

A Fair Take on Local Opposition

BY

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THESIS

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This thesis is dedicated to Ronda Tranter and Sarah Kwon. I owe them both for so much more than simply the completion of this project.

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SUMMARY

Local opposition to risky but collectively-beneficial facilities has reduced the levels of necessary services (e.g., hazardous waste treatment facilities; Portney, 1984) and resulted in the inequitable placement of risky facilities such that they are disproportionately located in poor and/or minority neighborhoods (e.g., Austin & Schill, 1991). In this paper, I explore the motivations underpinning local opposition to risky facilities. Specifically, I examine whether residents knowingly attempt to offload risks onto others or whether common judgmental biases subtly affect evaluations of such facilities. I leverage newer work on local opposition to risky facilities (e.g., Wolsink, 2007a) by using fairness as a lens through which to investigate local opposition and test whether fairness judgments or risk perceptions are the most appropriate theoretical foundation for the investigation of local opposition.

In this study, undergraduates were told that a methadone clinic would be opened on campus to serve students, faculty, and local residents suffering from opioid addiction. The location of the clinic, the time of the clinic opening, and whether the forum of the study was a private survey or an apparent chat room with other participants was manipulated between participants. After learning about the opioid epidemic and the upcoming opening of a new methadone clinic, participants rated the fairness of the siting for both sides of campus, their support or opposition to the clinic, and whether they believed the clinic would be more risky or beneficial.

The results for the primary hypotheses about the motivations of local opposition were inconclusive. However, exploratory results indicate that support for the clinic was more contingent upon participants' judgments of risk than participants' judgments of the fairness of the siting. My study suggests that although judgments of fairness are important for understanding residents' local opposition to a nearby risky facility, their judgments of risk are more important.

I. INTRODUCTION

In the decade between 2004 and 2014, heroin overdose deaths increased by more than 460% (U. S. National Institute on Drug Abuse, 2015). In an effort to quell this rising epidemic, communities have proposed and sited new methadone clinics to treat the growing number of opioid addicts. Despite the increased need for new methadone clinics, including among populations that were not traditionally at risk for opioid addiction (e.g., women; U. S. National Institute on Drug Abuse, 2015), community residents will often obstruct the construction or siting of a new methadone clinic with loud and sustained local opposition (Smith, 2014).

Although methadone clinics are generally considered effective in the treatment of opioid addiction (e.g., Mattick, Breen, Kimber, & Davoli, 2009), they are not without perceived risks. Many people believe that methadone clinics attract increased drug-related crime to the surrounding area (e.g., Mattick et al., 2009; Smith, 2014), and this belief has led to opposition of new clinics from people who live near the proposed sites (Smith, 2014). People may generally endorse methadone clinics and the benefits they provide to the community but simply do not want one in their ‘backyard.’

If a new facility is proposed that is risky for nearby residents but beneficial to the community at large, such as a methadone clinic, nearby residents nonetheless tend to respond with a resounding “Not In My Back Yard!” (NIMBY; Bachrach & Zautra, 1985; Kraft & Clary, 1991; Marks & von Winterfeldt, 1984; cf. Wolsink, 2006). NIMBY responses often result in the indefinite suspension of projects that could result in many more people benefiting from the facility than there are people placed at typically low levels of risk (e.g., Glaberson, 1988). Perhaps to avoid this conflict, decision-makers often site risky facilities in neighborhoods that are least likely to effectively protest their placement (Been, 1993). The result has been the overburdening of poor neighborhoods and/or neighborhoods of color with risky facilities, when they are managed to be

built (e.g., Austin & Schill, 1991), as well as lower levels of certain kinds of vital services (e.g., hazardous waste treatment facilities; Portney, 1984). Therefore, a better understanding of the underlying motivations behind NIMBYism might point toward strategies to alleviate the above problems.

NIMBYism is an example of a social dilemma whereby some people (i.e., people who live near the facility) are asked to pay the costs of activities that yield assumed collective benefits. When deciding how the costs and benefits of social cooperation should be distributed, people turn to notions of fairness (Adams, 1965; Greenberg, 1990b; Skitka, 2002; Skitka & Wisneski, 2012; Tyler & Lind, 1992; Van den Bos, 2001). But are people motivated to *be* fair, or are they simply motivated to *appear* fair? Extant evidence suggests that in the context of NIMBYism either motivational goal could be at play. In this paper, I propose a study to test each competing hypothesis to gain clarity on the psychological underpinnings of NIMBYism. Before describing the specifics of my proposed study, I introduce and discuss the concept of NIMBYism and explain how research and theory in fairness might illuminate NIMBY attitudes and behaviors. I then describe three competing hypotheses for fairness' role in NIMBY attitudes and dynamics.

A. Fairness and NIMBYism

Societies can benefit from the decreases in crime and drug addiction that often results from well-managed methadone clinics (Bell, Mattick, Hay, Chan, & Hall, 1997). That said, methadone clinics are perceived as attracting drug addicts to the surrounding area (Smith, 2014) and endangering whomever lives nearby. Given that a relatively small number of people bear the risks of such facilities in comparison to the many more who may benefit, who should have to bear the risks?

People do not want to live near a risky facility, such as a methadone clinic, even if the risks accompany a service that they want and endorse in the abstract (Kraft & Clary, 1991). This

inconsistency between positive attitudes toward the benefits generated by a facility and the often-adamant opposition toward a nearby facility siting is at the heart of the “Not In My Back Yard” (NIMBY) phenomenon. Although there are many potential ways to define NIMBYism (see Wolsink, 2007b), I will be investigating the phenomena whereby people endorse the benefits of a facility but reject accepting the associated risks.

NIMBY conflicts resemble the game theoretic notion of the prisoners’ dilemma. In the prisoners’ dilemma, players choose between two social strategies: cooperate or compete. Each individual’s optimal choice in a prisoners’ dilemma is to compete, but if everyone chooses this strategy, then everyone is worse off (I will use the terms prisoners’ dilemma, commons dilemma and free-riding interchangeably; Albanese & Van Fleet, 1985).¹ Similarly, the optimal strategy for each person or neighborhood in a NIMBY scenario is to have the risky facility sited elsewhere, but if every person or neighborhood chooses this strategy, then the facility cannot be sited anywhere, to everyone’s detriment.

A crucial difference between NIMBYism and typical commons dilemmas, however, obscures both our understanding of NIMBYism and free-riding within this specific context (Wolsink, 1994). In traditional free-riding dilemmas, the benefits for everyone are directly related to everyone’s contribution (Edney & Harper, 1978). In other words, the more people contribute to the common good, or the more they cooperate, the more benefits will be available for everyone. This relationship, however, does not hold for the siting of risky facilities. Only the people near the facility face the associated risks, yet everyone, whether they live near or far from the facility, can reap the benefits (Hermansson, 2007). Thus, risky facility siting may be thought of as primarily

¹Free-riding, commons dilemmas, and prisoners’ dilemmas are in fact subtly distinct from each other. However, I will be using these terms interchangeably because they are all distinguished from NIMBYism in a similar manner.

about the distribution of societal costs, which is not identical to the distribution of costs *and* benefits.

Decisions about the allocation of costs and benefits of social cooperation are governed by notions of fairness (Adams, 1965; Greenberg, 1990b; Skitka, 2002; Skitka & Wisneski, 2012; Tyler & Lind, 1992; Van den Bos, 2001). That is, when decisions are made about how the costs and benefits of social cooperation should be allocated, decision-makers and the people affected by such decisions use their notions of fairness to judge the allocation process and outcome. For example, residents' judgments of unfairness were significantly related to their intention to protest the construction of a local wind farm (Wolsink, 2007a; Wolsink, 2007b). The residents believed that it was unfair that they should live near the nuisance farm, despite their positive attitudes toward wind energy in general (Wolsink, 2007a; Wolsink, 2007b). Similarly, residents' beliefs about (un)fairness significantly predicted their intentions to oppose or support a locally-sited waste facility (Wolsink & Devilee, 2009) and decisions to support or reject a local nuclear power plant (Visschers & Siegrist, 2012). Therefore, fairness judgments appear to mediate the relationship between the location of a proposed facility (near versus far from the perceiver) and intentions to support or oppose the facility siting. That the primary psychological motivation underlying NIMBY reactions is one of fairness, however, appears to be at odds with the reality that these dilemmas can also be understood in terms of the affected parties' self-interests.

The above studies were used to support the contention that self-interest plays only a small role in NIMBY responses, and that instead the dominant psychology of NIMBYism is rooted in conceptions of fairness and unfairness. What this previous research failed to rule out, however, is that people can use claims about the (un)fairness of the placement of a given facility as post hoc justifications for their self-serving motivations or preferences. The goal of this proposed research is to test, rather than assume, that expressed concerns about fairness in a NIMBY context reflect a

genuine concern about fairness, or if instead, people's expressed concerns about fairness are motivated by the perceivers' self-interests.

B. Competing Hypotheses of Fairness' Role in NIMBYism

A central question in fairness theory is whether people are motivated to be fair or whether they are simply motivated to appear fair (e.g., Barclay, 2004; Greenberg, 1990a; Pillutla & Murnighan, 1995; van Dijk, De Cramer, & Handgraaf, 2004). Fairness behavior is often considered as an example of a constraint on pure self-interest; that is, people often allocate risks and rewards fairly, even if doing so sacrifices their immediate self-interests (Adams, 1965; Fehr & Gintis, 2007; Homans, 1958; Walster, Berscheid, & Walster, 1976). However, many have called into question whether people are actually trying to be fair (which would entail a genuine concern for another person), or whether people behave fairly for self-interested reasons. For example, people may attempt to appear fair because they believe doing so serves their self-interest in the long run (e.g., Barclay, 2004; Greenberg, 1990a; Pillutla & Murnighan, 1995; van Dijk, De Cramer, & Handgraaf, 2004; Tetlock, 1984; Walster et al., 1976). That is, because people are more likely to associate with someone who distributes benefits and burdens fairly (Barclay, 2004; Barclay & Willer, 2007; Sylwester & Roberts, 2010), appearing fair might be a strategy to increase cooperative benefits for the individual over time (e.g., Walster et al., 1976).

NIMBYism appears to represent a clear case where people could use the concept of fairness in a self-serving manner, given that NIMBYism is defined by the tendency of people to argue against living near a risky facility (and claim placing it near them would be unfair) but raise no such qualms about fairness when the same facility is sited elsewhere (Wolsink, 2007a; Wolsink, 2007b; Wolsink & Devilee, 2009). In other words, it appears that people do not consistently apply standards of fairness for themselves and others in these contexts. Given that many approaches to NIMBYism cast people as selfish and short-sighted (e.g., Glaberson, 1988), NIMBYism would

seem to be a clear-cut example of people manipulatively using notions of fairness to suit their own narrow interests. Alternatively, however, NIMBYism could simply be the result of biased, but not necessarily intrinsically “selfish,” reasoning.

