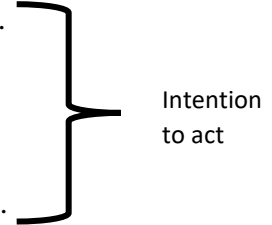
75 18) I can do my part to make the world a better place for future generations.

76 19) Knowing about environmental problems and issues is important to me.

77 20) I think most of the concerns about environmental problems have been
78 exaggerated.

79 21) It is a waste of time to work to solve environmental problems.

80 22) There is not much I can do that will help solve environmental problems.



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82 *(Open-ended question)*

83 Why do you feel this way about environmental problems?

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85 **Demographic Questions**

86 What is your gender or gender identity?

87 What is your age?

88 What is your **racial identity**?

89 What is the zip code of your hometown?

90 What year are you in school?

91 What is your current or intended major?

92 Are you a first-generation college student? (*neither parent or guardian who you have lived with
93 has a bachelor's degree*)

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116 *Table S2.* Factor loadings for three factors emerging from the 22-item survey. Two factors are
 117 related to beliefs (wildfire and urbanization) and the final factor is related to the intention to act.
 118 Items 20, 21, and 22 were reverse scored for consistency. Items 9, 15, and 17 were removed from
 119 the analysis.

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<i>Item</i>	<i>Wildfire beliefs</i>	<i>Urban beliefs</i>	<i>Intention to act</i>
Item 1	0.660		
Item 2	0.715		
Item 3	0.736		
Item 4	0.807		
Item 5	0.770		
Item 6	0.777		
Item 7	0.519		
Item 8	0.508		
Item 10		0.703	
Item 11		0.575	
Item 12		0.758	
Item 13		0.852	
Item 14		0.817	
Item 16		0.456	
Item 18			0.610
Item 19			0.708
Item 20			0.617
Item 21			0.659
Item 22			0.588

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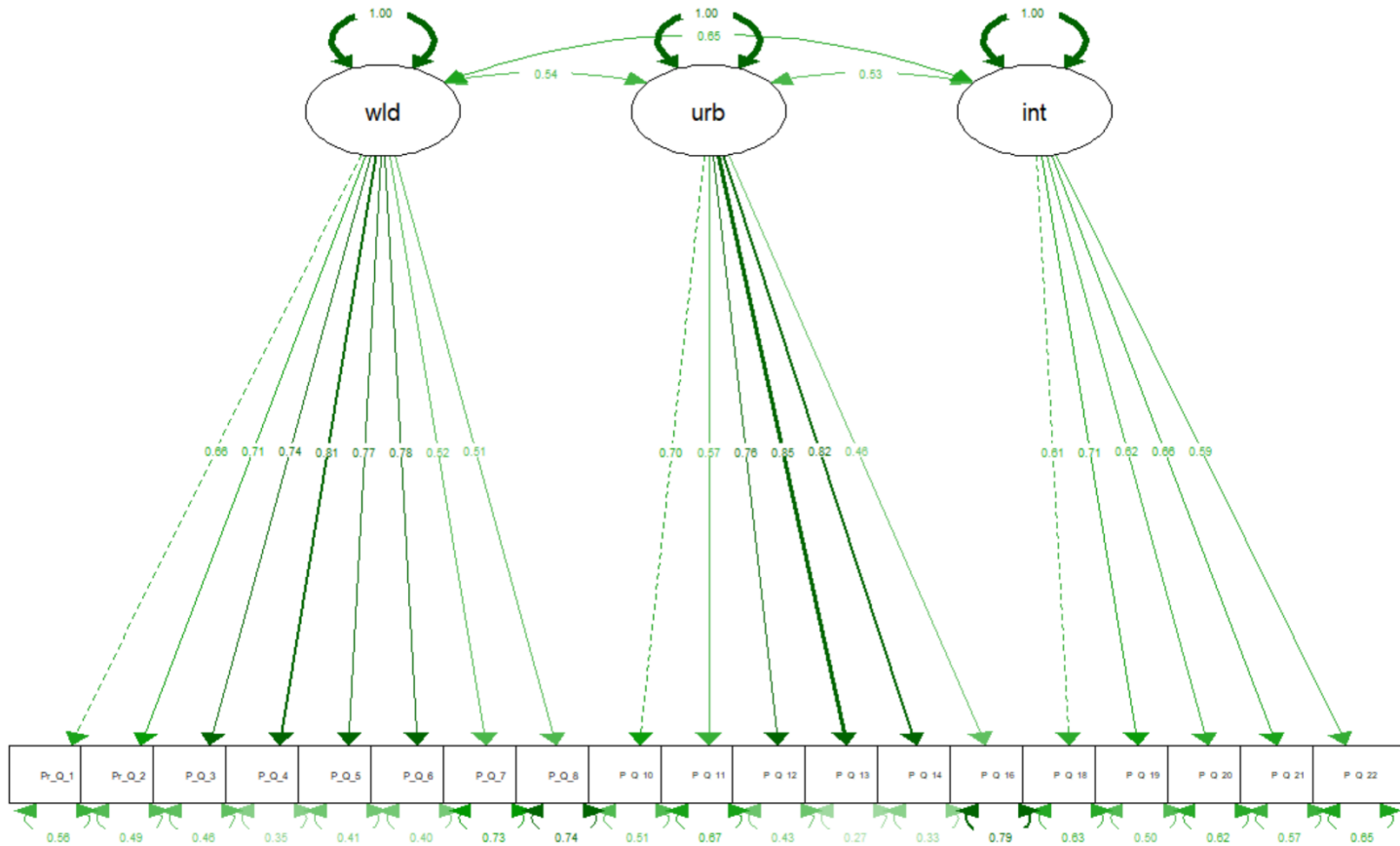


Figure S1. Path diagram for the 22-items on the WUAS with the three represented constructs (wld= wildfire beliefs, urb= urbanization beliefs, int= intention to act). Items 9, 15, and 17 were removed due to discrepancies in validity.

182 **Table S3.** Demographics of the respondents by biology major and non-major from the 164
 183 participants in the matched data set.

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	<i>Biology</i>	<i>Non-biology major</i>
Male/Female/Undisclosed	25/69/1	11/58
Average age	19.54	20.41
Racial identity		
% <i>African American</i>	5%	4%
% <i>American Indian</i>	2%	0%
% <i>Asian</i>	12%	1%
% <i>Caucasian</i>	76%	90%
% <i>Latino/Latina/Latinx</i>	5%	6%
% First generation	77%	84%

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215 *Table S4.* Items with highest agreement and disagreement for both majors and non-majors pre-
 216 and post-intervention.

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Pre-intervention

<i>Non-major</i>		<i>Major</i>	
<i>Agree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Disagree</i>
1. "I believe our climate is changing."	21 "It is a waste of time to work to solve environmental problems."	18 "I can do my part to make the world a better place,"	21 "It is a waste of time to work to solve environmental problems."

Post-intervention

<i>Non-major</i>		<i>Major</i>	
<i>Agree</i>	<i>Disagree</i>	<i>Agree</i>	<i>Disagree</i>
4. "I believe that there is evidence of an increase in global wildfire occurrence."	20. "I think most of the concerns about environmental problems have been exaggerated."	6. "Wildfires will impact our environment in the next 10 years."	20. "I think most of the concerns about environmental problems have been exaggerated."

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240 **VIDEO LINKS**

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243 [Emotion-based intervention video](#)

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247 [Fact-based intervention video](#)

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