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How the physical proximity of climate mitigation projects influences the relationship between affect and public support

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ABSTRACT

This study investigates how the physical proximity of university-sponsored climate mitigation projects may moderate the relationship between affect and project support and impact public support for the respective projects. Using a mail survey (N = 667) of residents near a major university in New York State, we find that positive and negative affective responses to proposed climate mitigation projects have a stronger association with project support when the project will be implemented in close, as opposed to distant, physical proximity. In contrast, we do not find that the physical distance of project implementation moderates the relationship between affective responses to climate change in general and project support. In addition, we find no evidence of a NIMBY effect in public support/opposition to the particular projects, but do find that public support varies depending on the type of project that is being proposed.

1. Introduction

This study investigates how the physical proximity of proposed climate mitigation projects may moderate the relationship between affect and project support and impact public support for the respective projects. While affect has been identified as a potential driver of support for environmental projects (Cass & Walker, 2009), less is known about how affect might relate to climate change initiatives (Myers, Nisbet, Maibach, & Leiserowitz, 2012). In response, our study examines the strength of the association between affect and public support for university-sponsored climate mitigation projects depending on their location, i.e., whether the proposed project will be built near or farther away from a respondent's residence. In addition, as affect has been identified as a potential driver of Not In My Back Yard (NIMBY) attitudes (Cass & Walker, 2009), we examine how physical proximity may impact public support. Recent years have seen mixed findings about whether nearby implementation of climate mitigation projects may be supported by the public or instead lead to oppositional NIMBY responses, suggesting the need for further research on this relationship.

2. Literature review, hypotheses, and research questions

2.1. Affect and decision making

Affect, the general feeling of goodness or badness that someone assigns to a stimulus, can have a powerful role in guiding how individuals respond to risk information (Slovic, Finucane, Peters, & MacGregor, 2004) as it strongly influences both information processing and motivation to take action (Neuman, Marcus, Crigler, & Mackuen, 2007; Slovic, 1999, 2007). Recent initiatives have probed what factors may influence the strength of an individual's emotional response to climate change (Myers et al., 2012; Spence, Poortinga, & Pidgeon, 2012). Less is known about what influences the role of affect in climate change related decision making may have *independently* of the amplification or attenuation of affective states. This is a crucial gap; such information would help us to understand when affect may play a greater role in decision making and thus when communicators need to be more cognizant of the affective feeling that an individual may bring to forming judgments about objects and events. In addition, in light of recent calls for the public to participate as stakeholders in decision-making processes related to risk issues (McComas, Arvai, & Besley, 2009), it is important to better understand how affect may be used when individuals assess proposals to address those risks, such as climate mitigation projects.

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Our study uses construal level theory to guide the investigation of psychological distance and the use of affect in decision making. Construal level theory (Fujita, Eyal, Chaiken, Trope, & Liberman, 2008; Fujita, Henderson, Eng, Trope, & Liberman, 2006; Henderson, Fujita, Trope, & Liberman, 2006) holds that objects and events have varying levels of psychological distance, which is defined by how far (psychologically distant) or near (psychologically close) the objects are construed to be. According to construal level theory, viewing an object as being psychologically close leads to a cognitive representation that is more concrete and contextualized while psychologically distant objects are cognitively represented in more abstract, decontextualized terms. Construal level theory, and specifically how psychological distance impacts concrete and abstract representations of an object, has been found to operate across multiple domains, including temporal, social, and physical proximity.

Several previous studies have found that more physically distant objects are generally construed as being more psychologically distant (Fujita et al., 2006; Henderson et al., 2006). As objects become more psychologically distant and thus construed in more abstract rather than concrete representations, affective information is often discounted more in decision-making processes (Trope, 2004; Trope & Liberman, 2000). In other words, as an object becomes more psychologically distant due to physical distance, individuals may rely less on affect when making decisions about the object.

