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Police-Public Contact Survey: Assessment and Recommendations for Producing Trend Estimates after 2011 Questionnaire Redesign

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Abstract

This research and development paper describes changes to the 2011 Police-Public Contact Survey (PPCS), a supplement to the National Crime Victimization Survey, and their impact on estimating trends. It details how the PPCS was redesigned in 2011 to better capture police-public contacts and characteristics of these encounters. A split-sample design was used to assess the extent to which apparent changes in rates, outcomes, and perceptions of contacts with police are a product of changes to the survey rather than actual changes in the rates over time. The report also discusses the adjustment factors that were created to allow for the examination of trends between 2002 and 2011.

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Contents

1. Introduction

1.1 Purpose of the Police-Public Contact Survey

The Bureau of Justice Statistics' (BJS) Police-Public Contact Survey (PPCS) collects data on the amount and nature of residents' formal contact with police and their perceptions of that contact. Respondents are asked to describe the reason for their most recent police contact, the outcome of the encounter, and their perceptions of police conduct. The BJS uses data from the survey to provide national estimates on the prevalence of police contact, the characteristics of persons with contact, police use of nonfatal force and stop-and-frisk tactics, perceptions of the legitimacy of police, and changes in these key estimates over time. The PPCS is distributed to nearly 50,000 persons age 16 or older as a supplement to the National Crime Victimization Survey (NCVS). From 1999 to 2008, the survey was administered four times—once every three years—allowing for an assessment of changes in the rates and nature of police contact over time. In 2011, the survey was redesigned to—

- better capture information on all types of contact between the police and public occurring during a 12-month period;
- better capture information on resident-initiated contacts;
- improve the measurement of street stops; and
- improve the measurement of police use of force.

This report details the nature of the changes to the 2011 PPCS and the impact on trend estimation. The PPCS scope was altered by changing the questionnaire design, using a broader definition of police and public contact, and asking more behaviorally specific questions about actions taken by residents and police. To measure the impact of these instrument changes on trends in police contact, the 2011 PPCS was administered to a split-sample of respondents, with about 16% of the sample receiving the original instrument and the other 84% receiving the revised instrument. The split-sample framework was used to test the comparability of the 2011 items with items in prior iterations of the PPCS and to test the impact of measurement on 2011 rates and characteristics of police contact. The goal of this report is to use the 2011 split-sample design to assess the extent to which apparent changes in rates, outcomes, and perceptions of contacts with police are a product of instrumentation changes rather than actual changes in the rates over time. To the extent that changes in measurement affect trends over time, adjustment factors were used to assess trends from 2002 to 2011.

1.2 2011 PPCS redesign

In 2011, the PPCS instrument was substantially revised to better capture police-public contacts and characteristics of these encounters. Prior to the 2011 administration of the PPCS, the BJS hosted a series of meetings with police experts to investigate ways to more accurately measure police-public contacts and police legitimacy. The resulting PPCS changes were designed to enhance respondent recollection of interactions with police, to collect information about a broader scope of contacts, and to gain a more nuanced understanding of police and public contacts.

First, to determine if contact occurred and to enhance individuals' recollections about their interactions with police over a 12-month period, BJS implemented new behaviorally specific screening procedures that describe a broad range of situations known to bring people in contact with police. Second, the scope of the PPCS was expanded to collect information about interactions that people had with the police that did not result in a face-to-face contact (e.g., reporting a crime to the police by phone or email). Third, a new set of questions was added to the instrument to collect detailed information about requests for police assistance (e.g., reporting a crime or non-crime emergency) and contacts in which the police stopped someone in a public place or on the street but not in a motor vehicle (known as street stops). In previous PPCS collections, both types of contact had been acknowledged, but respondents were not specifically asked for any details about the nature of these types of contact, the outcomes of the contact, or their perceptions of police behavior during the contact. Finally, the section on police use of force was expanded to ask respondents behaviorally specific questions about police actions that could later be used to classify whether force was used.

The redesign of the PPCS also introduced several items intended to provide a more robust understanding of police legitimacy, including questions about police helpfulness, respondent satisfaction, and whether the respondent would seek police assistance for similar or different problems related to voluntary contacts with the police.

1.3 Potential impact of questionnaire redesign on trend estimation

The purpose of the redesign of the 2011 PPCS instrument was to enhance the data collection. However, the changes present difficulties when estimating trends. Because of the importance of measuring both the level and change in police contacts, the PPCS uses a repeated survey design to allow for estimating changes over time in police-public contacts and the perceptions of police behavior during these contacts. Rather than following the same persons over time, repeated surveys generate estimates from different samples of respondents. In the case of the PPCS, the survey is administered to a new sample of respondents every three years. Duncan and Kalton (1987) refer to this as "periodic surveys" because they are repeated at specific intervals (i.e., every three years). The PPCS is not designed to estimate individual-level changes in police-public contact, but rather to estimate social change for the overall population (Firebaugh, 1997: 3). Even if not measured perfectly, as long as measured consistently, trend estimates can serve as valid indicators of change. Once a redesign of an instrument occurs, any measurement differences between the two instruments need to be addressed to allow for continued trend analyses.

