Citizen Valuation of Policing

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Abstract

Recent public pressure and initiatives have pushed police departments to find a new balance between crime-reduction and use of force. What is the optimal way to trade off between these competing priorities? We provide the first estimate to inform the acceptable trade-offs society is willing to make between reducing crime and minimizing the use of force. Using conjoint analysis in both a hypothetical and a consequential survey, we estimate the willingness to pay for reductions in violent crime and police use of force. Our results show a marginal rate of substitution of 0.252, meaning citizens are indifferent to an intervention that decreases violent crime by 4 incidents while increasing police use of force by just 1. Using this estimate, we demonstrate that incorporating the use of force into cost-benefit analyses can significantly alter conclusions compared to analyses that neglect it, revealing that the cost of force has been substantially underestimated. Our findings offer valuable insights for evaluating policing strategies and public resource allocation.

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I Introduction

The primary objective of police in modern society is to improve public safety by reducing crime. To achieve this, substantial resources have been devoted to law enforcement, including hiring more officers and implementing various programs such as hot-spot policing, community policing, and police militarization. Given their major policy implications, a substantial body of research in economics and social sciences has evaluated these strategies and explored ways to further reduce crime through police.

In recent years, public discourse has been marked by widespread outcry over the excessive use of force by police departments. Aggressive policing has contributed to thousands of police killings annually, significant human capital and educational losses (Ang, 2021), and substantial misconduct settlements (Rozema and Schanzenbach, 2019). The extreme cases have also sparked a call for greater awareness and a reduction in the overall use of force. In response to mounting pressure, police departments have shifted their focus from crime reduction to minimizing the use of force and reforming their policies and practices. However, police force is at times necessary to protect officers and civilians from immediate harm and to deter criminal activity. There is extensive debate about how to weigh the material goals of policing against the civil rights of the policed, and many Western governments have promised their citizens that they will find a new balance.

The current study focuses on an aspect of this balancing act about which little is known: how individuals optimally trade off crime and police force. When the WTP to reduce force is large and positive, the status quo level of force may be suboptimal, even if it keeps officers safe and crime low. In contrast, a small or negative WTP suggests that communities are comfortable with the status quo level of force. This WTP can thus provide a summary measure of how the public values police force and potential changes to it. This cannot replace a thorough evaluation of how police force affects crime, the downstream operation

of the criminal justice system, officer injuries, or notably, the public perception of police legitimacy (Owens, 2020). However, it can give a sense of how these factors, among others, combine to influence how much force the public wants–or, more formally–what the public would be willing to give up to have less of it.

In our study, we calculate both the WTP to reduce police force and the WTP to reduce violent crime. Combining these two into a marginal rate of substitution (MRS) then provides a benchmark for the efficiency of police practices that may change both at once. For example, training officers in hand-to-hand combat may reasonably be expected to both decrease violent crime (by apprehending or discouraging more violent offenders) and increase police use of force (by empowering officers to engage in violent situations). If the change in the latter exceeds the change in the former by more than our estimated MRS, then the policy is a "success" in the sense that the typical citizen is willing to make the associated trade-off at the margin. Another use for an estimated MRS between police force and violent crime is as a way to respond to changes in the policing environment. Aggressive and proactive policing practices developed in high-crime settings, such as before the crime bust of the 1990s, may no longer be appropriate when the underlying trends in crime have changed (Owens, 2019).

We estimate the willingness to pay for reductions in violent crime and police force using conjoint analysis in both a hypothetical and a consequential survey (Chan, 2021). Respondents are asked to choose between housing options with different rental prices and characteristics.Among the characteristics that may differ between hypothetical rentals are violent crime and police use of force. We carefully introduced the definitions and distributions to ensure clarity, as respondents may interpret terms like violent crime and use of force differently. Furthermore, these definitions were presented in a neutral manner to avoid introducing legitimacy costs associated with unjustified use of force, as our focus is on measuring the utility of overall use of force. We use a mixed multinomial logit model to extract willingnesses to pay for each characteristic from respondent choice data. Our main objects

of interest are WTPs to reduce police use of force and violent crime, though we also estimate WTPs for square footage and school quality as a point of comparison.

Our primary results are from a survey administered to US residents on CloudResearch. These results show that respondents are willing to pay both to reduce violent crime in their neighborhoods and to reduce police use of force. Respondents would pay $9 in monthly rent to live in a neighborhood with one fewer violent crime per 10,000 residents. The equivalent figure for police use of force per 10,000 is $35. The willingness to pay to reduce police use of force is substantially larger than the equivalent WTP for reducing violent crime, so we estimate a marginal rate of substitution of 0.252. That is, survey respondents are indifferent to an intervention that decreases violent crime by 4 incidents while increasing police use of force by just 1.

This general finding, that respondents disvalue police use of force substantially more than violent crime, holds strongly across every survey condition and population considered in this study. Our confidence intervals always exclude not just an MRS of 1, indicating an equal valuation of force and violent crime, but 0.5, indicating a willingness to pay to avoid force double that of violent crime.

Within these results, we uncover interesting heterogeneity. Black respondents are more willing to pay for neighborhood amenities, including reductions in crime and use of force. They exhibit a lower MRS between crime and force, indicating a greater aversion to police use of force compared to violent crime. This difference is not driven by income disparities, as high-income individuals are generally more willing to pay for each of the amenities studied, but their MRS between crime and use of force remains similar to other groups. Additionally, we find that respondents in neighborhoods with higher hypothetical crime rates are more willing to pay to reduce police use of force. In every population, however, our estimate of the marginal rate of substitution between crime and force remains near 0.25.

Given the challenges of estimating willingness to pay for public goods, we take a care-

ful approach to address potential concerns. First, there is a risk that respondents' choices regarding use of force and crime might not reflect their preferences for these characteristics intrinsically but rather serve as proxies for other neighborhood amenities they care about. To address this, we conducted a follow-up survey in which half of the respondents were randomly shown a "Quality of Life Score" for each apartment, which encompasses other factors affecting neighborhood quality. We find that respondents shown this measure exhibit similar MRS between crime and use of force as those who were not shown the score. Furthermore, we conducted an analysis excluding individuals who indicated that they viewed police use of force as a proxy for other neighborhood amenities. We continue to find costs of police force approximately 4 times greater than costs of violent crime.

Second, we address concerns about external validity, as the survey sample may not fully represent the U.S. population. To test this, we reweighted the sample to match the national population based on race, income, and sex. Our results remain qualitatively similar.

Finally, while the traditional survey design allows us to gather a large sample, it only captures hypothetical preferences. To supplement this, we conducted a consequential survey with incoming students at a large university. These students were incentivized by receiving personalized neighborhood recommendations based on their responses. This created an incentive for respondents to provide answers that closely aligned with their actual preferences. The results from this incentivized survey are consistent with the findings from the primary survey. This further reinforces our finding that the willingness to pay to avoid police force in one's neighborhood is at least twice as large as the willingness to pay to avoid violent crime.

In the final section of the paper, we present three applications of our measure to demonstrate its broader relevance. First, a substantial body of literature estimates the marginal effect of hiring police on crime, often forming the basis for cost-benefit analyses of increasing police staffing. We extend this analysis by incorporating the previously neglected costs associated with police use of force. Our findings identify parameter ranges where the conclusions

about the net benefits of hiring additional police officers may shift, offering a broader perspective on its societal trade-offs and implications for public safety policy. Second, we revisit the topic of police militarization, which recent studies suggest reduces violent crime and represents a worthwhile investment. Using our estimate of MRS, we find that the increase in the use of force from militarization may outweigh the average population's willingness to trade for reductions in crime. Finally, we demonstrate how our MRS estimate can be applied to evaluate actual changes in policing environments. Apparent "de-policing" due to the Black Lives Matter movement led to reduced police use of force and increased violent crime across all police districts in the city. Using data from Chicago as a benchmark, we find that the ratio of these changes frequently suggests that residents whose preferences are accurately represented by our estimated MRS would find these changes welfare-enhancing. This is especially true in neighborhoods with high initial rates of police force. Finding this even for disorganized "de-policing" suggests that even greater gains could be had from intentional reforms that traded off police force and violent crime with maximum efficiency.

We contribute to two strands of literature. First, our research complements the large body of research that studies the benefits and costs of policing by providing a well-identified estimate of the WTP for crime reduction and use of force reduction. Previous research has found crime reductions due to policing (e.g., Levitt (1997); Di Tella and Schargrodsky (2004); Evans and Owens (2007); Mello (2019)); increases in property values (Morales-Mosquera, 2021), improvements in individuals' health and educational outcomes, and the psychological effect of people feeling safer and having an active social life (Currie et al., 2020, Janke et al., 2016). Previous research has also studied the cost of aggressive policing, in particular, the potential harm for civil liberties (Owens et al., 2021), the psychological toll in minority neighborhoods (Ang, 2021), and higher distrust in law enforcement (Bobo and Thompson, 2006).

Relatedly, a large literature evaluates the consequences of policing policies such as the

use of computerization (Garicano and Heaton, 2010), body cameras (Kim, 2020), and DNA databases (Doleac, 2017). More closely related to our paper, scholars have extensively examined policing policies that reduce crime but also increase enforcement, potentially leading to various costs. For instance, Braga et al. (2019) review 65 quasi-random and randomized control studies on hot spots policing, revealing a 10-24% reduction in various crime categories. However, such strategies can come with costs.[1] Braga and Bond (2008) find that hot spots policing which involved "shallow" problem-solving, led to a 35-41% reduction in all crime categories, while also increasing the total number of misdemeanor arrests by 29.4%. A more extreme trade-off in policing can be seen in police militarization. Studies by Masera (2021a), Bove and Gavrilova (2017), and Harris et al. (2017a) find that military equipment obtained by police departments in the US significantly reduced crime but also increased police killings of civilians. Our estimate of WTP to reduce police use of force, which, to the best of our knowledge, is the first comprehensive measure, can inform the social optimality of various policing strategies, including those mentioned above.[2]

Second, we contribute to the extensive body of research that estimates and utilizes the public's WTP for crime reduction and other public goods. We propose a framework to provide a well-identified estimate of WTP for an essential public good—crime reduction.

[1]There are other observational studies that have explored NYPD's policing disorder strategy by associating low-level arrests with crime reduction. For example, (Rosenfeld et al., 2007), (Messner et al., 2007), (Kelling and Sousa, William H, 2001), and (Corman and Mocan, 2005) found modest to large negative associations between misdemeanor arrests and crime, while (Harcourt and Ludwig, 2006) attributes this to mean reversion.