We examine affect related to both climate change in general and discrete proposed climate change mitigation projects. Climate change has been discussed primarily as a threat to humans, wildlife, and ecosystems (Hart & Feldman, 2014); we thus focus on negative affect associated with the issue as a whole. In contrast, climate mitigation projects may elicit strong positive or negative associations (Myers et al., 2012; Spence & Pidgeon, 2010), leading us to examine how positive and negative emotions associated with the proposed mitigation projects may respectively impact support. Thus, we examine three hypotheses related to project support for nearby (close to where respondents live) and distant (in the same county but not near where respondents live) implementation:

*H*1: Negative affect associated with climate change will have a stronger positive association with support for a proposed climate change mitigation project that is proposed to be built in close, rather than relatively distant, physical proximity to the respondent.

*H*2: Negative affect associated with a specific proposed project to address climate change will have a stronger negative association with support for the project that is proposed to be built in close, rather than relatively distant, physical proximity to the respondent.

*H*3: Positive affect associated with a specific proposed project to address climate change will have a stronger positive association with support or opposition to the project that is proposed to be built in close, rather than relatively distant, physical proximity to the respondent.

Please see Fig. 1 for a conceptual map of these hypotheses.

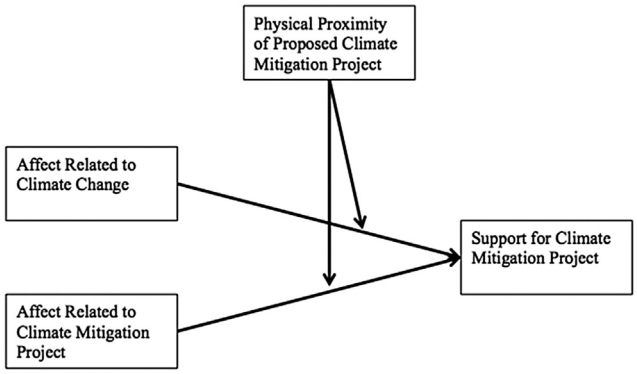

Fig. 1. Conceptual map for hypotheses 1–3.

2.2. Public support for climate change initiatives

Given that emotion has been identified as an important factor in determining public support for implementing environmental projects (Cass & Walker, 2009; Myers et al., 2012) and that in *H*1–*H*3 we predict that the physical distance of proposed project implementation will alter the strength of association between affect and project support, we also explore how the distance of the proposed implementation may impact support for the projects. Public support for climate mitigation measures such as renewable energy projects has generally been very strong (Wüstenhagen, Wolsink, & Bürer, 2007), but there have been mixed findings for community support and opposition when a project is proposed to be built in close proximity to community members. A variety of factors have been associated with support for renewable energy projects, including environmental beliefs (Dietz, Dan, & Shwom, 2007), place attachment, and place identities (Devine-Wright, 2013). Looking at factors that may influence support for near and distant implementation, Spence and Pidgeon (2010) and Scannell and Gifford (2013) found that the choice of how the issue is framed in terms of local or global considerations can impact engagement and public support.

Some studies have found robust organized communal opposition to renewable energy projects when they are being proposed nearby. For example, Upreti (2004) found that while communities in the United Kingdom saw environmental benefits to the development of biomass energy plants, many still organized opposition to the plants due to perceived negative risks that the plants posed to the local communities and landscape. The opposition to renewable energy projects has been linked to NIMBY attitudes and behaviors that have also arisen over other developments such as hazardous waste disposal (Groothuis & Miller, 1994; Kraft & Clary, 1991; Luloff, Albrecht, & Bourke, 1998).

Other research has questioned the use of NIMBY terminology to describe community attitudes towards renewable energy projects, noting that the term lacks conceptual clarity (Devine-Wright, 2009; Wolsink, 2006) and can obscure the complex nature of opposition that may arise from factors other than the pejorative qualities of "ignorance, irrationality and ignorance" (Devine-Wright, 2009, p. 431) that the NIMBY paradigm implicates. As part of this criticism, scholars note that in many cases communities have supported the local siting of renewable energy projects (Rogers, Simmons, Convery, & Weatherall, 2008), and several studies have found that communal attitudes may move in the opposite direction of NIMBY predictions, with community members preferring that the project be built nearby if possible (Van der Horst, 2007; Warren, Lumsden, O'Dowd, & Birnie, 2005; Wolsink, 2000).