The PPCS provides data to document the general population trends of police-public contacts. The PPCS redesign presents difficulties in continuing trend analysis on key variables that are repeated throughout all of the PPCS iterations. Due to the existence of an established trend measured by previous instrument versions, any changes to questionnaire design carry a likelihood of introducing a level of measurement error, relative to past iterations of the survey, to the estimates of interest. In the case of a redesign that results in increased accuracy of the outcomes of interest, the improved survey instrument provides an opportunity to "calibrate the effect" of any changes to the questionnaire items (Clark et al., 2003). Some items were unchanged and can continue to be compared over time and other items can be corrected with an adjustment factor, but some items are incomparable and present a break in series.

2. Understanding Estimate Differences by Questionnaire Type

The redesign of the PPCS questionnaire from 2008 to 2011 posed many challenges to estimate comparability and trend continuation. A revised field instrument's questionnaire items should maintain comparability with the previous questionnaire items despite changes in wording, formatting, or structure. The 2011 instrument expanded on the types of contact collected. Unfortunately, much of this new information was not analogous to any of the estimates available from the 2008 instrument. Another issue surrounding the redesign resulted from changes in definitions of contact types and reasons for police-public contacts.

Instruments used in the 2002, 2005, and 2008 survey years focused on collecting information about respondents' most recent face-to-face contact with the police in the 12 months preceding the interview date. Instead of focusing on only a single most recent contact, the revised 2011 instrument introduced a screener module of questionnaire items to capture a range of contacts with police the respondent might have had in the year preceding the interview date. This screener module also expanded the definition of police-public contact to include non-face-to-face interactions (e.g., phone calls) and a wider range of contacts that respondents voluntarily initiated with the police (e.g., participation in a block watch). Though the redesigned instrument added measures of contact that had never been measured in previous survey years, it also measured types of contact existing in previous instruments such as street stops and forms of contact with police initiated by the respondent. Beyond these goals of expanding the types of contact included in the questionnaire, the screener module also improved the questionnaire design by allowing respondents to report multiple contacts that they may have had with police in the past year. From the contacts they reported, respondents were asked to identify the most recent contact with police in the 2011 instrument. Respondents were routed to an appropriate module in the questionnaire based on the most recent contact containing questions focused on obtaining more detailed information about this most recent contact.

The two criteria a revised questionnaire item must meet to be comparable with its previous iteration are: (1) the items must measure the same outcome of interest either by using similar or identical wording or expanding upon the existing item and (2) the items must share the same respondent domain.[1] Based on this comparability criteria, measures from the original and redesigned instrument could be placed into one of three categories: (1) survey items were measuring fundamentally different constructs (i.e., incomparably measured), (2) survey items were measuring the same underlying construct but differ in a way that affects the resulting estimates (i.e., similarly measured, adjustment needed), or (3) survey items are measuring the same construct and the manner of measurement did not change (i.e., similarly measured, adjustment not needed). Instrument items measuring fundamentally different constructs were not considered, since trend estimation is not possible. Items with structure or placement changes but that measured the same underlying construct were considered eligible to examine for trend continuation and to assess the estimates' need for

[1] *Respondent domain* refers to the group of respondents presented with the opportunity to answer the given questionnaire item(s) of interest.

adjustment. The items that generally remained the same in terms of the construct measured and the method of measurement were deemed appropriate for trend estimation.

The full list of constructs measured across the original and redesigned PPCS instruments and the comparability categorization are listed in ***Appendix Table 1***. Some constructs are comparably measured but were not examined in this report, and these are noted as "Similarly measured, not examined" in ***Appendix Table 1***. This paper focuses on selected key estimates measured by the PPCS and on how to estimate and adjust for difference due to measurement error when detected. The measures were chosen based on two criteria: (1) the importance of the measure and (2) known differences in how the construct was obtained in the two instruments. They key estimates of interest examined closely in this report are face-to-face contact with police in the past 12 months; contact with police as a driver in a traffic stop, as a passenger in a traffic stop, as a result of a traffic accident, when reporting a crime or problem to the police, and during arrest; and the perceptions that police behaved properly.

2.1 Two approaches to eliciting police contacts

2.1.1 2008 instrument approach

The 2008 instrument consisted of four basic components:

1. Determining if a face-to-face contact occurred in the past 12 months,
2. Determining the use of force during the most recent face-to-face contact,
3. Determining the reason for most recent contact, and
4. Detailed modules regarding characteristics and outcomes of the most recent contact.

Determining a face-to-face contact was achieved using a combination of a singular screener item asking if a face-to-face contact occurred and an item on the number of face-to-face contacts. If the response to the screener indicated no face-to-face contact or the number of contacts was zero, the respondent was routed to the end of the PPCS instrument, ending the interview. Hence, if the respondent had a contact with police but it was not face-to-face, the 2008 instrument did not record the contact. If, however, the respondent reported more than one contact, they were instructed to answer the interview questions with only the most recent face-to-face contact in mind.

Those respondents with a face-to-face contact were then routed to the second section of the instrument, a series of questions on the use of force during contact. If use or threat of force was indicated, the respondent was asked detailed follow-up questions about the type of force, whether the force was excessive, and whether the respondent was injured as a result. Respondents with police contacts were also asked if they were arrested during the contact. Regardless of responses in the use of force module, all respondents were then routed to a set of questions about the reason for their most recent contact with police. It is important to note here that if respondents reported more than one contact at the beginning of the interview, the instrument ended with a follow-up question about the use or threat of force in any earlier contacts.