[2]Coury (2021) studies how exposure to crime affects demand for policing by measuring the effect of variation in criminal activity across neighborhood around election day. He finds that each additional violent crime leads to an increase in support for police union-endorsed ballot positions ranging from 2.9 percentage points for homicides to 0.4 percentage points for lesser crimes. He finds limited evidence that police shootings affect local electoral support for police. Ba (2018) uses variation in the costs of filing a complaint against police officers to estimate the WTP to pay to complete a complaint against an officer. Some of these complaints are for the improper use of force.

Previous research has predominantly employed two methods to measure citizens' WTP for reducing crime. One method is the contingent valuation approach, where researchers ask participants how much they value a program that reduces crime (e.g., Ludwig and Cook (2001); Cohen et al. (2004a)). While this approach directly assesses individuals' preferences, it suffers from several limitations, chiefly hypothetical bias, as respondents do not have to pay for the amenity (Chalfin (2015a)). An alternative method is to use hedonic regressions to examine observational data in housing markets to determine what people are willing to pay for houses in safer neighborhoods (Bishop and Murphy, 2011). However, properly isolating the effects of safety on housing prices using observational data is challenging due to omitted variable bias, as safety measures are correlated with other neighborhood amenities. Because of these limitations, further research improving the estimation of WTP for public safety is of tremendous value (Ludwig, 2010). This paper contributes to this effort by developing a framework that addresses prior challenges of estimating WTPs of public goods.

In Section II, we describe the survey design employed in this study. Section III outlines the empirical strategy used to estimate WTPs and MRS. Section IV presents the findings from the primary hypothetical survey, while Section V details additional analyses conducted to refine the main results. In Section VI, we explore applications of our estimates to broader contexts. Finally, Section VII concludes.

II Methods

II.A Survey Design

We use an online instrument to survey US residents who rent their homes. We recruited 1,035 study participants on CloudResearch from August to September 2022. Figure I summaries the survey flow. The survey began by collecting demographic information about each respondent, including age, race, gender, education, income, and the number of children.

The survey then asks respondents to consider a hypothetical scenario where they must move to a new rental home. We ask respondents what number of bedrooms and monthly rent they would be interested in. We then show each respondent a choice set with 5 hypothetical homes with randomly generated characteristics and ask them to select their most preferred option. Respondents cannot move on to the next question until 10 seconds have elapsed. This question is then repeated 11 more times with new choice sets that present new homes with randomized amenities.

The hypothetical homes are given the following randomized characteristics: monthly rent, violent crime per 10,000 people, police use of force per 10,000 people, square footage, and quartile of school quality. Respondents are asked to assume that all other characteristics are identical across the choices. Prior to viewing the choice sets, respondents are shown detailed descriptions of our violent crime, police force, and school quality measures. They may also access reminder text while in the choice sets. We carefully introduced the definitions and distributions to ensure clarity, as respondents may interpret terms like violent crime and use of force differently. These definitions, along with the distributions that show what is considered low or high, help guide respondents in making informed choices. Additionally, we presented these definitions in a neutral manner to avoid introducing legitimacy costs associated with unjustified use of force, as such costs could carry disproportionately higher disutility compared to the overall use of force. Specifically, we provide the following definitions and corresponding distributions.

> **Violent Crime per 10,000 Residents**: The violent crime rate describes the number of violent crimes recorded in a neighborhood in 2019 per 10,000 residents. For example, a neighborhood with 100 violent crimes and 50,000 residents has 20 violent crimes per 10,000 residents. Violent crimes include murder (including negligent homicide), sexual assault, assault & battery, kidnapping, and robbery.

Suppose 1/4 of neighborhoods have less than 53 violent crimes per 10,000 residents. About 1/4 of neighborhoods have more than 157 violent crimes per 10,000 residents.

Police Use of Force: Police use of force per 10,000 residents describes the number of times police used force in a neighborhood in 2019 per 10,000 residents of that area. For example, a neighborhood with 48 uses of force and 40,000 residents has 12 uses of force per 10,000 residents.

Police force refers to physical contact by a police officer, either directly or through the use of equipment, to compel a subject's compliance. These incidents include usages of firearms, other weapons, and unarmed force.

Suppose 1/4 of neighborhoods have less than 4 uses of force per 10,000 residents. About 1/4 of police neighborhood have more than 12 uses of force per 10,000 residents.

To ensure that we are providing plausible and familiar scenarios to respondents, we randomized home characteristics within a range that accords with the respondent's choice of bedrooms and rent. We code participants' location preferences as either a low-income, middle-income, or high-income neighborhood.[3] We create three ranges of crime and use of force possibilities that correspond to the three neighborhood income groups. We use data from Chicago and New York City to inform our choices of the end points in the ranges we create.[4]

[3]For each bedroom choice, we set two cutoffs - one that divides the price ranges between low-income and middle-income neighborhoods and the other between middle-income and high-income neighborhoods. We base these cutoffs on ranges of price for each type of apartment in Chicago. These cutoffs are: for studios (900, 1400), for 1-bedrooms (1300, 2100), for 2-bedrooms (1600, 2500), and for 3-bedrooms (1700, 2600).

[4]Specifically, the violent crime rates (per 10,000 capita) ranges for low-income, middle-income, and high-

In each of the 12 choice sets, we randomize monthly rent and allow only one other randomly selected characteristic to vary. For example, a choice set will present 5 homes with different rents and different square footage but identical violent crime, police force, and school quality measures. Then the next choice set presents 5 homes with different rents and different violent crime rates but identical square footage, police force, and school quality measures, etc.[5] A feature that does not vary is assigned a random number within a range informed by the participants' baseline information.

II.B Attention Checks

We implement multiple checks to ensure that the survey respondents are paying attention to the survey instrument and making meaningful selections from the choices offered. Our first attention check is implemented in the demographic portion of the survey and asks respondents to give an unusual answer.[6] Respondents who fail this attention check are dropped from our data.

We implement an additional attention check using two choice sets presented before the 12 rounds in the main survey. In each of these two choice sets, there is a dominating option. This is an apartment that has the cheapest rent and is the same on all characteristics except for having the lowest violent crime. We drop respondents who do not choose the dominating choice because they either do not understand the task or are not reading the questions.

income neighborhoods are (75,250), (55,100), and (25,75). The use of force rates per 10,000 capita are (9,25), (5,12) and (1,9).

[5]Violent crime varies in 30% of choice sets. Police force varies in 30% of choice sets. Square footage varies in 20% of choice sets. School quality varies in 20% of choice sets.

[6]We ask the following question: "In the past week, did you read any of the following newspapers, either online or in print? Please select all that apply. We also want to see whether people are reading the questions carefully. This question is a data quality check. Regardless of your true answer, please select "Daily News" and "None of the above."

In the 6th of the remaining 12 choice sets, we implement another attention check where one option dominates all the other options. That is, the dominating option has the lowest crime rates and the lowest price, and all the other features are held fixed. This is purely a quality control check. We do not use data from this choice set in our estimation, but respondents who do not choose the dominating option remain in our analysis sample. We find that 88% of subjects in the experiment choose the dominating option in the second robustness test. The passing rate is relatively high for a survey study, especially given that the attention check was more complicated than typical attention checks and located towards the end of the survey, when fatigue was likely high.

III Empirical Strategy

Our first goal is to recover the contributions that each of the experimentally varied characteristics makes to utility. We assume the following utility function:

$$U_{ia} = \beta_i X_a - \gamma p_a + \delta W_i + \epsilon_{ia}$$

where i indexes individuals and a indexes apartments. X_a is the vector of non-price attributes considered in the survey: square footage, school quality, neighborhood violent crime, and neighborhood police use of force. p_a is monthly rent. W_i is a vector of covariates of the individuals making the decisions.[7] ϵ_{ia} is an idiosyncratic preference term distributed Type 1 Extreme Value. Our survey data records multiple choices made by each individual, which we exploit by estimating a mixed multinomial logit model (McFadden and Train, 2000). We

[7]Individual characteristics are uncorrelated with X_a and p_a due to their being randomly generated, but we include W_i in our model to improve statistical precision.

assume that individuals have the same disutility with respect to rent, γ, but potentially vary in their preferences for other neighborhood characteristics, which we model with normally-distributed random coefficients, β_i. We will focus on the means of the estimated distributions of these random coefficients.

With these estimates in hand, we can produce estimates of willingness to pay for each of the apartment characteristics considered in the survey by dividing the estimated mean of its random coefficient by our estimate of γ. For example, if $\frac{\hat{\beta}_i^{sqft}}{\hat{\gamma}} = 2$, then increasing rent by \$2 and increasing square footage by 1 holds U_{ia} constant at the mean of $\hat{\beta}_i^{sqft}$. We would conclude that the typical respondent is willing to pay \$2 in monthly rent for one additional square foot of apartment space. When an estimated coefficient is negative, as they are for both violent crime and police use of force, this ratio can be thought of as a "price to accept." It captures the amount that monthly rent must *fall* to compensate for a unit increase in the neighborhood characteristic.

In addition to these ratios, we also calculate the marginal rate of substitution between violent crime and police use of force. This is $\frac{\hat{\beta}_i^{crime}}{\hat{\beta}_i^{force}}$, which is equivalent to the ratio of the associated willingnesses to pay. This captures the relative changes in violent crime and police use of force that leave neighborhood residents indifferent. For example, if $\frac{\hat{\beta}_i^{crime}}{\hat{\beta}_i^{force}} = 0.5$, then a policy that reduced violent crime by 100 incidents at the cost of 100 uses of force would reduce the utility of a typical neighborhood resident. However, utility would instead rise if the same reduction in violent crime could instead be achieved with fewer than 50 uses of force.

It is important to emphasize that, the numbers used in the example above notwithstanding, our empirical strategy returns estimates of the *marginal* willingess to pay. The assumed linear utility function underlying it may do a poor job of capturing utility responses to large changes in neighborhood characteristics, especially those outside of the range of random values generated in the survey.

In the main survey, to examine whether trust in the police affects citizens' valuation of amenities, we randomized the provision of information that influenced participants' beliefs about police accountability. Additional details can be found in Appendix A for interested readers.

IV Results – Hypothetical Experiment

IV.A Summary Statistics

Table I summarizes the characteristics of the 1,035 respondents to our primary survey. They are majority female and more likely to be black than the average American. They tend to be middle-aged with 59% of the sample aged 30 to 60. One quarter have a BA or higher, and 70% are childless. Respondents tend to have low income with 71% making less than $50,000 a year. Only 28% are seeking a one-bedroom or studio apartment, and the vast majority, 84%, choose a desired rent that places them in our low rent bucket.