In light of mixed findings on how the physical proximity of climate mitigation projects may impact public support for the projects, our study continues this line of investigation to examine both how the location and type of proposed project may lead to pubic support or opposition to the projects. Thus, in additional to our hypotheses described above, we examine the following research questions:

*RQ*1: How does community member support for climate mitigation projects vary depending on the type of project?

*RQ*2: Are there differences in community member support for the proposed climate mitigation projects when they are proposed to be built in close, rather than relatively distant, physical proximity to the respondent?

3. Methods

3.1. Data collection and sampling design

Affect and public support were examined in the context of university-sponsored climate mitigation projects designed to promote sustainable energy use and reduce carbon emissions. Questionnaires were sent to a random sample of 2200 property owners, drawn from property tax rolls, in the county surrounding a New York State university. During April and May, 2009, we used a four-step mailing procedure consisting of two complete survey packets and two reminder letters that were personally addressed and sent to each respondent. Ten percent ($n = 216$) were returned as undeliverable. The adjusted response rate for returned, usable questionnaires was 34% ($N = 677$).

The questionnaire measured cognitions, affect, and attitudes towards projects associated with a climate action plan proposed by the local university. Six versions of the questionnaire were used, which were identical except that each provided a description of a unique project (6 projects in total) that university leaders identified as having strong potential to: significantly impact the community, be implemented within 10 years, and significantly reduce the university's carbon output. The projects included bioenergy, wind power, enhanced geothermal systems, urban park-and-ride, carbon offsets, and forest carbon sequestration. For this study, data from the carbon offsets condition was not included for analysis because this condition does not involve "building" anything nearby or far away for the respondent community; thus, the final sample used in the analysis was $N = 556$.

In the beginning of the survey, respondents were provided a statement notifying them that a university in their county was committed to developing a plan to reduce campus greenhouse gas emissions to a net impact of zero and exploring different strategies to provide renewable energy for the campus, reduce greenhouse gas emissions, and protect the environment. Respondents were also told that the purpose of the survey was to learn more about the thoughts and attitudes of the residents of the county that the university was located in.

In the questionnaire, respondents were asked to read a short description of the respective project for their condition (see example in the Appendix), which included advantages, disadvantages, and potential community impacts. Respondents were only given information and targeted questions about one individual project of those described above, as we sought to reduce respondent fatigue and potential biases that could arise with having to respond to multiple project proposals. There was no significant difference in response rates for the different versions of the questionnaire, and we found no significant socio-demographic differences between the respondents for the different versions of the questionnaire. After reading the description of the proposed project, they were asked to answer a series of questions to assess their attitude and support for the project. Answers to all of the different questionnaire versions (except for the carbon offsets version, as described above) were combined to gauge the overall attitudes, cognitions, affect, and support for the climate change project initiatives.

3.2. Respondent characteristics

On average, survey respondents were 59 years old ($M = 59$, $SD = 15.8$), held a bachelor's or associate's degree (Scale 1 (attended high school) − 6 (graduate degree (e.g. MA, MD, PhD), $M = 4.4$, $SD = 1.5$, Median = 4), had an income of $50,000 - $74,999 (Scale 1 (less than $20,000) − 8 ($200,000+), $M = 4.4$, $SD = 1.6$, Median = 4). Less than half (42%) were female.

3.3. Survey measures

3.3.1. Affective responses to climate change

Affective responses to climate change were measured by asking respondents to state how they felt when they were thinking about climate change. Respondents answered on a five-point scale ranging from 1 (not at all) to 5 (very) for the emotions of sad, anxious, angry, and afraid. The center points for this scale and the other affective response scales were not semantically labeled. These measures were then aggregated into a single mean scale of overall negative affect.

3.3.2. Affective responses to proposed projects

Affective responses to the proposed projects were measured by asking respondents to state how they felt when they were thinking about the proposed projects. Respondents answered on a five-point scale ranging from 1 (not at all) to 5 (very) for the emotions of sad, hopeful, anxious, cheerful, angry, afraid, and enthusiastic. Responses for the emotions of hopeful, cheerful, and enthusiastic were then aggregated into a mean positive affect scale, and the responses for the emotions of sad, anxious, angry, and afraid were aggregated into a mean negative affect scale.