The section on the reason for police contact (***Exhibit 2.1***) was used to determine which of the respondent's types of contact over the past year would be asked about in detail. Each question asked

about a particular type of contact with the police. These questions were asked until the respondent provided an affirmative response to one type of force, ultimately lending a bias associated with the types of contact and the order in which they were asked in the screener. Once a respondent answered one of these screener questions in the affirmative, the instrument routed the interview to a detailed module for the type of contact selected.

Exhibit 2.1 2008 instrument reasons for contact

#	Types of Contact
1	Involved or witnessed a traffic accident
2	Driver in a traffic stop
3	Passenger in a traffic stop
4	Reported a crime or some other problem to police
5	Police were providing some sort of service or assistance
6	Police were investigating a crime
7	Police suspected respondent of something
8	Some other reason for contact

Finally, the respondents with face-to-face police contact answered detailed questions based on the most recent type of contact reported. The 2008 instrument collected more detailed information about traffic-related police-public contacts than other types of contact. Respondents who reported their most recent face-to-face contact with police was during a traffic stop while they were driving received additional questions on the reason for the traffic stop, characteristics of the stop, and outcomes of the stop, including receiving a warning, being ticketed, or experiencing vehicle or personal searches during the stop. Respondents who reported any type of contact unrelated to being the driver in a traffic stop were immediately routed to a separate section on personal searches and other outcomes of police contact. Many of the items asked of persons with non-traffic stop contacts were also asked of persons who reported their most recent contact was as a passenger during a traffic stop.

2.1.2 2011 instrument approach

The 2011 instrument consisted of three basic components:

1. Determining the types and total number of contacts that occurred in the past 12 months,
2. Determining the most recent contact, and
3. Detailed modules regarding the characteristics and outcome of the most recent contact, including use of force.

To obtain information about the types and total number of contacts in the past 12 months, the 2011 instrument contained an extensive behaviorally specific screener that asked respondents whether they had experienced particular types of contact during the year (***Exhibit 2.2***), regardless of whether they were in person or over the telephone. Additionally, respondents were asked to report the number of contacts during the 12-month period by types of contact, followed by a question about the number of face-to-face contacts. In the new instrument, respondents were able to select multiple types of contact in the screener section, including types of contact that were not necessarily face-to-face. If respondents

indicated having had no contact with police in the past 12 months, they would be routed to the end of the instrument and the interview was ended.

If a respondent selected more than one type of contact in the screener section, he or she was asked to indicate the most recent contact. Depending on the type of contact or most recent contact reported, respondents were then routed into detailed modules. As in the prior instrument, respondents who experienced a traffic stop were asked questions specific to traffic stops. Additionally, those stopped on the street but not in a moving vehicle were asked a separate set of additional questions.

Exhibit 2.2 2011 instrument reasons for contact

#	Types of Contact
1	Reported any kind of crime, disturbance, or suspicious activity to the police
2	Reported a non-crime emergency such as a traffic accident or medical emergency to the police
3	Participated in block watch or other anti-crime programs with police
4	Approached or sought help from the police in the last 12 months for something not mentioned (accompanied by an open-ended specification)
5	Stopped by police while in a public place but not a moving vehicle
6	Stopped by police while driving a motor vehicle
7	Been a passenger in a motor vehicle that was stopped by police
8	Been involved in a traffic accident that was reported to the police
9	Been arrested
10	Stopped or approached by police in the last 12 months for something not mentioned

2.1.3 Additional differences between the 2011 and 2008 instruments

There were five notable differences between how the two instruments identified types of contacts. The first and, perhaps, most important difference between questionnaires is that the 2008 instrument asked respondents to indicate whether or not they had a face-to-face contact with police in a singular questionnaire item without providing a comprehensive definition or example of face-to-face contact with police. Conversely, the 2011 instrument asked respondents a series of behaviorally specific questions to determine whether or not a face-to-face contact occurred. The series of behaviorally specific questionnaire items served as examples of contact with police, both allowing respondents to report multiple contacts with police and triggering improved recall of events.

The second major difference was that the 2011 instrument included measurement of two types of contact that were not measured in the 2008 questionnaire and two types of contact that were expanded upon in the redesigned questionnaire. The types of contact not measured in 2008 were participation in a block watch or other anti-crime programs with police and being stopped or approached by police in the last 12 months for something not mentioned. By including block watches and anti-crime programs and an open definition of contact with the police in the 2011 instrument, the opportunities for respondents to remember and report a contact with police were expanded. Being involved or witnessing a traffic accident was expanded in 2011 by including two types of contacts: reporting a non-crime emergency such as a traffic accident or medical emergency to the police and being involved in a traffic accident that was reported to the police. The 2008 questionnaire asked respondents about contact as a result of reporting only a crime or suspicious activity to the police, and

the 2011 refined this as reporting any kind of crime, disturbance, or suspicious activity to police. The 2011 instrument introduced the concept of a street stop by asking respondents if they were stopped while in a public place, but not in a moving vehicle. This differed from the 2008 instrument where respondents were asked if contact was specifically a result of police providing service or assistance, investigating a crime, or suspecting the respondent of something. Though the inclusion of these additional types of contact and expansion of some existing types of contact improved respondents' recall, it also contributed to incomparability between the distributions for 2008 and 2011 for certain contact types. Moreover, the contact specific modules in the 2011 questionnaire collected more detailed information about the characteristics and outcomes of the contact, particularly for police-initiated traffic and street stops (see ***Appendix Table 1*** for a comparison of the two modules).