People’s judgments are susceptible to a variety of biases (e.g., Kahneman, 2003). Particularly relevant for the discussion of NIMBYism, people tend to discount future and distant outcomes (Kahneman & Tversky, 1979). In other words, future or distant costs are perceived to be less costly than costs in the present (Kahneman & Tversky, 1979). NIMBYism may represent an extension of this judgmental bias, indicating that people may be unintentionally using double standards in their fairness judgments. Perhaps when a facility is sited elsewhere, individuals discount the costs that the neighboring community is paying by focusing on the overall effect of the facility (benefits–costs), but when a facility is sited nearby, they may attend primarily if not exclusively to the potential costs of the facility without attending to its benefits. The resulting fairness judgments may therefore reflect the total net-gain for the community on the one hand, or the perceptions of risk to the self on the other. In the sections below, I describe these hypotheses in more depth.

1. The Appearances Hypothesis

In line with the traditional perspective on NIMBYism, the *Appearances Hypothesis* predicts that people are selfish and will manipulatively use fairness judgments to further their own gain while attempting to avoid the costs of social cooperation. Because not everyone must pay the costs of risky facilities, people can and will argue that someone else should pay. Hence, the *Appearances Hypothesis* predicts that people will not apply the same standards of fairness for themselves and others.

Consistent with this idea, well-established economic and psychological theories posit that people behave fairly or appeal to notions fairness and unfairness to serve their self-interests (e.g.,

Barclay & Willer, 2007; Greenberg, 1990a; Pillutla & Murnighan, 1995; Tetlock, 1984; Walster et al., 1976). Specifically, people are more likely to behave fairly when they believe doing so will result in a reputation for being cooperative and consequently garner greater future cooperative benefits for themselves than when reputational concerns are not present (e.g., Barclay, 2004; Walster et al., 1976). For example, participants in cooperative goods games contribute more toward group benefits when they believe they will have future interactions with the other players than when they do not expect future interactions (Barclay, 2004)

If the *Appearances Hypothesis* is true, then judgments about the (un)fairness of a risky facility siting should be predicted by whether the person is directly affected by the siting and whether the judgments are made publicly or anonymously. Because the *Appearances Hypothesis* predicts that people try to reap the greatest amount of social benefits for the lowest cost while attempting to maintain an appearance of cooperative intent, people should be more likely to make judgments that are in the service of self-interest when they believe their judgments will be anonymous relative to when they believe their judgments will be public. If the risky facility is sited in the individual's neighborhood, then the *Appearances Hypothesis* predicts that the individual will judge the event as unfair if the judgment is private relative to when their judgment will be presumed to be public. If another neighborhood is affected, then the individual may be more likely to judge the outcome to be fair when the judgment is believed to be private relative to when the judgment is thought to be public.

In sum, the *Appearances Hypothesis* posits that appeals to the (un)fairness of a local risky facility may simply be post hoc justifications in service of narrow self-interests. That is, people will use whatever reason available, including appeals to cooperation, to justify reaping the greatest benefits from cooperation at the cheapest cost to themselves. It is possible, however, that psychological distance affects residents' judgments of the fairness of a risky facility by changing

the level of abstraction under which the facility is considered. If residents' judgments are affected by construal, then perhaps the double standards in fairness judgments result from cognitive, but not necessarily self-interested, biases, a possibility I further develop next.

2. The Biases Hypothesis

Maybe people honestly try to be impartial when they judge the fairness of a risky facility siting. The *Appearances Hypothesis* proposes that appeals to (un)fairness in the context of NIMBY arguments are actually in service of people's self-interests. In contrast, the *Biases Hypothesis* posits that people's appeals to fairness in NIMBY arguments reflect a genuine concern about fairness and positive social cooperation. However, this orientation also presents a dilemma because if people genuinely want to be cooperative, then why does NIMBYism exist? According to the *Biases Hypothesis*, people's psychological construal of the placement of a risky facility (i.e., the effect of psychological distance², which includes, for example, time, space, and hypotheticality) undermines their genuine desire to accept a fair proportion of the costs of social cooperation.

Increased psychological distances may result in a more positive evaluation of faraway facilities. According to construal theory, psychological distance affects information processing such that more distant objects and events are considered abstractly whereas more proximate objects and events are considered concretely (Liberman et al., 2007). If a risky but beneficial facility is judged in the abstract, then people may discount the concomitant risks of the facility and be more likely to judge that facility as a necessary good. Therefore, people may judge an abstractly-construed facility's siting as fair for whomever faces this risk.

Conversely, more psychologically proximate objects or events are judged according to their concrete and specific features (Liberman et al., 2007). Therefore, nearby risky facilities may

² The use of "psychological" distance is to highlight that the objective distance, whether the distance is measured in time or space or whatever, is not as important as how the person perceives the distance (Liberman et al., 2007). An objectively identical distance may be perceived as relatively closer or farther away, depending on the perceiver (Liberman et al., 2007).

be judged according to their specific character, which includes their potential for incurring some kind of loss on the people who live nearby (i.e., the person making the judgment and their neighbors). Consequently, people may consider the specific threat of a nearby facility when making their fairness judgments and fail to consider the benefits of that same facility or how the facility results in a net gain for everyone when the facility is thought to be nearby.

If people are in fact motivated to be cooperative but are biased by construal level—that is, if the *Biases Hypothesis* is true—then the judged fairness of a risky facility siting should be predicted by how the siting is construed. An abstractly construed facility will be judged fair and a concretely facility will be judged unfair, regardless where it is sited. Because facilities located in other neighborhoods are likely to be psychologically more distant than a local facility, the distal siting should be considered fairer than the near siting. To put this hypothesis another way, a nearby but abstractly-construed facility should be judged as fair as a faraway risky facility, and both facilities should be judged fairer than a nearby but concretely-construed facility.

The *Biases Hypothesis* makes the strong claim that fairness judgments will not be susceptible to social desirability pressures because it argues that people try to make an accurate judgment of fairness, regardless of whether such judgments will result in a reputation as being cooperative or not. However, it is quite possible that social desirability pressures and psychological construal interact to influence fairness judgments of a risky facility—in other words, fairness judgments may be contingent, a possibility I explore next.

3. The Contingent Hypothesis

Social desirability concerns may become more or less salient depending on whether a potentially risky facility is concretely or abstractly construed. When a risky facility is considered abstractly, people may be more likely to consider all of the stakeholders—the people who are placed at risk and the people who benefit (e.g., Bartels & Burnett, 2011)—and judge the facility

as more beneficial than potentially harmful and therefore fair for whomever must face the attendant risks. However, when a facility is considered concretely, people may attend more to the associated risks of the facility because “losses loom larger than equivalent gains” (e.g., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Once a facility, such as a methadone clinic, is judged according to its potential risks, then people may try to offload the risks onto others. However, as the *Appearances Hypothesis* predicts, people will still attempt to maintain an appearance of being cooperative, so their judgments of the (un)fairness of the facility will be contingent on whether those judgments are public or private. Therefore, I argue in my *Contingent Hypothesis* that the effect of social desirability on the judged fairness of a risky facility siting is contingent on how the siting is construed.

If the *Contingent Hypothesis* is true, then when a risky facility is abstractly construed, people will judge a risky facility siting as fair, even when the facility is proposed nearby. However, if a facility is proposed nearby and is concretely-construed, then people will judge the siting fairer when they are under social desirability pressures than when they are under no such pressures. Because a facility that is faraway is always abstractly-construed, then the judged siting of such facilities will always be fair, regardless of social desirability concerns.

To put this hypothesis a bit differently, people will judge an abstractly-construed facility as similarly fair for themselves and others, regardless of social desirability concerns. If the facility is construed concretely, however, then people may only judge the facility similarly for themselves and another neighborhood when they are under social desirability pressures, but if people do not perceive any such pressure, then they will judge a risky facility siting as fairer when it affects another neighborhood compared to when the facility affects their own neighborhood.

C. The Current Study

To test my competing hypotheses, I told undergraduates that there would be an on-campus methadone clinic. I manipulated where the methadone clinic was to be sited (East Campus, West Campus), the psychological distance of the siting proposal (one week from now, one year from now), and social desirability concerns (public responses, private responses). All participants judged the fairness of the siting for each side of campus and indicated their support or opposition to the clinic. The exact method and vignettes are described below.

D. Fairness and Support

If, as I and other authors have argued, local opposition to risky facility sitings should be understood as responses to allocations of social costs, then participants' support for the clinic should reflect their judgments of fairness for the siting. That is, judgments of fairness should follow the same pattern of results as support for the clinic and judgments of fairness should predict support for the clinic.

1. Appearances Hypothesis

Support for the clinic. If the *Appearances Hypothesis* is correct, then I would expect a two-way interaction with clinic location and response modality on support for the clinic. In the Far condition, participants should express more support for the clinic in the Private condition than the Public condition. However, in the Near condition, participants are predicted to express more support in the Public condition than in the Private condition.

Fairness. Similarly, if the *Appearances Hypothesis* is correct, I expect a three-way interaction between clinic location, response modality, and judgments of fairness for Self versus fairness for Other. Specifically, in the Far condition, participants should judge the siting as equivalently fair for the Self as for the Other in the Public condition, but participants should judge the siting as fairer for the Self than for the Other in the Private condition. Similarly, in the Near

condition, participants should judge the siting as equivalently fair for the Self as it is for the Other in the Public condition, but participants should judge the siting as more fair for the Other than for the Self in the private condition.

2. Biases Hypothesis

Support for the clinic. If the *Biases Hypothesis* is correct, however, then I expect a two-way interaction between construal and clinic location on judgments support and opposition to the methadone clinic, with no effect of social desirability. Specifically, in the concrete construal condition (Week) participants should express more support when the methadone clinic is proposed on the Far side of campus versus the Near side of campus. However, in the abstract construal condition (Year) there will be no differences in support when the clinic is proposed on the Near versus the Far side of campus.

Fairness. Similarly, if the *Biases Hypothesis* is correct, then I expect a two-way interaction between construal and clinic location on judgments of fairness, with no effect of social desirability or fairness for Self versus Other. Specifically, in the concrete construal condition (Week) participants should judge the methadone clinic to be fairer for both the Self and Other when the methadone clinic is proposed on the Far side of campus versus the Near side of campus. However, in the abstract construal condition (Year) there should be no differences in judgments of fairness when the clinic is proposed on the Near versus the Far side of campus.

3. Contingent Hypothesis

Support for the clinic. If the *Contingent Hypothesis* is correct, then I expect a three-way interaction between social desirability, construal, and the location of the methadone clinic on support for the clinic. In the Year condition, participants should express equal support for the methadone clinic when the clinic is proposed on the Near versus the Far side of campus, regardless of social desirability concerns. However, in the Week condition and when the clinic is sited on the

Far side of campus, participants should express more support in the Private condition than the Public condition. Participants in the Week and Near side of campus condition should express less support in Private condition than the Public condition.