3.3.3. Core ecological beliefs

We measured respondents' core ecological beliefs to allow for an investigation of the role of affect after accounting for the variance associated with ecological beliefs. We measured these using the core beliefs scales adopted by Stedman, Davidson, and Wellstead (2004). These beliefs are more specific than values scales, which measure preferences but often lack a specific referent object. The ecological core beliefs scale is a subset of the new environmental paradigm (NEP) scale developed by Dunlap and Van Liere (1978) and asks respondents how much they agree with the following statements: a) "We are approaching the limit of the number of people the Earth can support," b) "The balance of nature is very delicate and easily upset by human activities," c) "Ecological rather than economic factors must guide our use of natural resources," d) "When humans interfere with nature it often produces disastrous consequences," e) "Humans must live in harmony with nature in order to survive," f) "There are limits to growth beyond which our industrialized society cannot expand," and g) "We attach too much importance to economic measures of the well-being of our society." Respondents answered on a five-point scale ranging from 1 (strongly disagree) to 5 (strongly agree) with a center point of 3 labeled neutral. The answers to the seven statements were then aggregated into a single scale that ranged from 1 to 5.

3.3.4. Support for near and distant project implementation

Support for building the project nearby was measured by asking respondents how much they would oppose or support the project if it were built "somewhere near where they lived." The question was measured on a scale that ranged from 1 (strongly oppose) to 5 (strongly support). Support for building the project far away was measured by asking respondents with the same scale how much they would oppose or support the project if it were built "somewhere in their county, but not near where they lived."

4. Results

Descriptive statistics for the independent variables, including means, standard deviations, and scale reliabilities, are provided in Table 1; all variables with multiple measures had a reliability above 0.80 using Cronbach's α.

Our first hypothesis predicted that affect associated with climate change in general would play a greater role in the

Table 1
Descriptive statistics for variables.

	M	SD	α
Age	59.08	15.81	–
Gender	1.42	0.49	–
Education	4.44	1.57	–
Income	4.14	1.85	–
Ecological core beliefs	4.01	0.78	0.80
Negative affect – Climate	3.13	1.08	0.91
Negative affect – Project	1.99	0.87	0.88
Positive affect – Project	3.49	0.96	0.89
Support for near implementation	3.72	1.14	–
Support for distant implementation	3.77	1.08	–

evaluation of a proposed climate project when it was proposed to be built in close, rather than relatively distant, physical proximity to the respondent. To investigate this hypothesis, we conducted two separate OLS regressions looking at the contribution of affect to support for near and distant project implementations. After controlling for project type, age, gender, income, education, and core beliefs, no significant relationship was found between affective responses to climate change and support for near ($\beta = .05$, $p =$ n.s.) (see Table 2) or distant project implementation ($\beta = -.03$, $p =$ n.s.) (see Table 3). Although neither relationship was significant, the relative strength of the relationships between climate-related affect and support for 1) near or 2) distant project implementation was formally tested with Steiger's Z (Meng, Rosenthal, & Rubin, 1992), which revealed no significant differences ($Z = 1.02$, $p =$ n.s.) and failed to support *H*1.

Our second and third hypotheses respectively predicted that negative and positive affect associated with the proposed projects would have stronger associations with project support when projects were proposed to be built nearby compared to far away. Looking first to negative affect associated with the projects, Steiger's Z test ($Z = 1.98$, $p < .05$) revealed that negative project affect had a stronger negative association with support for near implementation ($\beta = -.20$, $p < .001$) than distant implementation ($\beta = -.14$, $p < .001$). A similar pattern was found with positive project-related affect, such that Steiger's Z test ($Z = 3.77$, $p < .001$) revealed that positive project-related affect had a stronger positive association with support for near implementation ($\beta = .47$, $p < .001$) than distant implementation ($\beta = .33$, $p < .001$). Thus, while negative and positive project-related affect were both significant predictors of support for near and distant project implementation, both negative and positive project-related affect had stronger associations with support for near project implementation than support for distant project implementation, in support of *H*2 and *H*3.