The third difference was that three of the types of contact measured in the 2008 instrument were moved in the 2011 instrument to the characteristics of street stop module. Respondents who were filtered into the street stop section of the 2011 instrument were asked if: (1) police suspected respondent of something, (2) police were investigating a crime, and (3) police were providing a service or assistance to the respondent (see ***Exhibit 2.1***, ***Exhibit 2.2***). In the 2008 instrument, these types of contact could have been considered respondents' most recent type of contact. This is not possible with the 2011 instrument since these items were administered only to respondents who had indicated a street stop as their most recent or only contact with police in the 12 months preceding the interview. Moving these questionnaire items to a section of the questionnaire received only by respondents reporting street stops prevents estimate comparability with previous survey iterations by altering the respondent domain to those respondents with a street stop in the past year.

The fourth difference between the 2008 and the 2011 instruments was that in 2011, all respondents with any type of contact were eventually filtered to a module on police behaviors. This ensured that each respondent with any contact was asked about his or her perceptions of police behavior during the contact. These included such items as whether the respondent felt the police behaved properly and if they treated the respondent respectfully.

The fifth difference is how the two instruments measured use or threat of force during the most recent contact with police. The 2008 instrument routed respondents through a specific section of use-of-force questions early in the interview only if respondents affirmed they had experienced use or threat of force during their most recent contact with police in a leading gate question. The 2011 instrument took a more accessible approach, including a set of behaviorally specific use or threat of force questions that were asked of all respondents reporting a street stop or traffic stop as the most recent contact. Eliminating the lead question about use or threat of force from the 2011 instrument was an effort to improve recall of events that might have occurred during respondents' contact with police and thus improve the quality of the estimate of use or threat of force during contact. The fundamental difference between the measurement of use or threat of force in these questionnaires is that the redesigned instrument did not require respondents to affirm that they experienced an undefined use or threat of force in the form of a gate question before being asked the group of questions that provides behaviorally specific examples of force. The behaviorally specific force questions are almost identical to those found in the 2008 instrument with three additional types of force included in this group of

questions: threaten to arrest, threaten to ticket, and handcuffs. In both the 2008 and 2011 instruments, all respondents who reported more than one contact in the screener section were asked about experiencing use or threat of force during any contact in the past 12 months at the end of the instrument.

In the 2011 instrument, the use of force questions were asked only in the traffic and street stop modules. They were not asked in the voluntary contact module and thus not asked of respondents routed into this module based on the most recent contact. As these respondents indicated a voluntary contact with police and were less likely to experience use or threat of force during such a contact, they were not asked about force to minimize respondent burden. Respondents who reported an arrest as their most recent or only contact with the police also did not receive the use of force questions as these respondents were routed through the voluntary contact module. Therefore, an overall estimate on use or threat of force across all types of contact cannot be obtained with the 2011 instrument.

2.2 Comparison of estimate types

As mentioned in ***Section 2***, a revised questionnaire item must meet two criteria to be determined comparable with the previous instrument's counterpart. The questionnaire item must: (1) measure the same object or outcome of interest via similar or identical wording or expand upon the existing measurement and (2) share the same respondent domain. A questionnaire item can exist in a revised instrument in the exact wording, formatting, or order as the original instrument, but without a consistent or reproducible respondent domain, it is impossible to compare the original estimate from the previous survey year to the new estimate.

As such, the qualitative review of a revised instrument to determine if the two criteria are met should examine question wording, placement, and skip patterns to determine if there is the potential for measurement error between the compared questionnaire items. When reviewing question wording, one should be cognizant of definitions or phrasing that may elicit a different interpretation by the respondent. If the question wording changes the entire meaning of the previous item, then it may not be possible for an adjustment to account for the measurement error. For question placement and skip patterns, one should determine what, if any, errors of commission or omission[2] are possible. For example, if the new instrument alters the respondent universe for an item (i.e., the number of respondents eligible for the item changes) the extent to which the universe will change needs to be assessed. For outcomes that will produce rate or proportion estimates, a large change in the universe can greatly impact the estimate due to the change in the denominator of the estimate.

[2] *Errors of commission* occur when respondents receive questionnaire items they are ineligible for or not supposed to answer, and *errors of omission* occur when a respondent does not receive the questionnaire items he or she should answer (Kreuter, 2015).

The following sections detail how the following outcomes were determined to be eligible for trend continuation:

- Face-to-face contacts with police,
- Percent of residents for whom the most recent contact was as a driver in a traffic stop, as a passenger in a traffic stop, in a traffic accident, or because of reporting a crime or problem to police,
- Use or threat of force during most recent contact with police in the past 12 months,
- Arrest, and
- Public perceptions of police behavior during contact.

Because these estimates were found comparable between questionnaire iterations, it can be presumed that any statistical difference detected between the resulting estimates is a result of measurement error and requires adjustment for trend continuation. The estimates shown in ***Exhibit 2.3*** are weighted to the U.S. population and are based on the split-sample used to conduct the 2011 PPCS. The 2011 PPCS sample was split between the two questionnaire iterations discussed earlier, with 84% of the sample receiving the 2011 instrument and 16% of the sample receiving the 2008 instrument. Standard errors for the estimates were generated using Generalized Variance Function (GVF) parameters produced by the Census Bureau.