IV.B Willingness to Pay for Violent Crime and Use of Force

Table II presents our results on willingness to pay. For reasons of numerical precision in the ML calculation, we have adjusted the magnitudes of our various amenities to be roughly similar. Prices, and therefore estimated WTPs, are scaled by $100. Square footage is in units of 100 square feet, school quality in units of 1 quartile, violent crime in units of 1 per 10,000 neighborhood residents, and police use of force in units of 1 per 10,000 neighborhood residents.[8]

[8]Survey respondents were presented with actual prices, square footage, and school quartile. Their observed violent crime and use of force rates were both out of 10,000 residents.

We find that respondents are willing to pay roughly $1 per square foot, which is near the US average. They will also pay approximately $130 in additional monthly rent to live near a school one quartile higher in quality. Meanwhile, each increment by 1 in violent crime per 10,000 residents requires a $9 reduction in monthly rent to keep respondents indifferent. For context, the 25th percentile of violent crime per 10,000 residents across Chicago police districts is 53, and the 75th percentile is 157. Extrapolating linearly from our estimates of WTP, respondents would demand a rent reduction of approximately $900 to move from a neighborhood at the 25th percentile in violent crime to one in the 75th percentile. This estimate therefore implies substantial effects on respondent WTP within the typical range of violent crime encountered in urban housing markets.

We estimate that an increase of 1 police use of force per 10,000 residents in the neighborhood requires a $35 reduction in monthly rent to keep respondents indifferent. Respondents are more sensitive to police use of force than they are to violent crime. However, there is also less variation in use of force across neighborhoods. The interquartile range runs from 3.4 to 12.1. Extrapolating linearly from our estimates of WTP, respondents would demand a rent reduction of approximately $300 to move from a neighborhood at the 25th percentile in use of force to one in the 75th percentile, all else equal.

The ratio of crime WTP and force WTP (both scaled per 10,000 residents) are informative about respondents' marginal rate of substitution of crime for force. We find that respondents are willing to accept an increase in force of 0.252 in return for a decrease of one violent crime. Or, going the other way, they would accept an increase of approximately 4 violent crimes in return for a decrease of one use of force.

IV.C Heterogeneity

Table III shows heterogeneity of the WTP along a few important dimensions. First, it calculates WTPs separately by race, separating black respondents from all others. Both

groups have similar WTPs for square footage, but black respondents are consistently more willing to pay for neighborhood amenities. This is true both of a positive amenity like schooling and for negative amenities like violent crime and police use of force. Black respondents also have a lower marginal rate of substitution between crime and force, reflecting a greater distaste for police use of force relative to violent crime, though the difference is only statistically significant at the 10% level.

Next we separate the sample by comparing high income to low income respondents. The latter have yearly incomes less than $25,000, and the former are all others. High income respondents were more willing to pay for each of the amenities studied. However, there is no statistical difference by income in the MRS between violent crime and police use of force.

Finally, we divide the sample by the crime rate presented as part of the hypothetical. Recall that in many of the choice scenarios shown to respondents, all options are given the same randomly-selected crime rate. To form the "high crime" group for this analysis, we restrict the sample to the one choice made by each respondent with the highest fixed crime rate. Likewise, the "low crime" group is composed of the choices made under the lowest fixed crime rate. We find that a high hypothetical crime rate makes respondents more willing to pay both for larger apartments and to reduce police use of force. This result suggests that respondents consider neighborhood amenities in conjunction with each other. In particular, signals that a neighborhood is less safe can prompt greater willingnesses to pay for amenities that mitigate this problem.

V Alternative Explanations and External Validity

In this section, we address several concerns related to our main results on WTPs to enhance the robustness and validity of our findings. First, we investigate whether respondents value the studied amenities intrinsically or as proxies for unobserved neighborhood

characteristics. Next, we assess the external validity of our estimates in the context of real-world apartment decisions outside the experimental setting. In general, there are two major threats to the external validity of this study. First, the sample we recruited to participate in the study may have preferences that differ from our target population. Second, the decisions individuals make in our hypothetical elicitation may not reflect the choices they would have made in consequential housing decisions.

V.A Signaling Roles of Neighborhood Amenities

To examine whether the willingness to pay (WTP) we measured is driven by intrinsic harms associated with police use of force or whether it reflects underlying characteristics of the neighborhood that police use of force represents, we conducted an additional hypothetical experiment with a sample size of 256 participants in November 2024. In this experiment, we asked participants, "In each round of choices, when five different apartments all had the same violent crime rate, square footage, and school ratings, how did police use of force factor into your selection?"

Of the 256 participants, 138 (54%) reported that they preferred lower police use of force because they or someone they knew might become an unfair victim of police actions, or because they believed lower police use of force would have a harmful impact on the broader community, even if they were not personally affected. In contrast, 95 participants (37%) stated that police use of force influenced their decision because it served as a proxy for other neighborhood characteristics. Some participants selected both options, which indicates that use of force was viewed as both an intrinsic harm and a signal of other neighborhood factors. Of the 95 who viewed use of force as a proxy, 46 (18%) mentioned they disliked police use of force due to its harmful impact on themselves or the community. This means that only 49 participants (19% of the total sample) indicated that police use of force mattered solely because it represented other aspects of the neighborhood.

Using the follow-up survey, we conducted an analysis where we excluded participants who indicated that they used police use of force as a proxy for other neighborhood characteristics. In Table IV, we present the WTP estimates for all respondents and compare them to those who did not rely on this strategy. We find that the estimates for the willingness to pay to reduce police use of force are somewhat attenuated but still qualitatively consistent, indicating that participants inherently disvalued police use of force.

To further test the sensitivity of our results to the influence of signaling effects, in this survey, we randomized half of the participants to consider an additional feature of the apartment: the Quality of Life Score. For these participants, we explained that the Quality of Life Score is a comprehensive measure of the block where the apartment is located, provided by a local magazine. This score reflects various factors contributing to a high quality of life, including public order crimes, cleanliness and maintenance, availability of parks and recreational areas, and community amenities. The score ranges from 60 to 100, with 60 being the lowest and 100 the highest.

Adding this new feature affects the results in two main ways. First, respondents no longer need to rely on the initially provided features as proxy measures for neighborhood quality. Second, the Quality of Life Score offers more comprehensive information about the neighborhood, helping individuals better attribute value to the amenities they evaluate. With this additional context, participants are more likely to pay higher monthly rent when considering each amenity. As a result, the calculated WTP for other amenities– divided by the utility per dollar spent – would become larger than when they are not shown the Quality of Life schore. However, the MRS, which captures the trade-off between two different amenities, is less influenced by this effect.

We present the WTP estimates separately for participants who were shown this additional feature and those who were not in Table V. The results show that participants shown the Quality of Life Score are more willing to pay for all amenities, likely due to the more

complete information about the neighborhood and amenities. However, the MRS between crime and police use of force remains similar to the estimate where the Quality of Life Score is not shown. This finding suggests that, in the absence of signaling effects, the estimated WTPs in the main results reflect the intrinsic values for the amenities.

V.B Reweighting to Nationwide Population

To better understand the consequences of our sampling procedure on the WTP estimates, we reweight the sample observations from our primary sruvey to match the U.S. population on Census statistics on race, age, income, and sex (Hotz et al., 2005). The results for this procedure appear in Table VII. Column (1) in Table VII reproduces our main results for comparison. Column (2) in Table VII presents the reweighted results. Qualitatively, the WTP estimates on the reweighted sample are similar to those on the raw data. However, the willingness to pay to avoid violent crime is 40% larger, and the willingness to pay to avoid police force is 30% larger, leading to an MRS of crime and force about 10% larger than in the raw data.

V.C Incentivized Survey

Our next consideration is whether the hypothetical nature of the task leads to bias in our WTP estimates that prevents us from learning individuals' true preferences. While online samples allow for a large and broadly representative group, a concern remains that participants are making hypothetical rather than real choices, with no incentive to reveal their true preferences (List and Gallet, 2001). There is an additional concern that making the information about police use-of-force more salient primed respondents to care more about police use of force than violent crime (List et al., 2006).

To address this concern, we follow Chan (2021) and designed a consequential survey

by partnering with housing services at a large university in a major North American city with a population exceeding one million. The consequential survey has several advantages over other methods designed to elicit the WTP for amenities. First, unlike hedonic methods the conjoint study directly measures an individual's preferences over safety as subjects make explicit trade-offs between the likely prices of apartments and safety from criminals or the police. Moreover, Chalfin (2015b) points out that because survey respondents understand how criminal victimization may affect them, survey methods can estimate the total external cost of crime, including both tangible and intangible costs. Unlike contingent valuation studies that directly ask subjects to provide their willingness to pay for amentities to inform policy, this study provides subjects with less incentive to strategically inflate their willingness to pay to obtain the policy they prefer (Mitchell and Carson, 2013). Subjects in contingent valuation studies may also ignore their own income constraints (Cohen, 2007). However, in the incentivzied study, subjects will be provided with more expensive apartments, lowering the value of the tool, if they make choices that ignore their budget constraints.

Tailored to the city and the needs of new university members, we developed a recommender system for real neighborhoods. After completing our survey, participants received a list of neighborhood options that best matched their preferences. This served as a non-monetary incentive for them to provide their true preferences. We collected data for one year, from the summer of 2023 to the spring of 2024.

The housing services advertised this neighborhood recommender system, highlighting its ability to provide "neighborhood recommendations based on your survey answers and an interactive city map with info on rents, amenities & more." This advertisement directed subjects to our survey. All participants began by providing basic information about their demographics and preferred housing characteristics. We then asked the subjects to evaluate 14 menus of hypothetical housing options with their understanding that the more accurate evaluations will maximize the value of their participation: "Our algorithm will use your

selections to find the best neighbohoods for you. The more carefully you answer these questions, the better our matches will be for you."

In each of the 14 rounds, five attributes characterized each housing option: price, crime rate, police presence, travel time from the university campus, and the total number of day care options and restaurants in the neighborhood. These attributes were tailored to the younger population being studied. Participants were explicitly instructed to consider all other attributes as held constant across options. The attributes were drawn as uniform random values from an interval between the 1st and 99th percentiles of the observed distribution for each attribute.

Similar to the hypothetical survey, to avoid presenting implausible or unfamiliar scenarios to respondents, home characteristics were randomized within a range that accorded with the respondent's choice of bedrooms and rent.[9]

After each participant completed their survey, we followed the same approach as our main specification to estimate mixed logit models with the data collected up to that point to obtain a set of individual-level parameters for matching purposes. Each neighborhood was scored based on the participant's estimated choice probabilities. For each participant, we identified the 10 neighborhoods with the highest scores and shared these recommendations with them.