Table 2
OLS regression on support for near project implementation.

	B	Std. Error	β
(Constant)	2.76***	.35	
Wind power			
Geothermal	−.42	.12	−.16**
Bioenergy	−.15	.13	−.05
Forest carbon seq.	.13	.123	.05
Urban park and ride	.29	.13	.11*
Age	−.003	.003	−.05
Gender (Female)	−.34	.08	−.15***
Education	−.007	.03	−.01
Income	−.05	.03	−.09
Ecological core beliefs	.09	.06	.06
Negative affect – Climate	.05	.05	.05
Negative affect – Project	−.24	.05	−.20***
Positive affect – Project	.52	.05	.47***

Note: Adjusted R Square = 0.41. ANOVA $F_{12, 457} = 28.08$. *p < 0.05, **p < 0.01, ***p < 0.001. Questionnaire version was dummy coded with wind power removed as the referent category.

Table 3
OLS regression on support for distant project implementation.

	B	Std. Error	β
(Constant)	3.32***	.37	
Wind Power			
Geothermal	−.41	.13	−.17**
Bioenergy	−.25	.13	−.10
Forest carbon seq.	−.52	.13	−.21***
Urban park and ride	−.44	.13	−.18***
Age	−.004	.003	−.06
Gender (Female)	−.21	.08	−.10*
Education	.04	.03	.06
Income	.04	.03	.08
Ecological core beliefs	.03	.06	.03
Negative affect – Climate	−.02	.05	−.03
Negative affect – Project	−.15	.05	−.14**
Positive affect – Project	.34	.05	.33***

Note: Adjusted R Square = 0.27. ANOVA $F_{12, 457} = 14.94$. *p < .05, **p < 0.01, ***p < 0.001. Questionnaire version was dummy coded with wind power removed as the referent category.

After examining the hypotheses, we then examined the exploratory research questions. Our first research question examined whether support for the projects varied significantly across the different climate mitigation projects. Looking at support for nearby project implementation, a one-way ANCOVA controlling for age, gender, education, income, and core beliefs found a significant difference across particular projects and support for implementation $F(4, 451) = 8.35$, $p < .001$, $\eta_p^2 = .07$. This result was investigated further with the Bonferroni post-hoc test, which revealed that, based on the estimated marginal means: 1) support for geothermal ($M = 3.35$) was significantly lower than support for forest carbon sequestration ($M = 3.86$), $p < .01$, park and ride ($M = 4.14$), $p < .001$, and wind power ($M = 3.97$), $p < .001$; and 2) support for bioenergy ($M = 3.54$) was significantly lower than support for park and ride, $p < .01$. No other comparisons differed significantly.

Looking next to support for distant project implementation, a one-way ANCOVA controlling for the same factors as above found a significant difference in support for implementation between projects $F(4, 450) = 7.84$, $p < .001$, $\eta_p^2 = .07$. Investigating further with Bonferroni post-hoc tests revealed that support for wind power ($M = 4.26$) was significantly higher than support for forest carbon sequestration ($M = 3.55$), $p < .001$, geothermal ($M = 3.58$), $p < .001$), and bioenergy ($M = 3.78$), $p < .05$. Support for park and ride ($M = 3.88$) was not significantly different from other initiatives. No other comparisons were significantly different.

Finally, we examined our second research question focusing on whether physical proximity moderated support for the climate mitigation projects. A within-subjects ANCOVA controlling for individual characteristics of age, gender, income, education, and core ecological beliefs found no significant differences in support when climate mitigation projects were proposed to be built nearby compared to farther away for any of the proposed projects (bioenergy: Wilks' Lambda = .99, $F(1, 84) = .13$, $p =$ n.s.; wind power: Wilks' Lambda = .99, $F(1, 95) = .44$, $p =$ n.s.; enhanced geothermal systems: Wilks' Lambda = .99, $F(1, 94) = .07$, $p =$ n.s.; urban park-and-ride: Wilks' Lambda = .99, $F(1, 80) = .07$, $p =$ n.s.; forest carbon sequestration: Wilks' Lambda = .98, $F(1, 76) = 1.18$, $p =$ n.s.).