Exhibit 2.3 PPCS weighted split-sample estimates for measures of interest, 2008 and 2011 instruments

Estimate Type	Initial (2008) Instrument Estimate	Revised (2011) Instrument Estimate
Face-to-face contact	19.1%	22.8%††
Use or threat of force during contact	2.5	4.1†
Arrested during contact	3.6	3.1
Driver in a traffic stop as most recent contact	7.0	9.0††
Passenger in a traffic stop as most recent contact	0.5	2.0††
Traffic accident as most recent contact	2.4	2.3
Reported crime or problem to the police as most recent contact	4.4	7.0††
Police behaved properly	89.7	91.2

See appendix table 2 for standard errors.

† Ratio significantly different from 1 at the 0.05 level.

†† Ratio significantly different from 1 at the 0.01 level.

2.2.1 Face-to-face contact

A key estimate from the PPCS is the proportion of people with face-to-face contacts with police during the past 12 months. The 2008 instrument instructed respondents to report on only face-to-face contact with police, whereas the 2011 instrument did not limit respondents on the types of contacts they could report. Face-to-face contact includes traffic-related contacts (stopped by police as a driver, stopped by police in a moving vehicle as a passenger, or being involved in a traffic accident), contact due

to being stopped in a public place not in a moving vehicle or otherwise stopped or approached by police in some other context, voluntary contacts like participating in a block watch or other anti-crime programs with police, approaching the police for help or assistance, and being arrested. For types of contacts that could have occurred by phone or email or otherwise not face-to-face, such as reporting a crime or non-crime emergency to police, follow-up questions were asked to obtain information about the mode of contact and whether the contact was face-to-face. So while the 2011 instrument employed a more inclusive definition of police contact than the 2008 instrument, the 2011 instrument did allow for face-to-face contacts to be identified and distinguished from non-face-to-face contacts. Ultimately, the respective estimates for face-to-face contact for each instrument are comparable due to the shared respondent domain and question wording among the 2008 and 2011 instruments.

2.2.2 Most recent contact and contact types

Respondents who reported more than one police contact during the prior 12 months were asked to identify which contact had occurred most recently and focus on that contact when answering detailed follow-up questions about the nature and outcomes of police contact. Whether the respondent had only one contact or was focusing on the most recent contact, all were asked questions to classify the type of contact that occurred. For analytic purposes, respondents were later grouped according to the type of contact experienced during their most recent contact. One of the larger differences between the 2008 and 2011 instruments was how each dealt with the concepts of most recent contact and contact type. The differences between these concepts made it difficult to compare many estimates. Ultimately, the challenges to comparability for most recent contact and contact type can be summarized in three facets:

1. Structure of the questionnaire,
2. Differences in the types of contact defined, and
3. Resulting differences in the distribution of those contact types.

As discussed in ***Section 2.1.1***, the 2008 instrument asked respondents directly to answer the questionnaire with their most recent contact in mind if they had reported more than one face-to-face contact with the police in the year preceding the interview date. In contrast, the 2011 instrument asked respondents to select all the types of contact they had in the past year and then asked respondents to indicate their most recent contact out of all the types reported. The major resulting difference was that the 2011 instrument gave respondents the opportunity to recall and report multiple types of contact and then filtered respondents according to the most recent contact out of all those reported. It is also important to note that in addition to allowing only one type of contact to be selected, the 2008 instrument privileged certain types of contact over others via the hierarchical skip pattern whereas the 2011 instrument type of contact screener questions were asked exhaustively (see ***Section 2.1.2***). Though the 2011 questionnaire expanded on the 2008 instrument and gathered more information, the difference in questionnaire structure rendered some estimates of contact incomparable across survey years since some types of contact were asked in a different section of the instrument.

The 2008 and 2011 instruments also differed in how they asked about non-traffic, police-initiated contact. The 2008 instrument allowed respondents to report that the most recent contact occurred because the police were investigating a crime or suspected them of something (see ***Exhibit 2.1***). The

2011 instrument did not have an analogous item listed as a type of contact. Instead, the 2011 instrument screener included a seemingly broader type of contact option that asked whether the respondent had been stopped by police in a public place but not in a motor vehicle, also known as a street stop. If the respondent selected street stop as the most recent contact, he or she was then asked a series of follow-up questions about the nature of the contact, including whether it occurred because the police were investigating a crime or suspected them of something. However, contact with the police because the police were investigating a crime or suspected the respondent of something may have occurred for reasons other than a street stop. The 2011 instrument was not designed to measure these reasons for any type of contact besides street stops.