This sample consisted of 66 individuals looking for real apartments. Following Kessler et al. (2019) and Chan (2021), we expect hypothetical bias to be lower in the incentivized task

[9]Participants' location preferences were coded as low-income, middle-income, or high-income neighborhoods based on their responses, and relevant crime rates and police presence ranges were presented accordingly. Specifically, participants assigned to low-income neighborhoods saw crime rates and police presence varying between the 50th and 99th percentiles of the distributions; those in middle-income neighborhoods saw them varying between the 25th and 75th percentiles; and those in high-income neighborhoods saw them varying between the 1st and 50th percentiles. We rejected any set of housing scenarios where one option was dominated in all attributes by another.

than in the non-incentivized task because providing truthful responses will provide subjects with better information about what neighborhood they should choose to live in.

Indeed, we find a high amount of attention to choices in this task. When we present subjects with a dominating option in the conjoint task, most subjects selected this choice. In the first attention check, 60 out of 66 participants chose the correct dominant option, which had the lowest rent and crime rates (with other features held constant). In subsequent checks, a high percentage of participants continued to pick the dominant choices: 50 out of 62 in the second and 44 out of 50 in the third.

The results for the incentivized survey appear in Column (3) of Table VII. The Table reveals that the WTP for school quality is much lower for the incentivized survey than for the non-incentivized survey. This is likely because of differences in demographic characteristics. The incentivized experiment sample is younger than the hypothetical survey sample. Moreover, only 3% of subjects have children compared to the 30% of subjects who have children in the non-incentivized study.

Despite these differences, we see qualitatively similar responses for the WTP to avoid violent crime and the WTP to avoid the use of force. However, we notably see that subjects in this population are less worried about violent crime than in the non-incentivized experiment and more worried about the use of force, leading to an MRS of crime and force that is 30% smaller than in the non-incentivized experiment.

The evidence from the incentivized survey also allows us to address the concern that the framing of the conjoint study primed respondents to care more about police use of force than violent crime (List et al., 2006). Studies have shown that priming, due to factors such as framing or salience are more impactful in hypothetical choices than revealed choices (Hausman, 2012, List and Gallet, 2001). If priming caused our subjects to overemphasize police force and underemphasize crime, then we would expect subjects to have a higher WTP for crime reduction and a lower WTP for police force reduction in the incentivized survey.

However, we find the opposite, suggesting that our estimates of the WTP for police force reductions are not driven by priming.

Overall, these results suggest that the WTP estimates we obtained from the experiment would likely generalize to the broader population. They also suggest that the estimates generalize to a population of individuals making real consequential apartment decisions. The similarity in results aligns with List et al. (2006) and Chan (2021), who find no evidence of hypothetical bias when estimating marginal attribute values.

VI Applications

We now turn our attention to three applications that illustrate the value of our estimated marginal rate of substitution between violent crime and police force.

Force Cost of Policing

A large literature attempts to estimate the marginal effect of hiring police on crime, summarized in Chalfin and McCrary (2017). This then leads naturally to a cost-benefit calculation that compares the cost of hiring an additional police officer to the monetary cost of the crime that officer prevents. Chalfin and McCrary (2018) (hereafter CM) provides an example of how to do this calculation.

First, one requires an estimate of the elasticity of crime with respect to police. CM estimate a cost-weighted ϵ of -0.47. Other estimates in the literature are less precise and so admit both significantly higher and significantly lower values.

Next, one requires a summary that weighs the cost of policing against the cost of crime. CM figure:

$$\frac{wS}{nC}$$

where w is the annual cost of one officer, S is the total number of officers on a police force, n is the population served by a police force, and C is the expected per capita cost of crime. C sums the annual incidence of each type of crime multiplied by estimates of the generic per capita cost of that crime. It tends to be dominated by murder when that cost is taken as the value of a statistical life (VSL). Thus, when $|\epsilon| > \frac{wS}{nC}$, additional police are cost effective.

In their main specification, CM calculate w as the total budget of a police force divided by its number of sworn officers. While this takes into account overhead and fringe benefits, it excludes costs not borne directly by the police agency. They address one example of these costs, the cost to incarcerate arrested persons, in a robustness exercise. Our findings suggest that police use of force is another such cost. Each citizen would pay a modest amount to reduce the police use of force in their neighborhood, but this adds up to a considerable sum across all citizens.

We calculate an officer-level cost of force in the following way. First, we require an estimate of the monthly use of force rate per officer. We calculate this in the 2013 Law Enforcement Management and Administrative Statistics (LEMAS) survey. We restrict attention to to the 126 cities considered in Chalfin and McCrary (2018) that have a similar use of force definition to the one used in our survey. We find $f = 0.038$ monthly uses of force per full time officer in these cities. Annualized, this is 0.46 uses of force per officer, approximately equal to the decrease in violent crime they are expected to generate.

Next, our survey estimates in Table II tell us the monthly cost to each citizen for each use of force per 10,000 citizens. This is $c_f = \$35.5$. The total monthly use of force cost per officer is then given by $10000fc_f$.[10] Finally, we multiply this monthly cost by 12 to obtain

[10] To see this, consider a neighborhood with n residents. This neighborhood is policed by one officer who uses force f times per month. This is $\frac{10000f}{n}$ uses of force per 10,000 residents. This costs each resident $\frac{10000fc_f}{n}$ per month. This cost is assessed for each of n residents, so the total cost is $10000fc_f$.

an annual cost.

Using the numbers provided here, we find that the annual use of force cost of a police officer is \$161,880 in 2022 dollars. Converting CM's financial cost of a police officer to 2022 dollars gives \$177,686.[11] Incorporating force costs would therefore increase w in the cost-benefit ratio by 91 percent.

As a sanity check on this measure, consider Cherone and Rutecki (2024), who report that Chicago paid \$384 million over the 5 years 2019-2023 to settle lawsuits related to officer misconduct. This is an annual outlay of \$6,400 for each of CPD's approximately 12,000 sworn officers. When we use a Chicago-specific estimate of $f = 0.015$, we find a force cost of \$63,900. This implies that our estimate of force cost per officer is approximately ten times higher than the direct costs associated with misconduct settlements. These settlements, however, only capture a subset of the total harm caused by police misconduct, as they exclude claims with insufficient evidence and broader indirect harms to the community. For example, between 2011 and 2014, 544 cases led to settlements[12] while 15,039 complaints were lodged (Ba, 2018). This lends some plausibility to our estimate of the social cost of harms from the police.

The final calculation of $\frac{wS}{nC}$ depends on many other factors, such as the size of the police force and the VSL. We therefore do not aim to say definitively whether incorporating force costs can overturn conclusions about the cost effectiveness of additional police. However, when using CM's preferred choices for those figures, we find that force costs increase $\frac{wS}{nC}$ from 0.34 to 0.66, larger than their preferred estimate of $|\epsilon|$ but not outside the confidence intervals of other estimates in the literature.

[11] Given the substantial inflation over the course of 2022, we target specifically August, 2022 when our survey went out.

[12] Settling for Misconduct: https://projects.chicagoreporter.com/settlements/search/cases

The Cost of Crime

In the analysis above, we do not also adjust the cost of crime using our estimates. The crime costs used by CM were already meant to be comprehensive. For example, they include not just direct administrative and financial costs but also victimization costs. Their crime costs do not include indirect effects on the quality of a neighborhood, but we suspect that respondents to our surveys were willing to pay to avoid violent crime primarily out of a desire to not be victimized, rather than more abstract concerns about the character of the neighborhood.

To put our estimate in the context of the literature, a willingness to pay $9 to avoid one violent crime per 10,000 residents is equivalent to a cost of $90,000 per violent crime across the entire community. Cohen et al. (2004b) uses a contingent valuation survey to estimate costs of individual violent crimes, which averaged using the rates in CM, imply a cost of more than $250,000 per violent crime. CM opt to be conservative and use victim-based costs, which they calculate at just under $125,000 per violent crime.

We therefore estimate a lower figure than previous studies, though it is worth noting that even the cost of crime estimated by Cohen et al. (2004b) is less than our estimated willingness to pay to avoid one police use of force. Likewise, our analysis above, which retains the cost of crime used by CM, is more disposed to find that additional police are beneficial than if we had used our own estimate.

There are three important differences between our survey and past methodologies that may explain why ours finds a lower cost of crime. First, we present an aggregated measure of "violent crime" to respondents rather than eliciting costs for different violent crimes separately. Even though we include them in the description of "violent crime," this may make the most serious crimes such as murder and rape less salient to respondents. Furthermore, while methodologies that elicit costs separately for each type of violent crime typically use actual rates of occurrence of those crimes as weights when aggregating, respondents to our

survey are implicitly supplying those weights themselves and may have misconceptions about the relative frequency of each type of crime.

Second, though both our study and Cohen et al. (2004b) elicit a willingness to pay for crime using a survey, the nature and frequency of the hypothetical payments differs between the two. Respondents in Cohen et al. (2004b) were asked directly whether they would pay an annual tax for a program that reduced a specific crime by 10%. Respondents in this study were asked to trade violent crime off against a monthly rent payment. They may have focused their attention on other characteristics of the hypothetical apartments. They may also have been less willing to make these more frequent payments or to make them to a landlord rather than a government program.

Third, while other measures of the cost of crime can be described as willingnesses to pay to *prevent* crime, our measure is a willingness to pay to *avoid* crime. Respondents to our survey are choosing between neighborhoods with different amounts of crime, but they have no reason to believe that their choice of neighborhood will change the amount of crime in either. They may therefore feel less direct sympathy or responsibility towards the hypothetical victims of these crimes, which could in turn lead to a lower measured willingness to pay.

Police Militarization

More recent literature examines the effects of police militarization on crime and evaluates its cost effectiveness. This literature focuses on the large transfer of surplus military equipment to police departments through the 1033 Program (Bove and Gavrilova, 2017, Harris et al., 2017b, Masera, 2021b). We illustrate how the willingness to pay for reductions in the instances of force used by the police can change the conclusions of cost-benefit analysis.

In 2022 dollars, Bove and Gavrilova (2017) estimate that a 10% increase in military goods ($8,186.47) has a benefit of $158,083.55. This number comes from it decreasing violent

crime by 0.5 per 10,000. Thus, ignoring any potential increases in the use of force by police, the benefits of this police are 19 times greater than the investment outlay.

Even when accounting for the cost of increased police-involved homicides, the benefits of militarization still outweigh the costs. Masera (2021a) provides evidence on the effect of militarization on the most extreme type of police force, police killings. Masera (2021a) finds that a $1 increase in militarization per capita increases the rate of killings by the police by 0.76 per million inhabitants on a baseline of 2.7 per million in 2014. This is a 28% increase in police killings on that baseline. Combining with the calculation above, given the average county population of 96,695, a 10% increase in military goods ($8,186.47) implies 0.064 per million (0.76 per million $\times 8186.47/96,695$) increase in police killings. Using a VSL of $7 million, this comes to the cost of $0.45.