Fairness. Finally, if the *Contingent Hypothesis* is correct, then I expect a four-way interaction between social desirability, construal, the location of the methadone clinic, and judgments of fairness. In the Year condition, participants should judge the methadone clinic equivalently fair when the clinic is proposed on the Near versus the Far side of campus, regardless of social desirability concerns and with no differences in whether judgments of fairness refer to the Self or Other. However, in the Week condition and when the clinic is sited on the Far side of campus, participants should judge the clinic siting to be fairer for the Self than for Other in the Private condition but should judge the siting as equally fair for the Self as for Other in the Public condition. Participants in the Week and Near side of campus condition should judge the siting to be more unfair for the Self than for Other in the Private condition but should judge the siting as equivalently fair for the Self as for Other in the Public condition.

II. METHOD

A. Participants

Six hundred fifteen participants were recruited through the University of Illinois at Chicago's (UIC) student subject pool. Of those, 37 participants were removed because they indicated that they would not be attending the university in a year and an additional 103 participants dropped out in the beginning of the survey, leaving me with a final sample of 475³⁴. My a priori stopping rule of 600 valid cases⁵ was determined with a power analysis using PANGAEA (<https://jakewestfall.shinyapps.io/pangea/>), with an alpha level of .05, power set to .80, and an estimated Cohen's $d = .04$ (which is considered an average effect size; Richard, Bond, & Stokes-Zoota, 2003). Participants were given course credit for their participation.

B. Procedure and Design

The study was a 2(location: East Campus, West Campus) X 2(response modality: Public, Private) X 2(construal: next Week, next Year) X 2(outcome fairness: fair for Self, fair for Other) mixed design, with location, response modality, and construal as between-subjects variables and fairness as the within-subjects variable.

Participants volunteered to complete the study through the university's student subject pool. The first page participants saw was an informed consent. Upon signing the informed consent, participants were then randomly assigned into one of the eight experimental conditions. Participants in the public condition were asked to input their first name, and participants in the private condition were asked to input the first four letters that came to mind. Then, to establish a

³ These participants were likely trying to get free credit, and due to the bureaucracy of the university's IRB, participants know that they do not actually have to complete a study to receive credit. (I know that this note will be taken out, but I thought you'd enjoy it).

⁴ Some participants responded to some questions but not others. They were kept in the sample and only removed from the analyses where they failed to complete a measure. Therefore, the degrees of freedom may change across analyses.

⁵ For .80 power, I need 480 participants. In my proposal, we agreed upon the stopping rule of 600 participants or the end of a single semester, whichever came first.

baseline understanding of the vignette, participants read a short paragraph describing methadone clinics before responding to any item.

After the descriptive paragraph, participants then read the vignette for their condition. In the East Campus condition, participants were told that a new methadone clinic would be located in the Behavioral Sciences Building on East Campus either next Week or next Year. In the West Campus condition, participants were told that the methadone clinic would be located in the School of Public Health-West Building on West Campus either next Week or next Year. I included a map of campus with a star superimposed onto the map on either the Behavioral Sciences Building or the School of Public Health-West Building depending on the condition to draw attention to where the building is located. Then, participants were exposed to one of the two social desirability (i.e., response modality) conditions.

In the Public condition, participants were told that their responses would be made available to the other participants and that the other participants' responses would be made available to them. Moreover, participants were told that after they responded to the closed-ended questions, the group would engage in a chat-room style public forum on their attitudes toward the recently-approved on-campus methadone clinic. There were in reality no other participants connected in such a manner; all participants completed a private survey.

Participants in the Public condition first saw a graphic in the middle of their screen that looked like a page-loading spinner and a sentence informing them that they would be connected with other participants. After 13 seconds, participants were automatically advanced to the next screen, which displayed the name they provided at the beginning of the survey at the top of a list with three other names. Participants were told that they were selected at random to be the first to respond to the primary questions that will be used to direct an unstructured conversation with the "other participants." The names of the other participants were pre-programmed by the

experimenter and were selected to have 2 female names (i.e., Aubrey and Maya) and 1 male name (i.e., Eric), all of which were chosen because they seem ethnically ambiguous. On the following page were the questions tapping distributive justice and support or opposition to the clinic. After responding to the distributive justice, support or opposition to the clinic, participants were directed to the rest of the survey and informed that there would be no discussion and that there were no other participants.

Participants in the Private condition were not told that their responses would be shared in a public forum. The page with the response options to the distributive justice and support or opposition items were identical to the response options for the participants in the Public condition, but participants were not told that they would engage in a chat nor were they told that their responses would be public. Instead, participants were shown a page which included a sentence asking them to carefully consider their responses. All timing between pages and all questionnaire items were identical for participants in the public and private conditions.

C. Measures

Methadone clinic description. I adapted Wikipedia's description of methadone clinics to establish a baseline understanding of the services a methadone clinic performs and the controversy surrounding their siting for the participants. Specifically, the description read:

“Heroin use has increased across the US among men and women, most age groups, and all income levels. Some of the greatest increases occurred in demographic groups with historically low rates of heroin use: women, the privately insured, and people with higher incomes. Heroine-related deaths have risen by 460% in the decade between 2004 and 2014, from 1,878 to 10,574 deaths each year. In an effort to address this issue, many new methadone clinics are being proposed and built all around the country. A methadone clinic is a clinic that dispenses methadone to

people who abuse heroin and other opioids. The focus of these clinics is the elimination or reduction of opioid usage, including heroin, by putting the patient on methadone. Some clinics also offer short- or long-term detoxification services to their patients using methadone. A common term for the type of treatment at a methadone clinic is "replacement therapy". Methadone clinics are generally considered successful as a treatment method, and there is some evidence that methadone clinics reduce drug-related crime throughout the larger community. However, the use of this maintenance treatment is often viewed as controversial because some people argue that methadone clinics attract crime to the area immediately surrounding the clinic by bringing drug addicts to a central location."

Vignette. Participants read the following vignette about the upcoming methadone clinic, which was presented as if the university would in fact open a methadone clinic on campus. To my knowledge, no clinic will actually be opened.

Next [week/year], a new methadone clinic will be located in the [**Behavioral Science Building located on East Campus/School of Public Health-West building located on West Campus**]. School officials decided to locate the clinic in the [**Behavioral Science Building/School of Public Health-West building**] after considering two alternative sites. The methadone clinic will provide valuable out-patient treatment to community members and students who are addicted to opioids, including morphine and heroin, but could result in an influx of addicts to the area immediately surrounding the clinic.

Anticipation of remaining at university. Participants who said that they would graduate or transfer from the university in the next year were removed. Any participants who responded in

the affirmative to “Do you plan on graduating next year?” or “Do you plan to transfer to another university next year?” were directed to the end of the survey and thanked for their time.

Participants’ neighborhood. I coded where participants lived to assign them into a “near” or “far” condition for my primary analyses. Many students at the University of Illinois at Chicago commute from the greater Chicago area to campus, and there are some dormitories on West Campus, so the location manipulation was contingent on where they lived or where they spent most of their time. I first asked “Where do you live?” and gave participants the options “*On campus*” and “*Off campus*.” If participants selected “*On campus*,” they were branched to the question “Do you live on East Campus or West Campus?” (*East Campus*, *West Campus*) If they selected “*Off campus*,” then they were asked “While you are at school, where do you spend most of your day?” Participants were given the option to select either East Campus or West Campus. For participants who lived off-campus, this question served to code their responses like participants who live on-campus. Participants who lived off-campus and spent most of their day on West Campus were coded as participants who lived on West Campus. Similarly, participants who lived off-campus and spent most of their day on East Campus had their responses coded like participants who lived on East Campus.

Support or oppose. Participants indicated their support or opposition to the methadone clinic on a single, 7-point bipolar item: “To what extent do you support or oppose the decision to build the methadone clinic?” with points labeled at -3 (*very opposed*), -2 (*somewhat opposed*), -1 (*slightly opposed*), 0 (*neither supportive nor opposed*), 1 (*slightly supportive*), 2 (*somewhat supportive*), and +3 (*very supportive*).

Outcome fairness. The primary dependent variable was outcome fairness. Outcome fairness was assessed using the following two bipolar scales adapted from Skitka and Mullen (2002): “How fair or unfair is the school’s decision on where to build the methadone clinic for

(West, East) Campus?"; and "How fair or unfair do you think the students and faculty on (East, West) campus will think the school officials' decision was?" anchored at very fair and very unfair (-3 = *very unfair*, -2 = *somewhat unfair*, -1 = *slightly unfair*, 0 = *neither fair nor unfair*, +1 = *slightly fair*, +2 = *somewhat fair*, +3 = *very fair*). The items tapping fairness for East Campus, $r(473) = .56, p < .001$, and fairness for West Campus, $r(472) = .52, p < .001$, were highly correlated, so those items were averaged together to make a single composite fairness score for each side of campus.

Fairness for Self was operationalized as participants' judgments of fairness for whichever side of campus they indicated that they either lived on or spent the most time on while on campus. Fairness for Other was operationalized as participants' judgments of fairness for the side of campus that they either did not live on or did not spend most of their time on while on campus.

Risk to benefit ratio. Early research on local opposition approached the phenomenon from a risk perception orientation (Slovic, 1987). To test the relative effect of judgments of fairness and judgments of risk in support or opposition to a risky facility, I asked participants a single item about how risky versus beneficial they judged the clinic to be. Specifically, I asked participants to rate on a sliding scale the on-campus methadone clinic from -50 (*completely risky*) to +50 (*completely beneficial*).

Emotions. In line with judgments of risks versus benefits, I also asked participants to what extent they felt a variety of emotions when thinking about the on-campus methadone clinic. Participants rated each emotion, taken from the Positive and Negative Affect Schedule (Mackinnon, Jorm, Christensen, Korten, Jacomb, & Rogers, 1999) on a 5-point Likert scale (1 = *not at all*, 2 = *a little*, 3 = *moderately*, 4 = *quite a bit*, 5 = *extremely*). The emotions I measured were guilt, happiness, shame, nervousness, enthusiasm, anger, joy, sadness, pride, and fear. I chose

these emotions so as to have a similar number of positive and negative emotions that would likely be understood by all participants.⁶

Space connection. Someone who has a low connection to the university campus may be less likely to be invested in what happens to or on campus and therefore judge a methadone clinic as fairer than someone who is very highly connected to campus. Similarly, people may feel less connected to the campus in the high construal condition (i.e., one year from now) because they may plan on either moving off campus or never coming back to the Behavioral Science Building. Therefore, I controlled for space connectedness in my primary analyses. The items were adapted from Bonam, Eberhardt, and Bergsieker, (under revision): “This campus seems like a place I would like to live,” and “I feel connected to this campus.” All questions were answered on a 7-point Likert scale (-3 = *strongly disagree*, -2 = *somewhat disagree*, -1 = *slightly disagree*, 0 = *neither disagree nor agree*, +1 = *slightly agree*, +2 = *somewhat agree*, +3 = *strongly agree*). These two items were moderately correlated, $r(467) = .51, p < .001$.