The differences in questionnaire structure combined with inconsistent definitions of contact type created differences in the distributions of types of contact that made certain estimates incomparable. First, the 2011 instrument measured several types of contact that were not asked about in the 2008 instrument: (1) reported a non-crime emergency such as a traffic accident or medical emergency to the police, (2) participated in block watch or other anti-crime programs with police, (3) stopped by police while in a public place but not a moving vehicle (street stop), and (4) stopped or approached by police in the last 12 months for something not mentioned. All of these types of contact were deemed incomparable since analogous information was not available from the 2008 instrument. Second, the 2011 instrument measured some types of contact in a way that was incomparable to the measurement in the 2008 instrument for the same types of contact. This difference is also tied to questionnaire structure—for example, the 2008 instrument included some "reasons for contact" that the 2011 instrument did not consider in the contact screener. Unfortunately, due to the difference in questionnaire structure, the following three reasons or types of contact were asked only of respondents reporting a street stop as the most recent or only contact with police in the 2011 instrument street stop module: (1) police suspected respondent of something, (2) police were investigating a crime, and (3) police were providing a service or assistance to the respondent. These estimates were not comparable between instruments since the 2011 instrument collected this information only from respondents who reported a street stop.

While the overall question of a person's most recent type of contact was determined to be incomparable between the two instruments, the proportion of the population that experienced particular types of contact can still be compared. After reviewing each type of contact individually, taking into account the differences in the structure of the instrument, four types of contact are comparable across instruments: (1) driver in a traffic stop, (2) passenger in a traffic stop, (3) traffic accident, and (4) reporting a crime or problem to the police. See ***Exhibit 2.3*** for the associated weighted split-sample estimates.

2.2.3 Use or threat of force

The PPCS can also be used to estimate the proportion of the population that experienced the threat or use of nonfatal force by police during a contact. Use or threat of force is a composite measure, created from the combination of multiple behaviorally specific questionnaire items asking respondents if they had experienced any of the described actions by police. This was a major focus of improvement in the 2011 instrument revisions, and the resulting split-sample estimates reflected this improvement with 2.5% of respondents reporting use or threat of force in the 2008 instrument compared to 4.1% of respondents reporting use or threat of force in the 2011 instrument (***Exhibit 2.3***). At the beginning of the 2008 instrument, respondents were asked whether they had experienced the use or threat of force during their most recent face-to-face contact with police in the past year with a singular questionnaire item. The phrase "use or threat of force" was not defined for respondents. If the respondent said "yes'" to this question, he or she was then asked a series of questions about the type of force used and outcomes of the contact. The 2011 instrument asked respondents about force in different areas of the questionnaire, depending on type of most recent contact, in a series of behaviorally specific questionnaire items without a gate question. By eliminating the singular questionnaire item that required respondents to define use or threat of force themselves prior to receiving the behaviorally specific use or threat of force questions, this approach was designed to improve recall of events that may have transpired that respondents may not have defined as use or threat of force, such as shouting or being threatened with a ticket. As such, the elimination of the gate question from the 2008 questionnaire is likely to produce higher estimates of use or threat of force.

The other major difference between the two questionnaires was in the content of the questions used to measure use or threat of force during a contact with the police. Both instruments contained the following nine response items for use or threat of force, grouped in the questionnaire: (1) shouting; (2) cursing; (3) threatening to use force; (4) actually pushed or grabbed; (5) actually kicked or hit; (6) actually sprayed with chemical or pepper spray; (7) actually used an electroshock weapon, such as a stun gun; (8) actually pointed a gun; and (9) used any other type of force. The 2011 instrument included three additional choices for the use or threat of force item: (1) threat of ticket, (2) threat of arrest, and (3) been handcuffed. These three additional response items included in 2011 were grouped with the other nine use or threat of force response items. In contrast, the 2008 instrument asked respondents if they had been handcuffed in a visually separate questionnaire item outside of the nine grouped use or threat of force response items.

Because of the difference in how force is captured in both instruments, multiple definitions were explored to determine which measurement would be the most comparable while still incorporating as much of the expanded behavioral force questions as possible. There were four different combinations of the aforementioned questionnaire items explored and summarized in ***Exhibit 2.4***. The four measurement approaches noted by number are—

1. Combined all available force-related questionnaire items grouped in each instrument, *eliminating* handcuffs from the 2008 estimate;
2. Excluded "threaten to arrest" and "threaten with a ticket/other tickets" from both estimates;

3. Combined all available force-related questionnaire items grouped in each instrument, *including* handcuffs in the 2008 estimate; and
4. Excluded "threaten to arrest" and "threaten with a ticket/other tickets" and handcuffs from both estimates.

These approaches are captured in the in ***Exhibit 2.4*** with "x" denoting that the behavioral questionnaire item was included in that definition of force. The corresponding estimates are presented in ***Exhibit 2.5***.

Exhibit 2.4 Use or threat of force items included in four measurement approaches by questionnaire

Use or Threat of Force Questionnaire Item	Measurement Approach							
	2008 Instrument[a]				2011 Instrument			
	1	2	3	4	1	2	3	4
Shout	x	x	x	x	x	x	x	x
Curse	x	x	x	x	x	x	x	x
Threaten to arrest[b]					x		x	
Threaten with a ticket/other tickets[b]					x		x	
Threaten to use force	x	x	x	x	x	x	x	x
Actually push or grab	x	x	x	x	x	x	x	x
Handcuff[c]		x	x		x	x	x	
Actually kick or hit	x	x	x	x	x	x	x	x
Actually spray with chemical or pepper spray	x	x	x	x	x	x	x	x
Actually use an electroshock weapon, such as a stun gun	x	x	x	x	x	x	x	x
Actually point a gun	x	x	x	x	x	x	x	x
Use any other type of force	x	x	x	x	x	x	x	x
Experienced use or threat of force in an earlier contact in the past 12 months[d]	x	x	x	x	x	x	x	x

[a]Required affirmative response to leading gate question asking if respondent had experienced use or threat of force in most recent contact with police in past 12 months prior to asking the group of behaviorally specific force questions.