However, considering the cost of use of force may change the analysis. Although there is no evidence on the change in force used in response to militarization, we assume that use of force increases by the same percentage as police killings. Using data from policedata.org, the average per capita use of force per 10,000 in the United States is 11.42. Assuming a 28% increase in police killings from an additional dollar of military goods per capita, this results in 3.19 more instances of force use per 10,000 people. Or, 10% increase in military goods ($8,186.47) leads to 0.27 per 10,000 ($3.19 $\times 8186.47/96,695$) more use of force instances.

When combining the changes in use of force and crime associated with a 10% increase in equipment, we find a rate of substitution of 0.54. This value exceeds 0.215, the MRS we obtained from the main results. This indicates that the increase in the use of force outweighs the average population's willingness to trade for reductions in crime, suggesting that militarization ultimately reduces social welfare.

Observed Force Reduction in Chicago

Finally, we consider a setting where real-world changes in police behavior are difficult to evaluate without a means of valuing crime relative to force. Though there is no experiment or quasi-experiment to directly inform policy, it is still useful to know whether observed joint changes in crime and force over time are broadly beneficial or detrimental to citizens.

This application considers a period in Chicago when a reduction in police use of force coincided with an increase in violent crime, both apparently driven by a change in police activity. This change in police activity was, itself, precipitated by the release of dashcam footage showing CPD officer Jason Van Dyke shooting Laquan McDonald. Rivera and Ba (2019) discuss this incident and its consequences in more detail. Similar "de-policing" responses to controversy or scrutiny have been documented in other settings (Shi (2008); Premkumar (2021); Cheng and Long (2022)).

We use data on violent crimes and police use of force reports in Chicago to generate simple estimates of how both metrics changed in response to the release of the Laquan McDonald video. We count violent crimes as murders, sexual assaults, robberies, and aggravated assault/battery. We count use of force as any police action which generates a "Tactical Response Report." These include unarmed force and restraint techniques. We calculate the total incidences of both violent crime and police use of force, separately by CPD district, in two yearlong periods. The pre-period runs from December 2014 to November 2015, the month the Laquan McDonald video was released. The post period runs from December 2015 to November 2016.

We find that, between the two periods, violent crime rises in every police district, and police use of force falls in all but one police district. The largest observed force reduction was in District 11, where force fell by 230 incidents from a base of 642. Figure II plots the

ratio of these changes for all districts where force fell by 50 or more incidents on the y-axis.[13] The x-axis plots police use of force per 10,000 in that district during the pre period. The ratio of changes in violent crime and use of force ranges from less than 1 to nearly 6, though in the neighborhoods with the highest pre-period force rates, it is stable around the ratio of 2 violent crimes to one use of force.

Absent the context provided by our estimates, it is difficult to say whether the changes documented in Figure II were "good" or "bad." Violent crime rose, which is negative, but police use of force fell, which is positive. This is where our estimates of the marginal rate of substitution between violent crime and police use of force show their value. They can provide a benchmark that tells us what kinds of tradeoffs between the two may be beneficial or detrimental.

Race-specific estimates of the MRS between violent crime and police force appear on Figure II as horizontal lines. Changes that lie above this threshold are unfavorable to residents according to our estimates. The increase in violent crime does not justify the unit reduction in police force. Likewise, changes that lie below this threshold are favorable to residents. Violent crime has increased, but the reduction in police use of force more than compensates.

Nearly all of the districts plotted in Figure II fall below the estimated threshold for both Black and non-Black survey respondents. This is especially true of police districts with high baseline force rates, where residents are disproportionately Black. Most of the 11 districts not pictured due to small force changes have point estimates above the thresholds, but only 4 statistically exclude either threshold. In summary, while the "de-policing" observed in Chicago following the Laquan McDonald video release had some negative consequences, our

[13] In districts where the change in use of force was small, this ratio is imprecisely estimated.

estimates of the marginal rate of substitution between violent crime and police use of force suggest that some neighborhoods in Chicago, especially those with the highest baseline force rates, may have been pleased with this change.

This finding comes with several caveats. First, our estimates are for a *marginal* rate of substitution and may not perfectly match to the large changes in both violent crime and force observed in Chicago over this period. Second, our survey was not calibrated to high crime or force neighborhoods. The highest force rate shown to any survey participant was 25 per 10,000, which is lower than many of the districts in Figure II. Third, our survey considered primarily the financial incentives of renters and captured the average attitudes of such. We recorded substantial heterogeneity in those attitudes, which suggests that some individuals in these neighborhoods would not accept the tradeoff observed in the data (to say nothing of the contrast between those accepting a higher ex-ante risk of victimization and those who are actually victimized ex-post). Finally, the possibility that ad-hoc "de-policing" may have upsides for some neighborhoods does not absolve local governments of the responsibility for identifying and promoting police reforms that reduce police force without any accompanying increase in violent crime.

VII Conclusion

With recent public pressure and initiatives aimed at reducing use of force, police departments have been pressured to explore new policing strategies and evaluate old ones. An essential ingredient to these evaluations is a concrete estimate of how citizens value crime control relative to force. This paper makes the first attempt to provide such an estimate. We find that respondents to our survey instrument are willing to pay a substantial amount to avoid police use of force, four times the amount they would pay to avoid an equivalent quantity of violent crime.

This finding significantly changes the calculus around policing policies. While hiring more officers or equipping them with military-style equipment likely yield crime reductions that justify the direct costs, these policies may not be broadly cost effective if they produce even small increases in police use of force. Furthermore, apparently spontaneous reductions in police activity following policing scandals may actually be beneficial to neighborhoods where ex-ante force rates were highest.

These applications of our cost estimates are sufficient to establish that force should be important part of evaluating police policies. However, there are very few estimates of how force actually responds to those policies. Without these estimates, analyses incorporating force can only be suggestive. This is especially relevant to policies, such as community policing, that are oriented primarily towards improving police-community relations. In the current environment, where changes in crime are routinely estimated but changes in force are rarely estimated, these policies are being set up to fail the cost-benefit test. Force statistics are available from many of the subjects of policing research. Future work should use them.

FIGURE I. Survey Flow

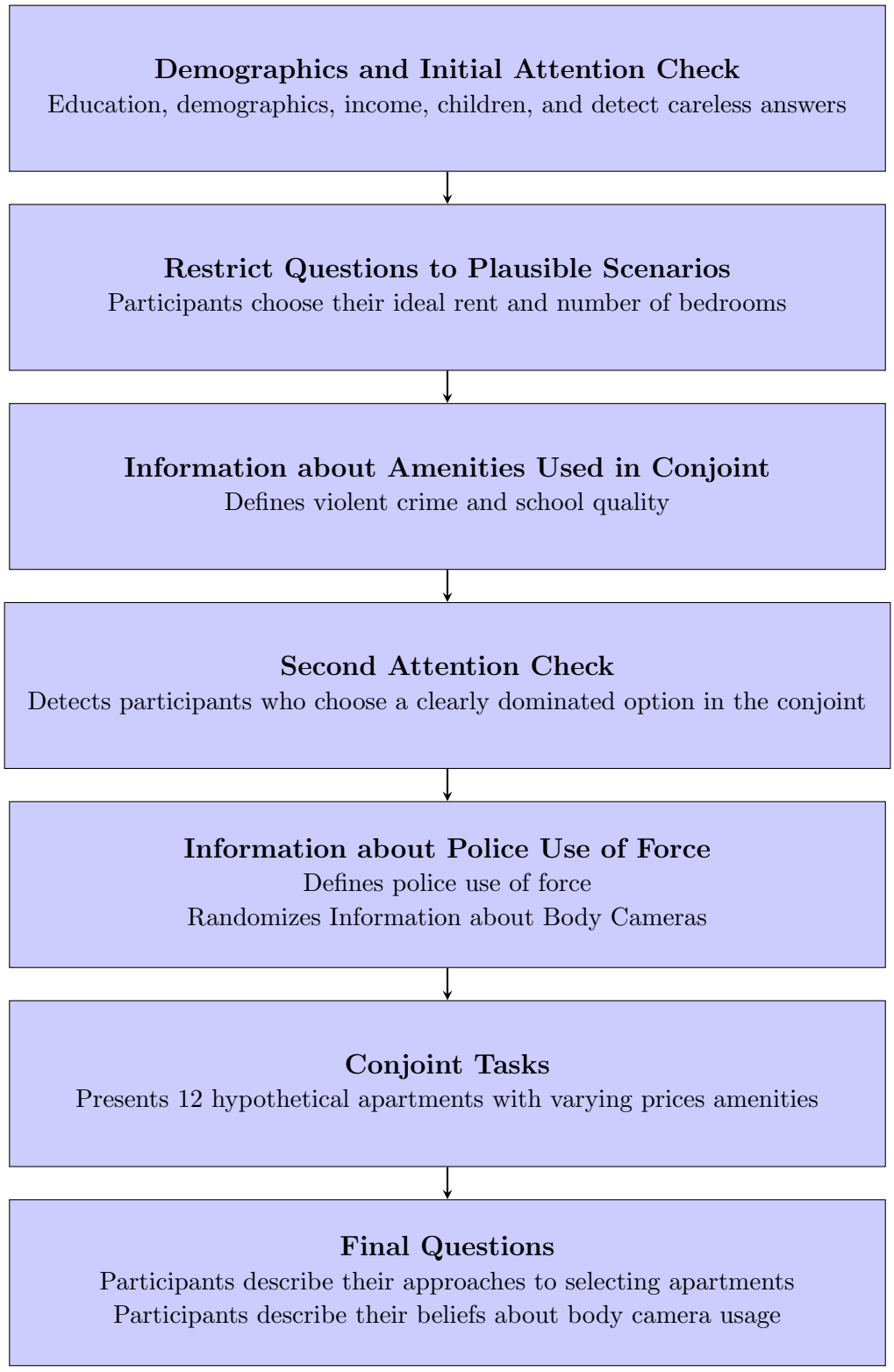
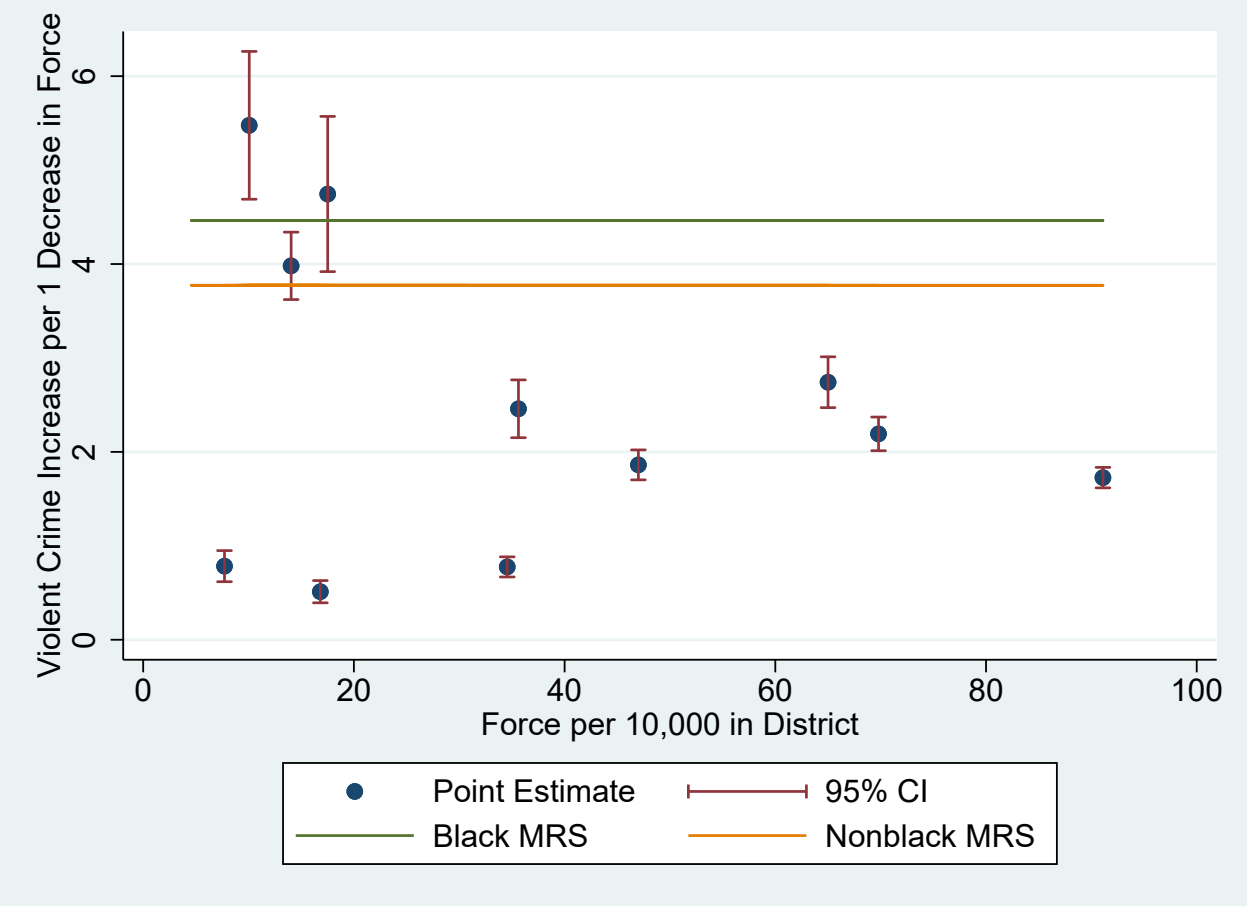