5. Discussion

This study investigated how the physical proximity of a proposed climate mitigation project moderated the influence of affect

on community member support. There was mixed support for the hypotheses. First, respondents' affective responses to climate change in general did not differentially influence near versus relatively distant project implementation, failing to support *H*1. In contrast, and in support of *H*2 and *H*3, respondents' positive and negative affective responses to the specific climate mitigation projects had greater relative influence on public support for projects that were proposed to be built nearby rather than far away. We also note that we did not find the significant relationship between ecological beliefs and support for climate initiatives that previous research has found (Dietz et al., 2007). The study also examined community member support for climate mitigation projects. Public support for the projects varied depending on the type of project that was being proposed (RQ1). However, public support was *not* influenced by whether the project was proposed to be built nearby compared to farther away (RQ2).

The unique study design, in which respondents were first asked about their affect related to thinking about the projects in general and then asked for their support for the project if it was built in close or distant physical proximity, allowed us to investigate the role of affect in decision making around physically close and distant objects without needing to experimentally manipulate affect based on how close or far the project may be built. This is the first study we are aware of to take this approach.

These findings add to the growing literature on construal level theory by offering a nuanced portrait of how individuals may respond to proposed climate mitigation projects of varying physical proximity. Affective responses to climate change in general did not influence decision making while affective responses to the specific projects did. That affect associated with climate change did not have a significant relationship with project support may be because climate change is a broad, complex issue with multiple causes and not as easily linked to a single effort to address the issue (Hart, 2011; Ockwell, Whitmarsh, & O'Neill, 2009). In contrast, positive and negative affect have significant relationships with near and distant project support, and the differences in strength of association between near and distant implementation were present for both positive and negative affect associated with the projects. Although project-related affect played a stronger role when projects were proposed to be built nearby, support for the projects was not affected by the location of implementation.

The findings did reveal variation in support for the respective projects: For nearby implementation, enhanced geothermal energy and bioenergy generally received the least amount of support. For distant implementation, wind power received the most support. Although significant differences in support for different types of projects were present, these data did not provide evidence of a NIMBY effect for any of the climate mitigation projects: support was above 3 (neutral) out of 5 for all projects at both near and distant implementation. These data align with research showing moderate public support for climate mitigation projects even when they are proposed to be built in close physical proximity (Rogers et al., 2008).

Although no NIMBY effect was observed, our results offer implications for how affective considerations can help inform our understanding of NIMBY attitudes. The affective responses to the proposed climate mitigation projects used in this study were generally positive. Thus, it is not surprising that the greater use of affect in decision making for close project implementation did not trigger a strong NIMBY response. However, for other types of projects that may spur more negative affective responses, it is possible that the greater use of negative affect for close project implementation would reduce public support and potentially foster public opposition.

This is only one study examining how affective considerations may differentially influence physically close and distant climate related projects, and caution should be taken in generalizing. Additionally, because our data come from a cross-sectional survey design, it is difficult to make causal, rather than correlational statements; future research may build from this to include longitudinal or experimental approaches. In measuring affective responses to projects, we focused on affective responses to the projects in general rather than in the specific context of near or distant implementation. We adopted this approach to allow for an investigation of the role of affect on support or opposition for climate mitigation projects while avoiding potential confounds that may arise in examining these relationships if location-based affect was used (e.g., if affect associated with near implementation exhibited a ceiling effect while affect associated with distant implementation did not.). We note, however, that the responses to project-related affect measured here likely differ from responses that may have arisen if they were solely based on cognitions about the project in the context of near or distant implementation. Our study does not examine how changes in the location of implementation of the project may alter emotional responses to the project, and this is an area that would benefit from future research. The description of the project in the survey indicated to respondents that a local university was interested in climate mitigation projects that could impact the local community. However, no indication was given that the university could pursue projects that were very far away. The analysis conducted here therefore offers a relatively conservative test of the impact of varying the location of project implementation. That we found a difference in the use of affect given the more conservative nature of this test lends strength to this result. We note, however, that not finding a significant difference in public support for near and distant project implementation may be because even the "distant" response was within the context of the local county rather a more distant location (although the county itself occupies 476 square miles).