[b]Item not available in 2008 instrument.

[c]This questionnaire item was asked separately in 2008 and was included with the module of force items in 2011.

[d]Found at the end of both questionnaires for respondents reporting more than one contact.

After examining the estimates associated with each approach from ***Exhibit 2.4*** and shown in ***Exhibit 2.5***, it was first determined that the inclusion of the handcuff item was not a viable measurement option to include in the final estimate for the 2008 instrument, eliminating Approaches 2 and 3. Including the handcuff item in the 2008 estimate for Approaches 2 and 3 increased the estimate of respondents experiencing use or threat of force during contact from 2.5% to 5.7%. The 2008 instrument asked the handcuff item separately from the rest of the force items, which suggests this inflation was due to the questionnaire design. The overall estimate of force using the 2011 questionnaire including all available items is 4.1% and statistically different from the 2008 estimate excluding the handcuff item of 2.5%. Since the 2011 measurement of Approach 1 includes handcuffs along with two additional use or threat of force items, the associated estimate (4.1%) is still less than that of the estimate associated with the

2008 measurement of Approaches 2 and 3 including an additional handcuff item alone (5.7%). Since both estimates were measured in the same year in the split-sample design, it is reasonable to suggest the inclusion of the handcuff item in the 2008 instrument measurement would not provide a statistically comparable estimate appropriate for continuing trend analysis with the 2011 instrument. The 2011 estimate associated with Approach 4 (2.3%) measured use or threat of force without taking advantage of comparable additions of extra force items and was not significantly different from the 2008 instrument estimate (2.5%).

Exhibit 2.5 Estimates associated with measurement approaches of use or threat of force outlined in *Exhibit 2.4*

Measurement Approach	Initial (2008) Instrument Estimate	Revised (2011) Instrument Estimate	Significance
1[a]	2.5%	4.1%	†
2[b]	5.7%	2.7%	††
3[c]	5.7%	4.1%	‡
4[d]	2.5%	2.3%	

‡ Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.10 level.

† Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.05 level.

††Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.01 level.

[a]Combined all available force-related questionnaire items grouped in each instrument, eliminating handcuffs from the 2008 estimate.

[b]Excluded "threaten to arrest" and "threaten with a ticket/other tickets" from both estimates.

[c]Combined all available force-related questionnaire items grouped in each instrument, including handcuffs in the 2008 estimate.

[d]Excluded "threaten to arrest" and "threaten with a ticket/other tickets" and handcuffs from both estimates.

After careful consideration, it was determined that Approach 1 would provide the most valid comparable estimates by directly comparing two estimates measured from similarly grouped questions. While the estimates are not as similar as Approach 4, Approach 1 is the preferable method of measurement because it both includes items similar to prior instrument items and takes advantage of the new questionnaire items. Though the 2011 estimate includes handcuffs, threatened with a ticket, and threatened to arrest, the inclusion of these items are an important improvement to the measurement of use or threat of force that do not prevent comparisons to the prior measure. However, the separate handcuff item is excluded from the new measurement because these questions were grouped in the instrument, and this approach also avoids potential context effect in the estimate. Though instrumentally comparable, the overall estimates of use or threat of force during a contact were significantly different between the split-sample groups at the 0.05 level (see ***Exhibit 2.5*** and ***Appendix Table 5*** in the ***Appendix*** for more details).

In the 2011 questionnaire, respondents who reported an arrest, an accident, a voluntary contact, or another contact not mentioned in the screener section as their most recent contact were not asked the

use of force questions. Because of this, it was not possible to generate an overall estimate of the prevalence of police use of nonfatal force. This was a shortcoming of the 2011 instrument and means that use of force estimates could be compared only for respondents with specific types of police contact.

2.2.4 Arrests

Among those with contacts with police in the past year, 2.9% of respondents receiving the 2008 instrument reported being arrested during their most recent contact with the police in the past year, and 3.1% of respondents receiving the 2011 instrument reported being arrested in the past year or during the most recent contact with police (***Exhibit 2.3***). This estimate excludes individuals without contacts with police in the past year[3] as well as those who were arrested and subsequently incarcerated during the time of data collection. The 2008 and 2011 instruments diverged when measuring arrest among respondents. The major difference is the 2008 instrument treated arrest as a sub-element of a contact whereas the 2011 instrument considered arrest as both a sub-element and a type of contact. The 2008 instrument asked all respondents with at least one face-to-face contact if they were arrested during their most recent contact. In contrast to viewing arrest solely as an outcome of a contact, one of the screening questions in the 2011 instrument asked respondents if they had been arrested during the prior 12 months. The 2011 instrument also gave respondents who reported their most recent contact as a street stop or traffic stop a second opportunity to report being arrested as an outcome of the contact. Out of all of the respondents indicating an arrest at some point in the 2011 questionnaire (n=261), very few respondents (n=15, 5.8%) indicated an arrest as an outcome of a traffic or street stop without also indicating an arrest as a type of contact. This inconsistency in response suggests some level of measurement error may remain in the PPCS estimate of arrest in the survey year.