Psychological connectedness. I also measured and controlled for participants’ psychological connectedness to their future self (Bartels & Rips, 2010). The psychological connectedness scale asks participants how similar they are now to who they will be in one year, from *current self is completely different from self in one year* (0) to *current self is completely the same as self in one year* (100).

Participants’ exposure to heroin/opioid addicts. Participants who know someone that uses methadone clinic services might have been more supportive of an on-campus methadone clinic than participants who did not. Therefore, I asked participants the “yes” or “no” question “Do

⁶ Because there is some evidence that “basic emotions” are simply embodied concepts (e.g., Feldman-Barrett, 2006), there is no end to the possibility of emotional categories. However, there are reasons to believe that only some of the universe of potential emotions are shared among the majority of people (e.g., Salovey & Mayer, 1990). Therefore, I selected emotion labels I believed would be understood by most if not all of my participants.

you know anyone who uses the services provided by methadone clinics?” and excluded anyone who answered in the affirmative.

Social desirability. In the original study, I used a shortened version of the Marlowe-Crowne social desirability scale (Fischer & Fick, 1993) to measure whether participants in my public response condition experienced a heightened sense of public accountability relative to the participants in my private response condition. However, because of the poor reliability of the scale ($\alpha = .52$), I ran a post-study pilot ($N = 119$) of my social desirability manipulation. I sampled from the same population as I had used in my main study, but I only used two conditions, a Public and a Private condition. All participants were told that the methadone clinic would be located in the Behavioral Sciences Building, and I removed any mention of time.

In the pilot, I used three items to measure social desirability. The items asked participants “When answering questions about the methadone clinic, to what extent did you feel...” with the following three stems: “worried for your self-image?”; “concerned for how others might think of you?”; and “hesitant to share how you really feel?” These items were highly reliable ($\alpha = .86$).

Instructional manipulation check. I added a minimum time of 30 seconds on each page with the background information and manipulation information to ensure that all participants spent at least that much time on the page while also allowing for participants who need longer time to read through the information. After the minimum time was met, participants were able to advance to the next screen at their convenience. Moreover, I informed participants that there would be a quiz over a) the background info provided regarding methadone clinics and b) the info regarding the on-campus methadone clinic. I asked all participants 2 questions about the background information and 1 question about the information in the manipulation. If participants missed any question, they were returned to the section that contained the information they missed, given the same background information, and re-tested. Participants could not advance to the next part of the

survey until they answered all questions correctly. Four hundred forty-seven (93.7%) passed the first instructional manipulation check on the first try, three hundred eighty-seven (81.1%) passed the second check on the first try, and four hundred twenty (88.4%) passed the third instructional manipulation check on their first try.

Distance manipulation check. I asked participants how far away the methadone clinic would be sited as a manipulation check of my location independent variable. The items were “How nearby or far away does the methadone location feel to you?” (-3 = *very close*, -2 = *somewhat close*, -1 = *slightly close*, 0 = *neither close nor far*, +1 = *slightly far*, +2 = *somewhat far*, +3 = *very far*) and “To what extent does the methadone clinic feel like it is in your neighborhood versus another neighborhood?” (-3 = *definitely my neighborhood*, -2 = *somewhat my neighborhood*, -1 = *slightly my neighborhood*, 0 = *neither my neighborhood nor another neighborhood*, +1 = *slightly another neighborhood*, +2 = *somewhat another neighborhood*, +3 = *definitely another neighborhood*). These two items were moderately correlated, $r(468) = .35, p < .001$, so I used the average of the two items in the following analyses.⁷

Construal manipulation check. As a check of my construal manipulation, I asked participants “How immediate versus delayed will the opening of the methadone clinic be?” (-3 = *very immediate*, -2 = *somewhat immediate*, -1 = *slightly immediate*, 0 = *neither immediate nor delayed*, +1 = *slightly delayed*, +2 = *somewhat delayed*, +3 = *very delayed*).

⁷ All analyses were also conducted on each item separately, and the same pattern of results were found.

III. RESULTS

A. Manipulation Checks

Each manipulation check, except for the social desirability manipulation, was analyzed using a two (construal: Week, Year) by two (locations: Near, Far) by two (social desirability: Public, Private) between-subjects analysis of variance (ANOVA).

Social desirability manipulation check. If the social desirability manipulation was successful in the post-pilot test, participants should report more presentational concerns in the Public than the Private condition. Against expectations, an independent samples t-test revealed that participants in the Public condition ($M = 1.62$, $SD = .92$) did not significantly differ from the Private condition ($M = 1.55$, $SD = .84$) in the extent to which they reported experiencing presentational concerns, $t(117) = .46$, $p = .65$, $\omega^2 < .001$, mean difference 95% CI = $[-.39, .24]$. Therefore, the social desirability manipulation was unsuccessful, so any results for my social desirability manipulation should be interpreted with extreme caution. However, I included the social desirability condition in all subsequent analyses for both exploratory and pre-registration purposes.

Distance manipulation check. If my distance manipulation was successful, then I should observe a main effect of my location manipulation on the items asking participants how far away the clinic would be sited. Participants should judge the clinic to be farther away in the Far than the Near condition, with no higher-order interactions. As expected, participants rated the clinic as further away when the clinic was to be sited on the opposite side of campus ($M = 3.95$, $SD = 1.46$) than on the same side of campus ($M = 3.14$, $SD = 1.42$), $F(1, 461) = 36.57$, $p < .001$, $\omega^2 = .01$, mean difference 95% CI = $[.55, 1.08]$. No other main effects or interactions were significant. Therefore, my distance manipulation worked as expected.

Construal/Time manipulation check. If my construal manipulation was successful, then I should observe a main effect of the time manipulation on perceptions of how delayed the opening of the clinic would be. Participants in the Year condition should judge the clinic to be further away in time than participants in the Week condition, with no higher-order interactions. I observed marginally significant main effects for distance and time on the construal manipulation check item, with no other significant main effects or interactions.

Distance. Participants rated the clinic as marginally more delayed when they believed the clinic was going to be sited on the Far side of campus ($M = 3.54$, $SD = 1.24$) than when they believed the clinic was going to be sited on the Near side of campus ($M = 3.32$, $SD = 1.36$), $F(1, 461) = 3.61$, $p = .058$, $\omega^2 < .001$, mean difference 95% CI = $[-.003, .47]$.

Time. More importantly, participants in the Year condition rated the opening as marginally more delayed ($M = 3.54$, $SD = 1.20$) than participants in the Week condition ($M = 3.32$, $SD = 1.40$), $F(1, 461) = 3.61$, $p = .058$, $\omega^2 < .001$, mean difference 95% CI = $[-.008, .47]$. Therefore, my construal manipulation check appears to have worked as expected. However, given the marginal nature of each effect, the effect of my construal manipulation on my dependent measures should be interpreted with caution.

B. Primary Analyses

Do residents attempt to offload a risky facility onto other neighborhoods, or do they evaluate the facility differently depending on when and where it will be sited? If the *Appearances Hypothesis* is correct, then I expect an interaction between where the clinic is to be sited and whether social desirability concerns are present across all the following analyses. If the *Biases Hypothesis* is correct, however, then I expect an interaction between where the clinic is to be sited and when the clinic is to be sited. Finally, if the *Contingency Hypothesis* is correct, then I expect an interaction between the location of the clinic, the time of the clinic opening, and the presence

or absence of social desirability concerns (see Table I for means, standard deviations, and correlations between all variables).

Table I
Means, standard deviations, and correlations of all variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7
1. Connection to campus	4.48	1.46	-						
2. Connection to future self	55.29	23.80	.08	-					
3. Know Addict	.16	-	-.05	-.05	-				
4. Age	18.70	1.08	-.02	-.02	-.01	-			
5. Support	.27	1.72	.11*	.03	.16***	-.05	-		
6. Fairness for Self	.38	1.76	.04	.10*	.07	.003	.45***	-	
7. Fairness for Other	.31	1.60	.09*	.10*	.01	.04	.33***	.43***	-
8. Risk vs. benefits	2.19	22.53	.08	.08	.12*	-.06	.62***	.50***	.30***

* $p < .05$, ** $p < .01$, *** $p < .001$

Support and opposition. At the core of NIMBYism is residents' opposition to living near a potentially risky facility coupled with their support for the services that facility provides. Therefore, as a first test of my hypotheses regarding the motivational underpinnings of NIMBYism, I conducted a 2(distance: Near, Far) X 2(response modality: Public, Private) X 2(construal: Year, Week) between-subjects ANOVA on support or opposition to the methadone clinic.⁸ If participants responded to the clinic with a traditional "Not In My Backyard" pattern, then participants should express more support for the clinic when it was sited on the Far side of campus than the Near side of campus. In contrast to this prediction, the main effect of location on support for the clinic was not significant, $F(1, 460) = 0.97$, $p = .33$, $\omega^2 < .001$. In other words,

⁸ The pattern of results remained the same with and without controlling for participant's connection to campus and their future self, and whether they knew someone who would use the clinic's services. Therefore, results are reported without controls.

participants did not demonstrate a straightforward NIMBY reaction to the methadone clinic, and on average, were neutral in their support of the clinic ($M = 0.27$, $SD = 1.72$; where a score of zero represented “neither support nor oppose”), regardless of whether the clinic was located on the same or a different side of campus where participants’ worked or lived. There were no other main effects on support for the clinic.

In contrast to the predictions of the *Biases* and *Appearances Hypotheses*, neither the two-way interaction between when and where the clinic was to be sited, $F(1, 460) = 0.36$, $p = .55$, $\omega^2 < .001$, nor the two-way interaction between social desirability concerns and where the clinic was to be sited, $F(1, 460) = 0.03$, $p = .86$, $\omega^2 < .001$, significantly qualified participants’ support for the clinic. Therefore, support for the clinic was not based only on either self-presentational concerns or construal-based biases.

Finally, if the *Contingency Hypothesis* is true, then I would expect a three-way interaction between the locations of the clinic, when the clinic was to be sited, and social desirability concerns on support for the clinic (see Figure 1). Although I found a significant three-way interaction between the locations of the clinic, when the clinic was to be sited, and social desirability concerns on support for the clinic, $F(1, 460) = 5.84$, $p = .016$, $\omega^2 = .01$ (see Figure 2), the pattern was only partially consistent with my predictions. To better understand this complex interaction, I examined the simple interactions of social desirability and the location of the clinic at different levels of construal (time).

Abstract construal (Year). If the *Contingency Hypothesis* is true, then social desirability and the location of the clinic should not interact under abstract construal to predict support for the clinic because participants should judge the clinic similarly regardless where it is to be sited. As predicted by the *Contingency Hypothesis*, when participants thought the clinic was going to be

sited in a year, support for the clinic did not differ as a function of social desirability concerns regardless where the clinic would be sited, $F(1, 460) = 2.49, p = .12, \omega^2 = .003$.