As climate change becomes an increasingly important social issue, it is likely that universities or other organizations more generally will continue to engage in climate mitigation projects that may impact local communities. Thus, it is important to reflect on what lessons our study has for community outreach for projects such as those examined here. Researchers are increasingly examining the impacts that different approaches to climate change communication may have on the public (Hart & Nisbet, 2012; Myers et al., 2012), with attention often paid to the discussion of local and distant impacts (Scannell & Gifford, 2013; Shwom, Dan, & Dietz, 2008; Spence & Pidgeon, 2010). While our study does not directly examine message testing and thus cannot draw direct conclusions about specific message framing, an important finding that contributes to this literature is that affect related to the proposed project specifically, but not affect related to the larger issue of climate change, was significantly related to project support. Although communicators may be drawn to focus on the larger problem at hand that the projects are attempting to address (e.g., climate change more generally), these data suggest that it is important that those conducting community outreach efforts be especially cognizant of how different approaches to communicating about proposed projects may impact emotions. In addition, our study suggests that affective responses will have a stronger role in determining public support when the proposed project is to be built nearby, making it especially important that communicators consider these factors in the communities where projects are proposed to be built in proximity to residences. Amidst recent calls for science communicators to examine how climate change messages may differentially resonate with audiences (Myers et al., 2012; Ockwell et al., 2009), our study calls attention to the general principle that science communicators must go beyond simply

considering knowledge acquisition in the public and consider the affective responses that messages are likely to generate. A more sophisticated understanding and appreciation for the role of affect can perhaps encourage communicators to take more care with the messages they are sending.

In addition, in recent years the National Research Council (1996, 2005) and other risk researchers (Dandoy, 1990; McComas et al., 2009) have called for project managers to go beyond viewing members of the public as an audience to simply receive information but rather as important stakeholders to be involved in decision-making processes. Relevant to this process, our research suggests that especially when projects are going to be implemented nearby, community members may rely less on systematic processing of information and more on heuristic cues, such as affect. When emotions are heightened, discussion can suffer. To encourage more mindful deliberation around project siting, those conducting community engagement could use structured decision making techniques (Wilson & Arvai, 2006) that include involving the public in defining the problem, clarifying stakeholder objectives, creating management alternatives, selecting alternatives, and addressing tradeoffs. In addition to encouraging more thoughtful discussion, such techniques can lead to decisions that stakeholders consider more acceptable and legitimate (McComas et al., 2009).

Our findings also offer promising directions for future research. We did not investigate how different messages may alter affective responses for projects that are proposed to be implemented in close or distant physical proximity; however, doing so would be a logical next step for empirical testing. Related studies may also examine how such changes in affect may be related to construal levels (Bar-Anan, Liberman, & Trope, 2006) generated by varying levels of physical proximity. Slovic et al., (2004) states that as research on affect, reason, and risk develops, it becomes critical to identify how we might optimally "manage" affect. In other words, in some cases it may be beneficial to temper affective responses with more analytic tools for decision making (such as noted above), while in other cases in may be beneficial to incorporate more feelings into what may otherwise become "coldly rational" decision-making processes. Our study suggests that individuals may be relatively more predisposed towards affect-based decision-making processes for evaluative objects that are in close physical proximity. Thus, future research may investigate how messages seeking to inform the public about climate risks and actions that can be taken to address those risks may amplify or attenuate the use of affect at different levels of physical proximity.

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Appendix

Sample text of a description of the climate mitigation project:

Wind power—Wind power converts wind energy into electricity using wind turbines. It uses no fossil fuels and produces no greenhouse gas emissions. Installation can be done at various scales from small turbines mounted on buildings to large scale wind farms covering hundreds of acres with high towers. There are abundant regional wind resources in Tompkins County, and wind power generators are now available, are cost effective, and have a long life span (greater than 20 years). Advantages include wind power's ability to produce energy without using fossil fuels, generate income for rural property owners, and allow for a mixed use of land for agriculture and energy production. Concerns include the disruption of rural landscapes with towers and new transmission lines, the possible generation of unpleasant noise, and the potential danger to birds and bats.

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