FIGURE II. District-Level Changes in Use of Force and Violent Crime after Laquan McDonald Video



Note: This figure plots changes in violent crime in association with decrease in use of force in response to the release of the Laquan McDonald video in Chicago. We show the ratio of these changes for all districts where force fell by 50 or more incidents on the y-axis. The x-axis plots police use of force per 10,000 in that district during the pre period. We count violent crimes as murders, sexual assaults, robberies, and aggravated assault/battery. We count use of force as any police action which generates a "Tactical Response Report," which includes unarmed force and restraint techniques. We calculate the total incidences of both violent crime and police use of force, separately by CPD district, in two yearlong periods. The pre period runs from December 2014 to November 2015, the month the Laquan McDonald video was released. The post period runs from December 2015 to November 2016. The horizontal lines correspond to the estimated marginal rates of substitution between crime and force for Black and non-Black survey respondents.

TABLE I. Summary Statistics

	(1) All
Male	.345
	(.476)
Black	.286
	(.988)
Hispanic	.0792
	(.27)
Age	45.6
	(15.8)
Bachelor	.249
	(.433)
High school or less	.331
	(.471)
No Child	.699
	(.459)
One Bed	.275
	(.447)
Income: <25,000	.347
	(.476)
Income: 25-5,000K	.365
	(.482)
Income: >50,000	.288
	(.453)
N. of participants	1,035
N. of obs.	72,450

Note: This table summarizes the characteristics of the 1,035 survey respondents in our data for the hypothetical survey. We summarize demographics, education attainment, whether the respondent seeks a one-bedroom or studio apartment, and desired rental price range.

TABLE II. Willingnesses to Pay

	All
WTP for 100 Sq Ft	1.027
	(.058)
WTP for School Quality Quartile	1.294
	(.079)
WTP for Violent Crime (per 10,000 residents)	-.09
	(.004)
WTP for Use of Force (per 10,000 residents)	-.355
	(.02)
MRS of Crime and Force (per 10,000 residents)	.252
	(.018)

This table presents our results on willingness to pay from a mixed multinomial logit model. We produce estimates of willingness to pay for each of the apartment characteristics considered in the survey by dividing the estimated mean of its random coefficient by our estimate of disutility with respect to rent. Square footage is in units of 100 square feet, school quality in units of 1 quartile, violent crime and police use of force in units of 1 per 10,000 neighborhood residents. On the last row, we calculate the marginal rate of substitution between violent crime and police use of force.

TABLE III. Heterogeneity

	Black	Non-Black	p-val	High Income	Low Income	p-val	High Crime	Low Crime	p-val
100 Sq Ft	1.058	1.007	.717	1.325	.5	<0.001	1.169	.737	.002
	(.189)	(.059)		(.086)	(.059)		(.176)	(.098)	
School	1.96	1.168	<0.001	1.629	.693	<0.001	1.416	1.174	.209
	(.265)	(.081)		(.121)	(.075)		(.21)	(.174)	
Crime	-.133	-.082	<0.001	-.117	-.045	<0.001			
	(.015)	(.004)		(.006)	(.003)				
Force	-.617	-.31	<0.001	-.44	-.193	<0.001	-.366	-.266	.016
	(.08)	(.02)		(.031)	(.019)		(.047)	(.035)	
Crime-Force MRS	.215	.265	.084	.265	.234	.233			
	(.035)	(.021)		(.023)	(.029)				

This table presents our results on willingness to pay from a mixed multinomial logit model. In the first panel, we produce WTPs separately by race, separating black respondents from all others. In the second panel, we separate the sample by comparing high income to low income respondents. The latter have yearly incomes less than 25,000 dollars, and the former are all others. In the third panel, we divide the sample by the crime rate presented as part of the hypothetical. Recall that in many of the choice scenarios shown to respondents, all options are given the same randomly-selected crime rate. To form the group for this analysis, we restrict the sample to the one choice made by each respondent with the highest fixed crime rate. Likewise, the group is composed of the choices made under the lowest fixed crime rate. See note in Table II for details for estimation of WTPs.

TABLE IV. WTPs for Respondents Who Say Force Does Not Reveal Neighborhood QOL

	All Respondents	Not Revealtory
WTP for 100 Sq Ft	1.151	.891
	(.138)	(.17)
WTP for School Quality Quartile	1.052	.982
	(.149)	(.187)
WTP for Violent Crime (per 10,000 residents)	-.084	-.065
	(.008)	(.008)
WTP for Use of Force (per 10,000 residents)	-.332	-.215
	(.04)	(.045)
MRS of Crime and Force (per 10,000 residents)	.254	.302
	(.038)	(.073)

This table presents our results on willingness to pay from a mixed multinomial logit model using an additional hypothetical experiment with a sample size of 256 participants in November 2024. It displays the WTP estimates for all respondents in the first column, while the second column reports results after excluding participants who indicated that they used police use of force as a proxy for other neighborhood characteristics. See note in Table II for details for estimation of WTPs.

TABLE V. WTPs by QOL Shown

	QOL Shown	QOL Not Shown	P-Value of Difference
WTP for 100 Sq Ft	1.374	.803	.003
	(.242)	(.133)	
WTP for School Quality Quartile	1.405	.529	<0.001
	(.248)	(.136)	
WTP for Violent Crime (per 10,000 residents)	-.113	-.06	<0.001
	(.017)	(.007)	
WTP for Use of Force (per 10,000 residents)	-.533	-.209	<0.001
	(.1)	(.036)	
MRS of Crime and Force (per 10,000 residents)	.211	.287	.17
	(.051)	(.06)	
WTP for QOL Index	.169		
	(.024)		

This table presents our results on willingness to pay from a mixed multinomial logit model using an additional hypothetical experiment with a sample size of 256 participants in November 2024. We randomized half of the participants to consider an additional feature of the apartment: the Quality of Life Score. For these participants, we explained that the Quality of Life Score is a comprehensive measure of the block where the apartment is located, provided by a local magazine. See note in Table II for details for estimation of WTPs.

TABLE VI. Summary Statistics: Incentivized Survey

	(1)
Male	.439
	(.5)
Bachelor	.439
	(.5)
White	.333
	(.475)
Age: < 30	.894
	(.31)
No Child	.97
	(.173)
One Bed	.667
	(.475)
High rent bucket	.0152
	(.123)
Mid rent bucket	.167
	(.376)
Low rent bucket	.818
	(.389)
N. of participants	66

Note: We present summary statistics of the 66 participants in the incentivized survey. We summarize demographics, education attainment, whether the respondent seeks a one-bedroom or studio apartment, and desired rental price range.

TABLE VII. Robustness

	Baseline	Reweighted	Incentivized
WTP for 100 Sq Ft	1.027	1.351	
	(.058)	(.129)	
WTP for School Quality Quartile	1.294	1.465	-.03
	(.079)	(.159)	(.024)
WTP for Violent Crime (per 10,000 residents)	-.09	-.129	-.078
	(.004)	(.015)	(.012)
WTP for Use of Force (per 10,000 residents)	-.355	-.458	-.449
	(.02)	(.061)	(.133)
MRS of Crime and Force (per 10,000 residents)	.252	.282	.174
	(.018)	(.035)	(.057)

Note: This table presents the results of robustness tests for our WTP estimates. The first column displays the baseline results, while the second column presents estimates from the same sample reweighted to align with Census statistics on race, age, income, and sex. In the third column, we show the results from the incentivized survey. See note in Table II for details for estimation of WTPs.