Concrete construal (Week). However, if the *Contingency Hypothesis* is true, social desirability and the location of the clinic should interact to predict support under concrete construal because the threat of the clinic should differ when the clinic is sited Near versus Far, activating (or not) social desirability concerns. Although the predicted simple two-way interaction between where the clinic was to be sited and social desirability concerns on support in the concrete construal condition was marginally significant, the pattern of results did not entirely conform to the *Contingency Hypothesis*, $F(1, 460) = 3.38, p = .07, \omega^2 = .005^9$.

As predicted by the *Contingency Hypothesis*, participants who believed that the clinic would be built on the far side of campus more strongly supported the clinic in the private ($M = 0.51, SD = 1.79$) than public condition ($M = -0.10, SD = 1.70$), $F(1, 460) = 3.91, p = .05, \omega^2 = .006$, mean difference 95% CI = [.004, 1.21]. In contrast to the *Contingency Hypothesis*, however—which predicted that the participants would indicate less support for the clinic when it was going to be sited near them when their judgments were Private than Public—there was no difference in participants' support for the clinic between the public ($M = 0.25, SD = 1.55$) and private ($M = 0.04, SD = 1.67$) conditions, $F(1, 460) = 0.44, p = .51, \omega^2 < .001$, mean difference 95% CI = [-.42, .85].

In summary, the results did not replicate prior research. Instead, people neither supported nor opposed the clinic, regardless of where it was placed with one marginal exception: Participants showed more evidence of a NIMBY response (i.e., preferring the clinic to be built further away) under conditions of concrete construal, immediate threat, and when reporting their reactions in private rather than public. Although not entirely consistent with the *Contingency Hypothesis*, this finding is more consistent with the *Contingency* than the *Appearances* or *Bias Hypotheses*. That

⁹ This interaction becomes significant with the inclusion of the control variables, $F(1, 406) = 5.38, p = .02, \omega^2 = .01$

said, this result should only be interpreted very cautiously because (a) the interpreted simple interaction is only marginally significant, (b) it did not account for a meaningful amount of variance (less than 1 % of the variance in support), and (c) it is unclear what the public/private manipulation in fact affected given the failed manipulation checks.

Next, I examined whether judgments of fairness demonstrate a similar or different pattern of results than support for the Methadone Clinic.

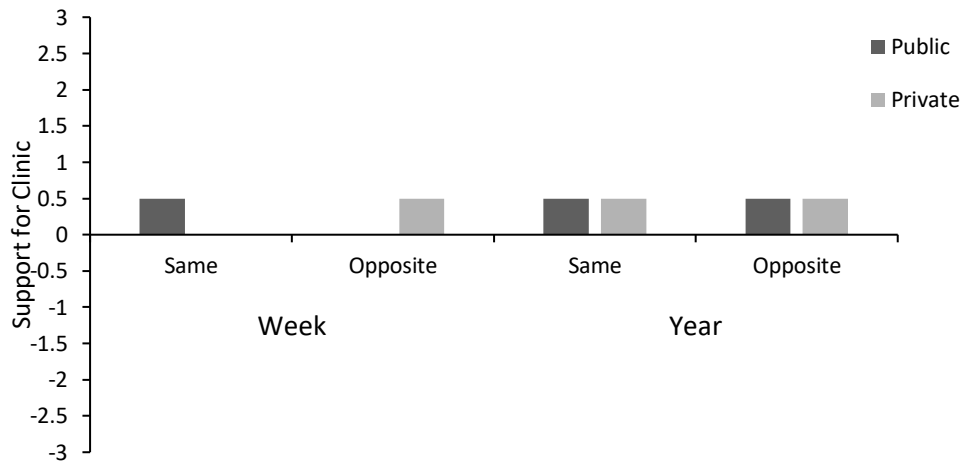


Figure 1: Support and opposition to the proposed on-campus methadone clinic as predicted by the *Contingency Hypothesis*.

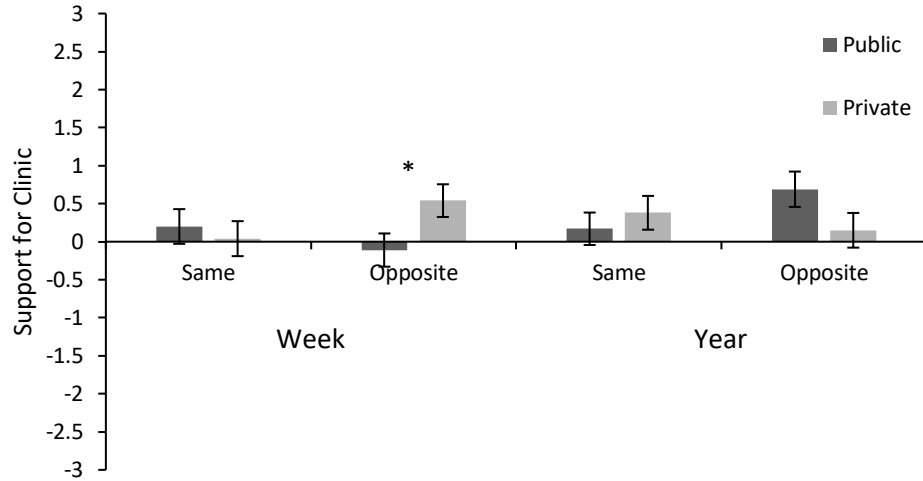


Figure 2: Support and opposition to the proposed on-campus methadone clinic. Error bars are standard error of the mean. * $p < .05$.

Outcome fairness. Although one way to define a NIMBY response is in terms of support for building a risky but useful facility near versus farther away, another way to think about NIMBYism is in terms of what one is willing to accept in one's own backyard, relative to what one is willing to accept in someone else's backyard. To test my hypotheses from this perspective, I conducted a 2(location: Near, Far) X 2(social desirability: Public, Private) X 2(construal: Year, Week) X 2(outcome fairness: fairness for Self, fairness for Other) mixed ANOVA with distance, social desirability, and construal as between-subjects factors, and outcome fairness as a within-subjects factor.

In contrast to support for the clinic but in line with a traditional "Not In My Backyard" effect, participants judged a Far siting to be more fair ($M = 0.49$, $SD = 1.29$) than a Near siting (M

$= 0.12$, $SD = 1.28$), $F(1, 464) = 10.11$, $p = .002$, $\eta^2_{\text{partial}} = .02^{10}$, mean difference 95% CI = [.14, .60] (see Figure 3).

Similarly, participants judged the siting as fairer for Others ($M = 0.52$, $SD = 1.51$) than for the Self ($M = 0.08$, $SD = 1.51$), $F(1, 464) = 33.92$, $p < .001$, $\eta^2_{\text{partial}} = .07$, mean difference 95% CI = [.29, .59] (see Figure 4). There were no other significant main effects or two-way interactions.

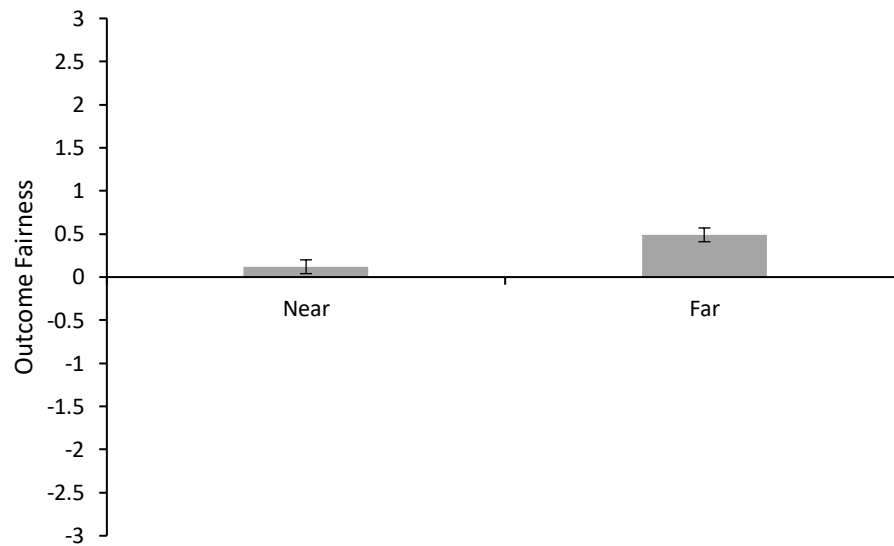


Figure 3. Main effect of outcome fairness for methadone clinic siting by side of campus. Error bars are standard error of the mean.

¹⁰ There is currently no agreed-upon standard effect size for mixed-ANOVAs. I therefore chose partial eta-squared because it is easily understood and available in SPSS.

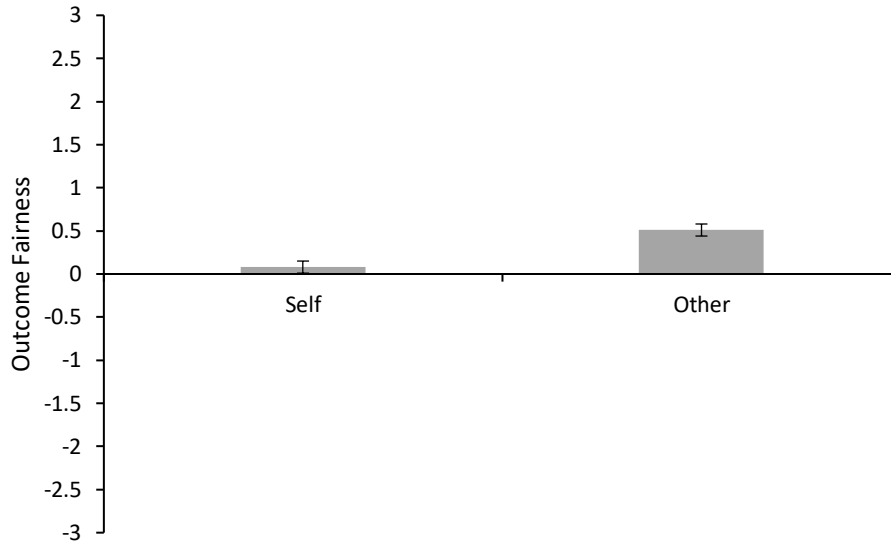


Figure 4. Main effect of target fairness for methadone clinic siting. Error bars are standard error of the mean.

Although there was a significant three-way interaction between the location of the clinic, the social desirability manipulation, and judgments of fairness (Self versus Other), $F(1, 464) = 5.06$, $p = .03$, $\eta^2_{\text{partial}} = .01$, the pattern of results was not as predicted by the *Appearances Hypothesis* (see Figure 5). More specifically, the target of judgments of fairness (i.e., Self versus Other) did not interact with social desirability concerns to predict fairness when the clinic was to be sited on the Near side of campus, $F(1, 464) = 2.55$, $p = .11$, $\eta^2_{\text{partial}} = .002$, nor the Far side of campus, $F(1, 464) = 2.51$, $p = .11$, $\eta^2_{\text{partial}} = .004$ (see Figure 6).¹¹¹² In other words, participants'

¹¹ Although the definition of a three-way interaction requires that at least one of the simple two-way interactions would have to be significant, in this case the over-all effect size was small, which sometimes leads to follow-ups not fully conforming to this definitional pattern.

¹² See the Appendix for an alternative follow-up to the three-way interaction and the graphs of the predicted and observed effects.

perceptions of the fairness of the clinic for themselves or for others did not meaningfully change as a function of social desirability pressures and where the clinic was to be located.

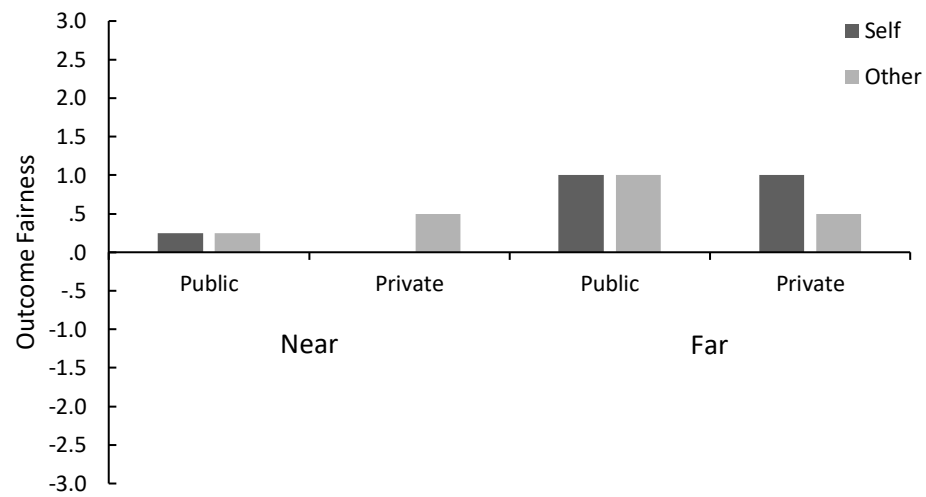


Figure 5. Judgments of fairness as predicted by the *Appearances Hypothesis*.

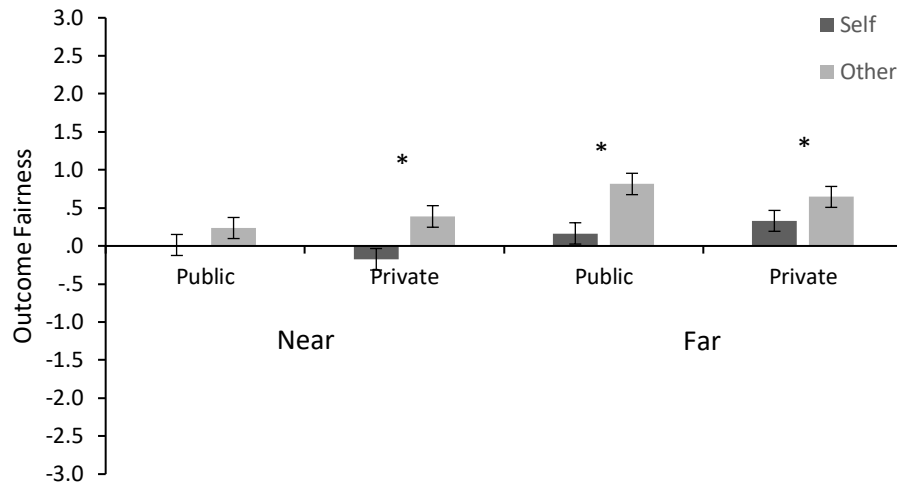


Figure 6. Analyses of judgments of fairness. Error bars are standard error of the mean. * $p < .05$.

If my *Biases Hypothesis* is correct, then I would expect a two-way interaction between construal and clinic location on judgments of fairness, with no effect of social desirability or fairness for side of campus. In contrast to the *Biases Hypothesis*, the two-way interaction between construal and clinic location on judgments of fairness were not significant, $F(1, 460) = 1.47$, $p = .23$, $\omega^2 = .001$. Therefore, participants' judgments of fairness did not depend on psychological construal.

The *Contingent Hypothesis* predicted a four-way interaction between the location of the clinic, when the clinic was to be sited, social desirability concerns, and judgments of fairness. However, the four-way interaction was not significant, $F(1, 464) = .02$, $p = .88$, $\eta^2_{\text{partial}} < .001$. In sum, and in contrast to participants' support for the clinic, participants' judgments of fairness did not change as a function of their social desirability concerns at different levels of psychological construal.

In summary, judgments of fairness did not follow the same pattern as support for the clinic. In contrast to support, judgments of fairness conformed to a standard NIMBY pattern; people thought a clinic that would be farther from them was more fair than a nearby clinic, and that a clinic would be more fair for others than it would be for themselves. Therefore, none of my hypotheses were supported.

Although there was a significant three-way interaction between where the clinic was to be sited, social desirability concerns, and judgments of fairness, the results did not conform to the specific predictions of the *Appearances Hypothesis*. I predicted that the interaction between targets of fairness and social desirability would be significant when the facility was to be sited both nearby and faraway. However, people consistently judged the facility as fairer for Others than the Self, which resulted in non-significant interactions. Moreover, because my social desirability manipulation did not successfully affect participants' social desirability concerns, I am unsure as to what the effect means.

C. Exploratory Analyses

In addition to my primary measures, I also collected data on other variables of potential interest to understanding local opposition. Traditional accounts of NIMBYism focused on perceptions of the risks of the proposed facilities depending on where the risky facility was to be sited (e.g., Slovic, 1987). However, I and other authors (e.g., Wolsink, 2007a) have argued that NIMBY responses can be examined as an example of a response to an allocation of a cost of cooperation. To what extent can NIMBYism be understood through the lens of fairness versus risk?

In my analyses below, I tested the relative influences of judgments of fairness, participants' judgments of the risk-to-benefit ratio of the clinic, and positive and negative emotions evoked in response to the siting on support for the clinic with two hierarchical regressions. In each model, I

controlled for participants' connection to the campus, participants' connection to their future self, a dichotomous variable indicating whether participants knew an opioid addict, and participants' age. However, because the pattern of results was not substantially affected by the inclusion of controls, I report the results of the analyses without controls.

In the first model, I included fairness for the Self and fairness for Other in the first block and judgments of risks versus benefits and positive and negative emotions in the second block. In the second model, I changed the order of blocks one and two and included judgments of risks versus benefits and positive and negative emotions in the first block and fairness for Self and fairness for Other in the second block. If fairness is indeed an appropriate approach to studying NIMBYism, then it should continue to be a significant predictor of support for the clinic even after participants' judgments of risks and emotions are included in the model. Moreover, fairness judgments should explain a large proportion of the variance relative to participants' judgments of risks versus benefits and positive and negative emotions.

Finally, to examine whether I manipulated the most important factors in local opposition scenarios, I examined the relative effect of my manipulations on support for the clinic versus judgments of fairness, emotions, and risks. I ran a last hierarchical regression predicting support for the clinic with my manipulations in the first three steps of the model, and judgments of fairness, risks, and emotions in the fourth and final step. If I indeed manipulated the most important factors in residents' support of a methadone clinic siting, then the variance explained by my manipulations should be fairly substantial, even if the measured variables mediate the effect of the manipulations on support for the clinic.

Fairness in first step. In the first model, both steps were significant predictors of support or opposition to the clinic (see Table II). The adjusted R^2 for the full model was .48, indicating that 48% of the variance in support for the clinic was accounted for by variables in the model.

In the first block, more (rather than less) judged fairness for Self and fairness for Other significantly predicted more support for the clinic. In the second block, more (rather than less) positive emotions evoked by the clinic siting, less (rather than more) negative emotions, and greater judgments of benefits versus risk significantly predicted more support for the clinic. Moreover, fairness for Self, $B = .10$, $SE = .05$, $t(408) = 2.29$, $p = .02$, and fairness for Other, $B = .09$, $SE = .05$, $t(408) = 2.27$, $p = .02$, remained significant predictors of support for the clinic even after the inclusion of the other variables.

Table II. *Regression Model (Standardized Regression Coefficients) Predicting Support for the Methadone Clinic with Fairness in the First Block.*

Block	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	R^2_{change}
1					
Fairness for Self	.37	.06	7.70	<.001	
Fairness for Other	.19	.06	3.90	<.001	.22***
2					
Positive emotions	.25	.07	6.38	<.001	
Negative emotions	-.17	.09	-4.72	<.001	
Risks to benefits	.41	.003	9.42	<.001	.27***
R^2					.48***

 $p < .001$.

Judgements of fairness significantly predicted support for the clinic and remained a significant predictor even after the inclusion of more traditional antecedents to support for a risky facility. However, there was a large decrease in the sizes of the effects of fairness after the inclusion of emotional reactions and perceptions of risk. In the next model, I examine the size of the effect of fairness on support for the clinic only after including emotional reactions and judgments of risk.

Fairness in second step. In the second model, both steps were again significant predictors of support or opposition for the on-campus methadone clinic (see Table III).

In the first block, greater judgments of benefits versus risks, greater (than lesser) reported positive emotions, and lesser (than greater) reported negative emotions again significantly predicted more support for the clinic. In the second block, greater (rather than lesser) judged fairness for Self and fairness for Other predicted more support for the clinic over and above participants' judgments of risk and emotional responses to the clinic. Moreover, positive emotions, $B = .25$, $SE = .07$, $t(408) = 6.38$, $p < .001$, negative emotions, $B = -.17$, $SE = .09$, $t(408) = -4.72$, $p < .001$, and judgments of risk versus benefits, $B = .41$, $SE = .003$, $t(408) = 9.42$, $p < .001$, remained significant predictors of support for the clinic.

Although fairness was consistently a significant predictor of support, the size of the effect of the block with fairness judgments was markedly smaller when it was included after emotional reactions and judgments of costs and benefits. In the first model, fairness judgments explained approximately twenty-two percent of the variance in support for the clinic prior to the inclusion of emotional reactions and judgments of risks and benefits. In the second model, however, the block with fairness accounted for only about two percent of the variance. Therefore, judgments of fairness do predict support for the clinic over-and-above more traditional local opposition variables, but they did not provide a substantial increase to our ability to predict whether someone would support or oppose above emotional reactions and judgments of risk.

Table III. *Regression Model (Standardized Regression Coefficients) Predicting Support for the Methadone Clinic with Fairness in the Second Block.*

Block	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>R</i>²_{change}
1					
Positive emotions	.27	.07	6.90	<.001	
Negative emotions	-.19	.09	-5.14	<.001	
Risks to benefits	.48	.003	11.91	<.001	.47***
2					
Fairness for Self	.10	.05	2.29	.02	
Fairness for Other	.09	.05	2.27	.02	.02***
<i>R</i> ²					.48***

p < .001.