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(For Online Publication)

Justin Holz, Andrew Jordan, Taeho Kim

A Trust in Police and Demand for Amenities

How do changes in trust in police affect individuals' demand for various amenities? To half of the respondents, we gave random assignment to the body-worn camera information that weakens their beliefs about effectiveness of police accountability.

After filtering out inattentive participants with the first dominating option, we direct participants to consider police use of force as another feature of their decision-making. We choose to introduce police use of force as a feature only to participants who pass all the attention checks. This allows us to implement the randomized information provision described below without concerns that treatment affected inclusion in the sample. All respondents receive text about the police use of force and the use of body cameras in the hypothetical neighborhoods they consider. The text about body cameras reads as follows:

> *"Assume that police officers wear body cameras as part of their uniforms to document what they see as they perform their duties. Department regulations require that use of force incidents are recorded, and citizens can request access to body camera footage involving themselves."*

In addition, the treatment group receives text that weakens the participants' beliefs about the efficacy of body cameras. The treated group receives the following text:

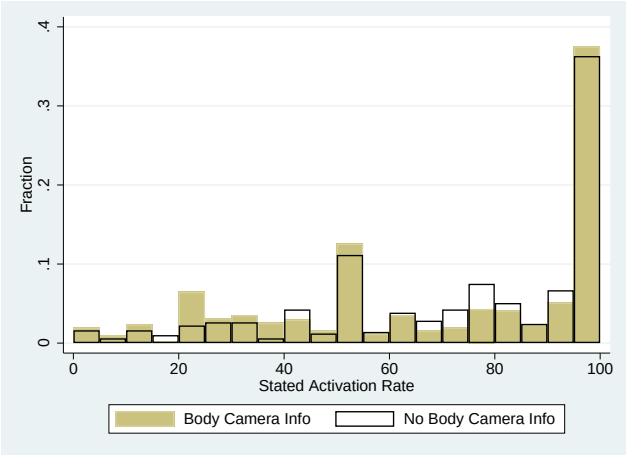
> *"However, officers may fail to activate body cameras. A research study finds that police only activated these cameras around 24% of the time they were supposed to, and some officers disproportionally under-activated body cameras."*

The activation rate that we display to the treatment group comes from Katz et al. (2014), who study officers' compliance with body camera polices in Phoenix, Arizona.

Table A1 splits the sample of survey respondents between those randomized to the information treatment about body-worn camera activation rates and those in the control. Reassuringly, respondent characteristics are very similar across the treatment and control groups. The fourth column of Table A1 presents the difference between treatment and controls, and only one difference (income less than $25,000) is marginally significant.

We find that the treatment modestly decreases respondent perception of camera activation rates. This translates to small increases in willingness to pay for all amenities, including those unrelated to public safety. We do not measure a significant impact on the MRS between force and crime.

FIGURE A1. Respondent Estimates of BWC Activation Rates



The first question to ask about the information treatment is whether it actually changed the views of any survey respondents. At the end of the survey, we ask respondents how often they think police activate their body-worn cameras in settings that call for activation. Figure A1 compares the distribution of responses between treated and untreated respondents. Given that the treatment was randomly assigned, the control responses can be viewed as a prior distribution and the treatment responses as a posterior distribution that incorporates the information provided.

Recall that treated respondents were told that police activate their body-worn cameras in only 24% of the situations dictated by policy. Figure A1 reveals significant bunching at 50% and 100% for both treated and control groups. At both of these bunching points, there are slightly more treated respondents than untreated respondents. We think that at least some of the respondents who answer 100% are expressing an ideological belief and are unlikely to have been swayed by our information treatment. We therefore think that the over-representation of treated respondents in this mass point, which is not statistically significant, is merely noise.

Respondents who gave an answer other than 50% or 100% tended to shift their estimates from high values to low values. The exact value, 24%, given in the information treatment jumps from 0 estimates in the control to 17 in the treatment. Overall, the information treatment causes estimates of body-worn camera activation rates to fall by 3.8 percentage points (SE: 1.88) in the full sample and 7.2 percentage points (SE: 2) in the sample omitting responses of 100%. We therefore conclude that the information treatment generated a modest

but real effect on respondent beliefs about body-worn camera activation rates.

Table A2 now asks whether and how this information affected willingness to pay for the studied amenities. We find that across the board that treated respondents are willing to pay more to increase positive amenities and decrease negative amenities, though the difference for use of force is only marginally statistically significant. Willingness to pay for 100 square feet is 1.21 among treated respondents and only 0.838 among untreated respondents. WTP for school quality rises from 1.16 to 1.38 among the treated. WTP for violent crime increases (in magnitude) from -0.84 to -0.96, and WTP for use of force increases from -0.33 to -0.38. The MRS between force and crime is unchanged.

We hypothesized that information about body-worn camera activation would cause respondents to be willing to pay more to avoid neighborhoods where violent crime and police use of force were high. Like high hypothetical crime rates, lower activation rates could signal that police are unprofessional or unaccountable, increasing the importance of living in a neighborhood where criminal and police violence are rare. This hypothesis is borne out by the data, though the difference in use of force is only significant at the 10% level.

We note that the same information also had a substantial effect on amenities unrelated to criminal justice. If anything, these effects were even stronger than those observed for criminal justice amenities. One hypothesis explaining this dynamic is that respondents understand that neighborhood quality may be heterogeneous within the boundaries used to calculate crime and force rates, and this quality is likely correlated with square footage and school quality. Thus, when information like the body-worn camera activation rate treatment causes them to doubt the accountability of the local police, they place extra emphasis on these amenities. Another hypothesis is that respondents anticipate spending less time outdoors in the neighborhood when that neighborhood is unsafe. They therefore place more direct value on the size of their apartment or the quality of the school their children attend because they will be spending more time in these places.

Overall, our findings underscore the significant role of trust in police accountability in shaping individuals' valuations of amenities, including those linked to police services.

TABLE A1. Summary Statistics and Balance

	(1) All	(2) Info Treat	(3) Control	(4) Difference
Male	0.34	0.35	0.34	0.00
	(0.48)	(0.48)	(0.48)	(0.03)
Black	0.29	0.33	0.24	0.09
	(0.99)	(1.10)	(0.86)	(0.06)
Hispanic	0.08	0.08	0.07	0.01
	(0.27)	(0.28)	(0.26)	(0.02)
Age: < 30	0.17	0.19	0.15	0.03
	(0.37)	(0.39)	(0.36)	(0.02)
Age: 30-45	0.35	0.33	0.37	-0.05
	(0.48)	(0.47)	(0.48)	(0.03)
Age: 45-60	0.24	0.25	0.23	0.03
	(0.43)	(0.44)	(0.42)	(0.03)
Age: > 60	0.24	0.23	0.25	-0.01
	(0.43)	(0.42)	(0.43)	(0.03)
Bachelor	0.25	0.27	0.23	0.04
	(0.43)	(0.44)	(0.42)	(0.03)
High school or less	0.33	0.32	0.34	-0.02
	(0.47)	(0.47)	(0.47)	(0.03)
No Child	0.70	0.72	0.68	0.03
	(0.46)	(0.45)	(0.47)	(0.03)
One Bed	0.28	0.28	0.27	0.02
	(0.45)	(0.45)	(0.44)	(0.03)
Income: <25,000	0.35	0.38	0.32	0.06*
	(0.48)	(0.49)	(0.47)	(0.03)
Income: 25-5,000K	0.37	0.34	0.39	-0.05
	(0.48)	(0.47)	(0.49)	(0.03)
Income: >50,000	0.29	0.28	0.29	-0.01
	(0.45)	(0.45)	(0.46)	(0.03)
High rent bucket	0.03	0.03	0.02	0.01
	(0.16)	(0.18)	(0.14)	(0.01)
Mid rent bucket	0.13	0.13	0.13	-0.00
	(0.34)	(0.33)	(0.34)	(0.02)
Low rent bucket	0.84	0.84	0.85	-0.01
	(0.36)	(0.37)	(0.36)	(0.02)
N. of participants	1,035	506	529	1,035
N. of obs.	72,450	37,030	35,420	

Note: The first column summarizes the characteristics of the 1,035 survey respondents in our data for the hypothetical survey. We summarize demographics, education attainment, whether the respondent seeks a one-bedroom or studio apartment, and desired rental price range. For each bedroom choice, we set two cutoffs - one that divides the price ranges between low-income and middle-income neighborhoods and the other between middle-income and high-income neighborhoods. These cutoffs are: for studios (900, 1400), for 1-bedrooms (1300, 2100), for 2-bedrooms (1600, 2500), and for 3-bedrooms (1700, 2600). The next two columns separately summarizes data for those in the information treatment and control group. The final column tests the difference.

TABLE A2. WTPs by Bodycam Treatment

	Treated	Untreated	P-Value of Difference
WTP for 100 Sq Ft	1.214	.839	<0.001
	(.089)	(.078)	
WTP for School Quality Quartile	1.374	1.157	.049
	(.109)	(.111)	
WTP for Violent Crime (per 10,000 residents)	-.096	-.084	.034
	(.006)	(.005)	
WTP for Use of Force (per 10,000 residents)	-.382	-.33	.07
	(.03)	(.027)	
MRS of Crime and Force (per 10,000 residents)	.252	.255	.898
	(.025)	(.026)	

We present WTP estimates separately for the treatment group that received additional information challenging body camera efficacy and the control group. All respondents were informed about police use of force and body cameras in the hypothetical neighborhoods they evaluated, with the treatment group receiving supplementary text to weaken their beliefs about body camera efficacy. See the note in Table II for details on WTP estimation.

B Main Survey

Confidentiality: We will not collect any personally identifying information about you. If you decide to withdraw, data collected up until the point of withdrawal may still be included in analysis. De-identified information from this study may be used or shared with other researchers for future research without your additional informed consent.

Contacts & Questions: If you have questions or concerns about the study, you can contact the researchers at: justinholz@uchicago.edu. If you have any questions about your rights as a participant in this research, feel you have been harmed, or wish to discuss other study-related concerns with someone who is not part of the research team, you can contact the University of Chicago Social & Behavioral Sciences Institutional Review Board (IRB) Office by phone at (773) 702-2915, or by email at sbs-irb@uchicago.edu.

Consent: Participation is voluntary. Refusal to participate or withdrawing from the research will involve no penalty or loss of benefits to which you might otherwise be entitled. By clicking "Agree" below, you confirm that you have read the consent form, are at least 18 years old, live in the U.S., and agree to participate in the research. Please print or save a copy of this page for your records.

- ◯ I consent to the above form and wish to proceed
- ◯ I do not consent and wish to exit

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Please provide your demographic information: what is your gender?