Effect of manipulations. In the third and final regression, I included each of my manipulations (e.g., time of siting, location of siting, and social desirability) in the first step. In the second step, I included all pair-wise interactions, and in my third step I included the three-way interaction among my manipulations. In the final step, I included my measured variables of fairness, positive and negative emotional reactions to the siting, and judgments of risks and benefits (see Table IV).

Replicating the above ANOVAs, the first two steps of this regression with the main effects and two-way interactions were not significant, but the third step with the three-way interaction was significant. Replicating the exploratory regression analyses, the fourth step with the measured variables was also significant.

The relative effects of each step imply that my manipulations were unsuccessful in capturing the primary motivations behind my participants' support or opposition to the on-campus methadone clinic.

Table IV. Regression Model (Standardized Regression Coefficients) Predicting Support for the Methadone Clinic with Manipulations in the First Three Blocks and Judgments of Emotions, Fairness, and Risks in the Final Block.

Block	B	SE	t	p	R ² _{change}
1					
Location Manipulation	-.02	.17	-.47	.64	
Public/Private Manipulation	-.02	.17	-.49	.62	
Time Manipulation	.03	.17	.63	.53	.002
2					
Location X Public/Private	.01	.35	.12	.91	
Location X Time	-.06	.35	-.68	.50	
Time X Public/Private	-.09	.35	-1.00	.32	.003
3					
Three-way Interaction	-.28	.69	-2.16	.03	.01*
4					
Positive Emotions	.25	.07	6.26	<.001	
Negative Emotions	-.18	.09	-4.69	<.001	
Risks vs Benefits	.41	.003	9.25	<.001	
Fairness for Self	.10	.05	2.28	.02	
Fairness for Other	.09	.05	2.24	.03	.47***
R ²					.48***

* $p < .05$, *** $p < .001$.

In summary, results of exploratory analyses indicated that participants' perceptions of the risks versus the benefits of the facility and their emotional reactions to the clinic were stronger predictors of support for the clinic than were their judgments of fairness. Although fairness remained a significant predictor of support even after the addition of judgments of risks and emotional reactions, the size of the effect of fairness judgments on support for the clinic paled in comparison to participants' perceptions of risks. Moreover, my final model indicates that, at least in relation to a proposed on-campus methadone clinic, I did not manipulate the most important variables in predicting support for the methadone clinic. These results suggest that the original orientation to local opposition that framed the phenomenon as risk perceptions is the more appropriate approach toward understanding Not In My BackYard.

IV. DISCUSSION

The goal of the present research was to test competing hypotheses regarding the motivational underpinnings of local opposition to risky facilities, the so-called “Not In My BackYard” phenomenon. I tested three competing hypotheses that might explain NIMBYism, specifically that people may a) be selfishly motivated to offload potentially costly facilities onto others (*Appearances Hypotheses*), b) evaluate a potentially risky but beneficial facility differently depending on how the facility is psychologically construed (*Biases Hypotheses*), or c) attempt to offload potentially costly facilities onto others depending on how they construe the facility and whether social desirability concerns were salient (*Contingency Hypotheses*). Moreover, I attempted to test whether NIMBYism is a response to an allocation of a social cost and therefore predicated on judgments of fairness.

A bit surprisingly, participants’ support for the on-campus methadone clinic was not contingent on where the clinic was to be located, in contrast to the standard NIMBY effect. However, the traditional NIMBY differences in (positive) evaluations of a far-off facility versus (negative) evaluations of a nearby facility were evinced in judgments of fairness. Participants judged a faraway clinic as fairer than a nearby one, and they judged the clinic as fairer for others than themselves.

One possibility is that these findings could be evidence that local opposition to risky facilities is best understood as a response to an allocation decision. Because the methadone clinic was fairer when it was proposed in somebody else’s backyard than when it was proposed nearby, but support for the clinic did not meaningfully vary depending on where it would be located, then perhaps the most appropriate lens through which to examine “Not In My BackYard” is residents’ judgments of fairness. Participants were relatively supportive of the clinic and may have wanted it built but had a clear idea of *where* the clinic should be built (i.e., far from them). However, the

conclusion that NIMBYism should be examined primarily as a response to an allocation decision seems implausible for the following reasons.

Support for or intentions to protest a risky facility are the most face-valid self-report measures of local opposition. Although my exploratory analyses revealed that fairness *is* a relevant consideration in residents' support for a local risky facility, it is probably not the most relevant consideration. Fairness explained a very small proportion of support for the clinic relative to variables that are more typical of risky facility siting, such as perceptions of risks and emotional reactions. Therefore, fairness concerns seem only minimally relevant to NIMBYism. It seems unlikely, then, that residents primarily consider risky facility sitings as allocations of social costs.

What might be more likely is that my participants were generally more supportive of the facility than a typical homeowner. As highlighted below, my sample of undergraduates would probably not have lived near the clinic for very long. Because an on-campus clinic would not have affected them for more than a few years at most, they may have been more supportive in general than a local homeowner.

Although the students may have wanted an on-campus clinic (to the extent that they believed it would bear more benefits than costs), they still preferred the clinic farther away than nearby. Therefore, their support for the clinic was relatively unaffected by where the clinic would be sited, but they claimed the facility would be less fair if it was sited near them. Consequently, it seems likely that the dissociation between support and judgments of fairness was the result of my participants not viewing the potential risks of the clinic as a long-term commitment. Perhaps this dissociation contributed to my failure to find support for any of my hypotheses.

A. Motivations of NIMBY

I attempted to determine whether local opposition to a risky facility is predicated on self-interest impeding collective benefits, biased information processing of risks versus benefits of

those facilities, or some combination of both. However, I did not obtain evidence for any of my hypotheses. Because (a) my social desirability manipulation failed to manipulate what I intended, (b) my sample may not have had the same motivation as a local homeowner to avoid the siting of the methadone clinic, or (c) I may have inadvertently washed away the effects of my construal manipulation, it is unclear whether my hypotheses were incorrect or my study design was unable to detect any effect. I delve into each of those problems below into more detail.

B. Limitations

The most obvious limitation to my study is my failed social desirability manipulation. Past research seems to indicate that to successfully manipulate presentational concerns, participants need to expect to interact with the person in the future (Bordia, 1997). Therefore, a better manipulation would have been to bring participants to the lab and tell them that they would engage in a group discussion with the people who can see their survey responses. However, even this strategy may not be sufficient. Local opposition is often a very loud and public display of antagonism toward a proposed risky facility. The social desirability manipulation is premised on whether highlighting (or not) presentational concerns will decrease hypocritical behaviors, but I failed to consider *to whom* the presentational concerns are directed. Consequently, it is potentially important to have participants believe that they would be engaging in a discussion with people who either live in the other proposed neighborhood or are more directly affected by the siting decision (e.g., staff or patients of the clinic).

Another salient factor that limits generalization from my study is my sample. As I mentioned above, traditional NIMBY research focuses on the reactions of homeowners or permanent residents of a given neighborhood to a potential threat to their community. At most, my participants can expect to live in the area for another three to four years. Similarly, many of my participants commuted to campus, which also may have reduced any sense of commitment to the

campus. Coupled with the tendency for undergraduates to be more prone to want to appear prosocial than the average individual (Sears, 1986), my sample may have evaluated the clinic siting differently than a more ecologically valid sample would have. In other words, the strong motivation to defend their neighborhood observed in other studies may have simply been absent in my study.

A final limitation that may have resulted in my null findings concerns my construal manipulation and my description of methadone clinics. In an attempt to ensure that everyone had a baseline understanding of what a methadone clinic is, I described the risks and benefits of such clinics. However, my construal manipulation was contingent on people recruiting abstract versus concrete information about methadone clinics to evaluate the on-campus clinic and its concomitant effects on the community depending on whether the clinic was to be sited in a year versus a week. Therefore, my construal manipulation may not have worked because I provided the salient information that my participants might then have used to evaluate the clinic. A better solution may have been to screen out people who did not know what a methadone clinic was and provide only that methadone clinics are controversial.

C. Future Directions

Despite the above limitations, there were some revealing facets of my study. Because support correlated so strongly with perceptions of the risks and benefits of the clinic, a potentially fruitful next step would be to have participants read different descriptions of a facility and manipulate whether the facility is framed as potentially costly or beneficial. If residents' support is indeed contingent on the way the facility is framed, then local opposition research should be situated back in the risk perception literature as another example of individuals' sensitivity to informational frames (Levin, Schneider, & Gaeth, 1998). Consequently, a more thorough application of the risk and persuasion literature to the practical problem of local opposition to risky

facilities might uncover more useful strategies for city planners looking to site a facility while applying the knowledge gained from decades of laboratory experiments on risk perception to the messy real world. In the current era of epistemic uncertainty (e.g., Ioannidis, 2005; Pashler & Harris, 2012), conducting more research that is grounded in practical problems might be a good way to validate and regain confidence (or not) in some of psychology's most venerable theories.

Similarly, a potential avenue for future research is to test whether highlighting the consequences of the facility to the individual versus the consequences to the community differentially affect residents' perceptions of risks and subsequent support for the facility. In other words, does it matter whether the risks and benefits are described in relation to the individual or the community? Evidence from different areas of research suggests conflicting potential answers.

For example, framing an event around the implications to the community is a more potent manipulation of attitudes toward that event than framing the event around potential outcomes for the individual (e.g., climate change mitigation strategies; Spence & Pidgeon, 2010). This finding suggests that group-level outcomes are more persuasive than individual-level outcomes. However, this finding contrasts with "the identifiable victim effect," whereby people are more likely to provide assistance when exposed to a single person's narrative than information about a number of people afflicted by the same problem, even if the group is similarly identified (Kogut & Ritov, 2005). These divergent findings suggest that differences in whether group-level versus individual-level outcomes affect likelihood of acting are in part determined by whether the perceiver is also a member of the group that is affected, a potentially fruitful avenue for future research.

Risky facility sitings seem particularly well-suited to test the effects of these informational frames while also providing valuable information to community planners. More work is needed to understand local opposition to risky facilities in general and to methadone clinics specifically if scientists are to play a role in the equitable siting of such facilities.

D. Conclusion

Local opposition to risky facilities may give rise to the indefinite suspension of projects that could result in lower levels of certain kinds of vital services (e.g., Glaberson, 1988) and the overburdening of poor neighborhoods and/or neighborhoods of color with risky facilities (e.g., Austin & Schill, 1991). Some authors, including myself, have argued that local opposition should be understood as a response to the allocation of a social cost, implicating notions of fairness as the most relevant consideration of residents' opposition to a risky facility. However, the evidence presented in this study contradicts that conclusion. Fairness was indeed a consideration in residents' support for a methadone clinic, but it was not the most important consideration. Instead, residents' judgments of risks versus benefits, and their subsequent emotional reactions to a risky facility siting proposal, are far more powerful predictors of support or opposition to the facility.