- ○ Male
- ○ Female
- ○ Non-binary / third gender
- ○ Prefer not to say

What is your age (in years)?

What is the highest degree or level of school you have completed?

- ◯ Less than a high school diploma
- ◯ High school degree or equivalent
- ◯ Some college, no degree
- ◯ Associate degree
- ◯ Bachelor's degree or higher

Choose one or more races that you consider yourself to be:

- ☐ White
- ☐ Asian
- ☐ Black or African American
- ☐ Native Hawaiian or Pacific Islander
- ☐ American Indian or Alaska Native
- ☐ Other

Are you Spanish, Hispanic, or Latino, or none of these?

- ◯ Yes
- ◯ None of these

What is the level of your annual household income?

- ◯ Less than $25,000
- ◯ $25,000 - $50,000
- ◯ $50,000 - $100,000
- ◯ $100,000 - $200,000
- ◯ More than $200,000

How many school-aged children do you have?

- ◯ None
- ◯ 1-2
- ◯ More than 2
- ◯ Prefer not to say

In the past week, did you read any of the following newspapers, either online or in print? Please select all that apply. We also want to see whether people are reading the questions carefully. This is a data quality check. Regardless of your true answer, please select “Daily News” and “None of the above.”

- [ ] USA Today
- [ ] The Wall Street Journal
- [ ] The New York Times
- [ ] The Washington Post
- [ ] Los Angeles Times
- [ ] Daily News
- [ ] Chicago Tribune
- [ ] None of the above.

→

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For the rest of the questions in this survey, please imagine a scenario where you must relocate to a new apartment.

Select the number of bedrooms you would interested in:

- ○ Studio
- ○ 1 bedroom
- ○ 2 bedroom
- ○ 3 bedroom or more

Choose your preferred monthly rent:

400 1300 2200 3100 4000

Target Monthly Rent

→

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In this survey, we will ask you 14 questions to understand what you are looking for in an apartment.

In each question, you will choose between 5 hypothetical apartment options. Just pick the option you like best.

Before we begin, here is some information about choice features that we want you to keep in mind when making decisions:

Violent Crime per 10,000 Residents

The violent crime rate describes the number of violent crimes recorded in a neighborhood in 2019 per 10,000 residents. For example, a neighborhood with 100 violent crimes and 50,000 residents has 20 violent crimes per 10,000 residents. Violent crimes include murder (including negligent homicide), sexual assault, assault & battery, kidnapping, and robbery.

Suppose 1/4 of neighborhoods have less than **53** violent crimes per 10,000 residents. About 1/4 of neighborhoods have more than **157** violent crimes per 10,000 residents.

School Quality

School quality is a summary measure of the quality of public schools in the area, using information provided by the local school district. Quality ranges from 1 to 4. 1 is the lowest score and 4 is the highest. The schools are created such that about 1/4 of schools get a score of 1, 1/4 get a score of 2, 1/4 get a score of 3, and 1/4 get a score of 4.



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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. For each choice, only one home feature will vary across options. If you are using a mobile device, scroll right to see the entire set of options. Please make your choice below.

After making this choice, you have **13** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,149	$2,054	$2,543	$2,557	$2,051
Violent Crime (per 10,000 people)	46	74	59	49	25
Square footage	678	678	678	678	678
School Ratings (Higher is better)	4.1	4.1	4.1	4.1	4.1

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	◉

The **'Next page' arrow** for the next choice set will appear in ***10 seconds after*** you landed this page.

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Control

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For the remaining set of questions, we want you to consider one additional feature in making decisions: police use of force in the neighborhood.

Police Use of Force per 10,000 Residents

Police use of force per 10,000 residents describes the number of times police used force in a neighborhood in 2019 per 10,000 residents of that area. For example, a neighborhood with 48 uses of force and 40,000 residents has 12 uses of force per 10,000 residents. Police force refers to physical contact by a police officer, either directly or through the use of equipment, to compel a subject's compliance. These incidents include usages of firearms, other weapons, and unarmed force.

Suppose 1/4 of neighborhoods have less than **4** uses of force per 10,000 residents. About 1/4 of police neighborhood have more than **12** uses of force per 10,000 residents.

Assume that police officers wear body cameras as part of their uniforms to document what they see as they perform their duties. Department regulations require that use of force incidents are recorded, and citizens can request access to body camera footage involving themselves.

Treatment



For the remaining set of questions, we want you to consider one additional feature in making decisions: police use of force in the neighborhood.

Police Use of Force per 10,000 Residents

Police use of force per 10,000 residents describes the number of times police used force in a neighborhood in 2019 per 10,000 residents of that area. For example, a neighborhood with 48 uses of force and 40,000 residents has 12 uses of force per 10,000 residents. Police force refers to physical contact by a police officer, either directly or through the use of equipment, to compel a subject's compliance. These incidents include usages of firearms, other weapons, and unarmed force.

Suppose 1/4 of neighborhoods have less than **4** uses of force per 10,000 residents. About 1/4 of police neighborhood have more than **12** uses of force per 10,000 residents.

Assume that police officers wear body cameras as part of their uniforms to document what they see as they perform their duties. Department regulations require that use of force incidents are recorded, and citizens can request access to body camera footage involving themselves.

However, officers may fail to activate body cameras. A research study finds that police only activate these cameras around 54% of the time they are supposed to, and some officers disproportionally under-activate body cameras.

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **12** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,498	$1,862	$2,080	$2,412	$2,395
Violent Crime (per 10,000 people)	50	50	50	50	50
Police Use of Force (per 10,000 people)	6	6	6	6	6
Square footage	633	633	633	633	633
School Ratings (Higher is better)	1.4	1.4	2.3	1.4	1.5

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	◉	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

The **'Next page' arrow** for the next choice set will appear in ***10 seconds after*** you landed this page.

◯ Show definition

→

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **11** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,233	$1,744	$2,080	$2,019	$2,318
Violent Crime (per 10,000 people)	35	35	35	35	35
Police Use of Force (per 10,000 people)	5	5	5	5	5
Square footage	735	735	735	735	735
School Ratings (Higher is better)	4.8	3.2	3.6	3.6	4.9

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

The **'Next page' arrow** for the next choice set will appear in ***10 seconds after*** you landed this page.

○ Show definition

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **10** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$1,950	$2,177	$2,113	$1,870	$1,753
Violent Crime (per 10,000 people)	46	68	45	63	64
Police Use of Force (per 10,000 people)	8	8	8	8	8
Square footage	576	576	576	576	576
School Ratings (Higher is better)	1.9	1.9	1.9	1.9	1.9

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

The **'Next page' arrow** for the next choice set will appear in ***10 seconds after*** you landed this page.

○ Show definition

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **9** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,332	$1,760	$2,282	$2,587	$2,101
Violent Crime (per 10,000 people)	35	35	35	35	35
Police Use of Force (per 10,000 people)	7	7	7	7	7
Square footage	576	473	535	744	720
School Ratings (Higher is better)	3.1	3.1	3.1	3.1	3.1

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **8** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,487	$2,485	$2,365	$2,425	$2,090
Violent Crime (per 10,000 people)	49	49	49	49	49
Police Use of Force (per 10,000 people)	8	3	5	4	6
Square footage	513	513	513	513	513
School Ratings (Higher is better)	1.8	1.8	1.8	1.8	1.8

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **7** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,362	$1,848	$1,736	$2,004	$2,314
Violent Crime (per 10,000 people)	63	66	25	39	37
Police Use of Force (per 10,000 people)	3	3	3	3	3
Square footage	557	557	557	557	557
School Ratings (Higher is better)	4.1	4.1	4.1	4.1	4.1

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **6** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,020	$2,228	$1,891	$1,854	$1,892
Violent Crime (per 10,000 people)	59	66	55	52	32
Police Use of Force (per 10,000 people)	1	1	1	1	1
Square footage	634	634	634	634	634
School Ratings (Higher is better)	3.5	3.5	3.5	3.5	3.5

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **5** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,182	$2,488	$1,867	$2,111	$1,848
Violent Crime (per 10,000 people)	71	71	71	71	71
Police Use of Force (per 10,000 people)	1	1	1	1	1
Square footage	492	673	717	467	494
School Ratings (Higher is better)	4.1	4.1	4.1	4.1	4.1

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	◉	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **4** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$1,770	$2,147	$2,504	$2,338	$2,440
Violent Crime (per 10,000 people)	39	39	39	39	39
Police Use of Force (per 10,000 people)	8	8	8	8	8
Square footage	497	497	497	497	497
School Ratings (Higher is better)	1.6	3.2	4.6	2	2.6

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **3** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$1,937	$1,998	$2,151	$2,179	$1,816
Violent Crime (per 10,000 people)	58	38	71	25	25
Police Use of Force (per 10,000 people)	1	1	1	1	1
Square footage	588	588	588	588	588
School Ratings (Higher is better)	2.9	2.9	2.9	2.9	2.9

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **2** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,008	$2,115	$2,260	$1,992	$2,046
Violent Crime (per 10,000 people)	41	41	41	41	41
Police Use of Force (per 10,000 people)	7	7	7	7	7
Square footage	698	599	698	553	708
School Ratings (Higher is better)	3.6	3.6	3.6	3.6	3.6

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **1** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,432	$1,927	$2,448	$2,185	$2,196
Violent Crime (per 10,000 people)	39	29	25	39	34
Police Use of Force (per 10,000 people)	3	3	3	3	3
Square footage	482	482	482	482	482
School Ratings (Higher is better)	1.5	1.5	1.5	1.5	1.5

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

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From the following list of housing choices, pick your most preferred option. Assume everything else is the same about the apartment. Please make your choice below.

After making this choice, you have **0** more remaining.

	Option 1	Option 2	Option 3	Option 4	Option 5
Monthly Rent	$2,306	$2,183	$1,748	$2,201	$2,339
Violent Crime (per 10,000 people)	43	39	25	73	44
Police Use of Force (per 10,000 people)	2	2	2	2	2
Square footage	683	683	683	683	683
School Ratings (Higher is better)	3.6	3.6	3.6	3.6	3.6

	Option 1	Option 2	Option 3	Option 4	Option 5
Your Choice	○	○	○	○	○

Click 'Show definition' below if you want to see again how school ratings, crime, and police use of force are defined -- the information will be shown before you can make the next choice.

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Could you please describe your approach to selecting apartments from the options above?

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Suppose a police department adopts body cameras. The department regulations require that officers activate their body cameras during all citizen encounters such as stops, searches, arrests, and use of force incidents.

In what percentage of such citizen encounters do you expect officers to *actually* activate their body cameras? Please note that the number should be between 0% and 100%.

→