Although, I have demonstrated that considering NIMBYism as a response to an allocation of a social cost is a logical avenue for understanding why residents may refuse a methadone clinic in their backyard, it is likely not the most appropriate for understanding local opposition to a risky facility. However, lessons about fairness can be gleaned from research on local opposition. Normatively, what's fair for you should similarly be fair for me, as if all lots in life were predetermined behind a veil of ignorance (Rawls, 1971), but people judged the clinic differently for themselves than they did for others. Therefore, better understanding people's judgments of fairness within the context of NIMBYism may shed light onto the processes that underlie how people determine deservingness and responsibility.

As the opioid epidemic continues to worsen, better understanding residents' support for facilities that may combat this trend is an important endeavor. The present research raises more questions than answers. For example, why wasn't support for the clinic in this study contingent on where the clinic was to be sited, as is found in other research on local opposition to risky facilities,

and why was the effect found only in judgments of fairness? Although I have proposed answers to these questions, such conclusions must still be validated with future research. Moreover, given the strong relationship between judgments of risks versus benefits and support for the clinic, how might evaluations of the nature of the potential outcomes of a potentially risky facility be changed? Will informational frames similarly affect residents' judgments of the fairness of these facilities? This too should be addressed by future research.

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APPENDIX

Alternative Follow-Up for Three-way Interaction

Because the definition of a three-way interaction implies that at least one two-way interaction should be significant, i followed up the three-way interaction between the location of the clinic, the social desirability manipulation, and judgments of fairness in an alternative manner. Below, I look at the two-way interaction between where the clinic is to be located and judgments of fairness at each level of the social desirability manipulation (see Figure 7).

Private. When participants believed that their responses were private, the two-way interaction between the location of the clinic and judgments of fairness was not significant, $F(1, 464) = 1.36, p = .24, \eta^2_{\text{partial}} = .002$. Participants judged the siting as fairer for Other than for the Self regardless whether the facility was sited nearby (Fair for Other: $M = .39, SD = 1.10$; Fair for Self: $M = -.18, SD = 1.10$; $F(1, 464) = 13.61, p < .001, \eta^2_{\text{partial}} = .03$) or farther away (Fair for Other: $M = .65, SD = 1.06$; Fair for Self: $M = .33, SD = 1.06$; $F(1, 464) = 4.51, p = .03, \eta^2_{\text{partial}} = .01$).

Public. When participants believed that their responses were public, however, the two-way interaction between the location of the clinic and judgments of fairness was significant, $F(1, 464) = 4.05, p = .04, \eta^2_{\text{partial}} = .005$. When the facility was sited nearby, judgments of fairness for Self ($M = .01, SD = 1.07$) and Other ($M = .24, SD = 1.07$) were the not different, $F(1, 464) = 2.23, p = .14, \eta^2_{\text{partial}} = .005$, but when the facility was sited on the other side of campus, people judged the siting to be fairer for Other ($M = .82, SD = 1.08$) than for Self ($M = .17, SD = 1.08$), $F(1, 464) = 18.51, p < .001, \eta^2_{\text{partial}} = .04$.

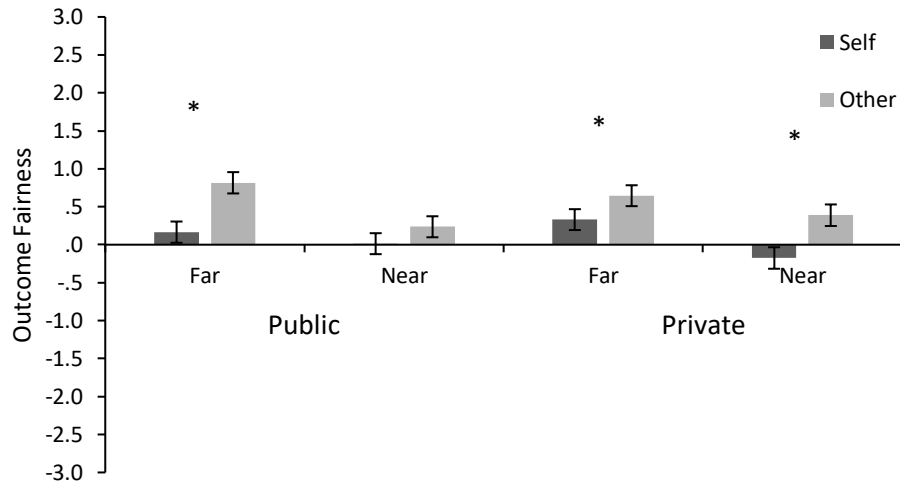


Figure 7. Alternative analyses of judgments of fairness. Error bars are standard error of the mean. * $p < .05$.

When participants responded to the siting in private, they always judged the siting to be fairer for Others than the Self. These findings suggest that participants may have been attending to different features of the facility depending on whether the clinic was to be sited nearby or farther away.

However, when they thought they were reporting their judgments publicly, the judged fairness for the Self versus Other depended on where the facility would be sited. They judged the siting equally fair for Self and Other when the clinic would be nearby, but judged the clinic significantly fairer for Other than the Self when they thought the clinic would be sited farther away. These findings suggest that participants may have attempted to boost their judgments of fairness for the Other when the clinic was sited farther away as an attempt to gain the benefits of the clinic without having to face the risks.

VITA

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Curriculum Vitae

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EDUCATION

- 2017 – present University of Illinois at Chicago, Chicago, IL
 Ph.D. Social Psychology
 Minor: Statistics, Methods, and Measurement
- 2014 – 2017 University of Illinois at Chicago, Chicago, IL
 M.A. Social Psychology
- 2010 – 2014 Illinois Institute of Technology, Chicago, IL
 B.S. Psychology, *summa cum laude*

SCHOLARSHIPS/GRANTS/AWARDS

- 2016 – 2017 Travel Grant (\$1300 over two years), Department of Psychology, University of Illinois at Chicago
- 2014 *Edwin H. Lewis* 1st place Prize in Nonfiction (\$300), Illinois Institute of Technology
- 2012 – 2014 Presidential Honors Scholarship (\$25,000 annually over two years), Illinois Institute of Technology

PUBLICATIONS

Motyl, M., Demos, A. P., **Carsel, T. S.**, Hanson, B., Melton, Z. J., Sun, J., ... Skitka, L. J. (in press). The state of social and personality science: Rotten to the core, not so bad, getting better, or getting worse? *Journal of Personality and Social Psychology*.

Skitka, L. J., Washburn, A. N., **Carsel, T. S.** (2015). The psychological foundations and consequences of moral conviction. *Current Opinion in Psychology* 6, 41-44.

Carsel, T. S. & Moller, A. C. (2014). An experimental attempt to mitigate the illegal practice of using race as a deterministic variable in prosecutorial peremptory challenges. *URJüt* 1, 20-22.

Carsel, T. S. (2014). The logic of confirmation *Edwin H. Lewis Department of Humanities* 49, 23-31.

Carsel, T. S. (2011). We had all the power. *Garland Court Review* 7, 23-25.

MANUSCRIPTS UNDER REVIEW AND IN PREPARATION

Washburn, A. N., Hanson, B., Motyl, M., Skitka, L. J., Yantis, C., Wong, K. M, ... **Carsel, T. S.** (under review). Why Do Some Psychology Researchers Resist Using Proposed Best Research Practices? A Description of Perceived Barriers.

Morelli, S. A., **Carsel, T. C.**, Smallman, R., Schlegel, R. J., & Lench, H. C. (in preparation). Empathy for the Future Self: An Avenue to Successful Goal Pursuit and Enhanced Well-Being.

Carsel, T. C. & Morelli, S. A. (in preparation). The role of analogical reasoning in empathy.

POSTER PRESENTATIONS

Carsel, T. S. & Makati, R. (2017, January). *Perspective-taking and ideology: The role of cognitive closure and empathic concern*. Poster presented at the emotions preconference at the annual meeting of the Society for Personality and Social Psychology, San Antonio, TX.

Carsel, T. S., Hanson, B. E., & Mueller, A. B.* (2017, January). *SPSP members' perceptions of non-academic internships*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, San Antonio, TX. **[*All authors contributed equally to this presentation]**

Carsel, T. S., Skitka, L. J., & Hanson, B. E. (2016, April). *Exploring affective, familial, social, and religious contributions to moral convictions*. Poster presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.

Carsel, T. S., Skitka, L. J., & Hanson, B. E. (2016, January). *Exploring affective, familial, social, and religious contributions to moral convictions*. Poster presented at the annual meeting of the Society for Personality and Social Psychology, San Diego, CA.

Carsel, T. S., Chatterjee, D., Ayman, R., & Korabik, K. (2014, May). *A cross-cultural investigation into the connection between a leader's traits and behaviors*. Poster presented at the annual meeting of the Midwestern Psychological Association, Chicago, IL.

Carsel, T. S. (2014, February). *Prosecutorial peremptory practices*. Presented at Illinois Institute of Technology's annual Psi Chi Undergraduate Research Presentation.

Carsel, T. S., Burchell, D., Jimenez, R. (2012, March). *The cognitive abilities of giant pacific octopuses*. Poster presented at the annual meeting of the Chicago Area Research Symposium, Chicago, IL.

ACADEMIC APPOINTMENTS

2014 – present University of Illinois at Chicago, Chicago, IL
Teaching Associate, Department of Psychology

TEACHING EXPERIENCE

Teaching Associate

Laboratory in Social Psychology (Department of Psychology, University of Illinois at Chicago, Spring 2016, Spring 2017)

Statistical Methods in Behavioral Sciences (Department of Psychology, University of Illinois at Chicago, Summer 2016, Fall 2016)

Personality Psychology (Department of Psychology, University of Illinois at Chicago, Fall 2015)

Intro to Psychology (Department of Psychology, University of Illinois at Chicago, Fall 2014, Spring 2015)

Guest Lecturer

Laboratory in Social Psychology (*Measurement Construction, Reliability, and Validity*, University of Illinois at Chicago, Spring 2017)

PROFESSIONAL EXPERIENCE

Society for Personality and Social Psychology 2016

Chicago, Illinois

Consultant

Created and distributed surveys to measure interest in and knowledge of non-academic internships to be distributed to graduate students, faculty, and industry members of the society.

Analyzed quantitative and qualitative responses

Drafted executive summary and full report of findings

Ministry Leadership Center 2016

Chicago, Illinois

Social Science Observer

Participant observer

Content-coded structured conversations regarding leadership formation and value propagation in Catholic industries

IIT's Center for Research and Services 2013 - 2014

Chicago, Illinois

Support Staff

Coordinated children's arrival times.

Ensured that all children were engaged.

Administered training to other support staff members.

PROFESSIONAL MEMBERSHIPS

Midwestern Psychological Association
Society for Personality and Social Psychology
Phi Theta Kappa Honor Society
Psi Chi, National Honor Society in Psychology