Though the questionnaires measured arrest in different ways, the estimates of arrest for each year were determined to be comparable due to the consistency in respondent domain and similarity in resulting split-sample. The 2008 estimate of arrest used the singular questionnaire item that asked all respondents reporting an in-person contact if they had been arrested during their most recent contact with the police. This was the only question in the 2008 instrument that asked respondents about arrest. The 2011 estimate of arrest was derived from the screener question asked of all respondents and the two additional questions about arrest from the street and traffic stop modules, omitting the questionnaire items about being threatened with arrest by police. Considering there were so few respondents who did not indicate an arrest as a type of contact, this definition was both inclusive of all respondents indicating an arrest in the 2011 instrument and comparable to the 2008 estimate by expanding the respondent domain and maintaining the same wording of the question.

[3]Data from the 2002 Survey of Inmates in Local Jails indicate a very small percentage of inmates reported being arrested without any police contact; however, for this report the percentage is negligible and will be ignored.

2.2.5 Police behaved properly during contact

The questions about public perception that police behaved properly during the most recent or only contact were largely comparable between the 2008 and 2011 instruments. The majority of split-sample respondents with a face-to-face contact reported police behaving properly during contact with 89.7% in the 2008 instrument and 92.1% in the 2011 instrument (***Exhibit 2.3***). Both the 2008 and 2011 instruments asked all respondents with a face-to-face police contact about whether police behaved properly or improperly. Because the instruments asked nearly the same item of all respondents with contact, the estimates were comparable. However, this does not mean that an adjustment is not necessary. It is possible that changes to the PPCS screener from 2008 to 2011 could have resulted in a different composition of respondents with different types of force, which could in turn affect the proportion who believed the police behaved properly and respectfully.

3. Methods of Adjustment

After reviewing the key outcome types and determining which were comparable over time, an analysis was conducted to determine the proper adjustment approach and the appropriate level for the adjustment.

3.1 Methods for comparing estimates from two instruments

3.1.1 Comparing estimates between the two instruments

Given the structural and definitional differences in the two instruments described in ***Section 2***, it is necessary to quantify the magnitude that these differences have on estimates. To assess these differences, one cannot simply compare the estimates from the 2011 PPCS survey to those of the 2008 PPCS survey since differences could be attributed to changes to the instrument, changes over time, or both. To control for time, the U.S. Census Bureau implemented a split-sample design in 2011 in which 19% (11,833) of respondents were randomly assigned to receive the 2008 instrument and the remaining 81% (50,447) of respondents were to receive the 2011 instrument. However with non-response taken into account the actual split-sample allocation was 16% (7,838) of respondents receiving the 2008 instrument and the remaining 84% (41,408) respondents receiving the 2011 instrument.

Using this split-sample design, any differences in the estimates are due entirely to differences in the instrument, as there were no major differences in response rates or nonresponse bias between the 2008 and 2011 instruments. These measurement differences can be identified and methods developed to adjust estimates in prior survey years to account for the measurement differences and allow for the examination of true change over time.

3.1.2 Options for using a split-sample to adjust data

The adjustment produced to correct for any changes due to measurement differences in the two instruments will depend on two key factors. First, the qualitative assessment of whether the estimates between the two instruments require an adjustment to account for measurement differences. Second, the sample size of the split-sample will impact the power by which more refined adjustments can be made.

For estimates where measurement differences are suspected but the underlying construct is the same, two broad types of adjustment factors can be produced: (1) ratio adjustment and (2) model-based adjustment. The ratio adjustment consists of the ratio of the estimate from the new instrument over the corresponding estimate from the old instrument. This ratio can be based on all cases or conditioned on a set of characteristics such as gender or race/Hispanic origin. The ratio adjustment can be produced with relatively few cases; however, conditioning by a characteristic may require larger sample sizes if some subgroups are small or rare. Under the model-based approach, a logistic model is fit where the dependent variable is an indicator for the construct of interest (e.g., face-to-face contact) and the independent variables are indicators for the instrument year, demographic characteristics, and interactions between the instrument year and the demographic characteristics. By taking into account multiple demographic characteristics, the model-based approach produces an adjustment factor that is specific to the set of characteristics of the respondent. The model-based approach allows for a more accurate adjustment at the sub-domain level, but requires a larger sample size, which may not be feasible to obtain in a split-sample study.

After analyzing the constructs for which measurement differences were a possibility (see ***Appendix Table 1***), it was determined that the sample size of the split-sample study did not support the model-based adjustment or a conditional ratio adjustment. Therefore, as discussed in the next section, an overall ratio adjustment was implemented.

3.1.3 Method used for adjusting estimates in prior survey years

Continuing trend analysis across PPCS cycles after an instrumentation change is analogous to comparing National Crime Survey (NCS) and NCVS estimates after the major redesign in 1992. As with the PPCS, the NCVS implemented a split-sample design during the transition year to assess the magnitude by which the redesigned NCVS instrument increased victimization rates for each crime type. To account for the measurement differences between the NCVS and NCS, Lynch and Cantor (2005) developed a ratio adjustment by which the NCS victimization rate (*X*) for crime type *j* is adjusted as follows:

$$X^{A}_{NCS_j} = X_{NCS_j} \times R_j$$

Where R_j is the ratio adjustment based on the 1992 split-sample for crime type *j,* which is defined as

$$R_j = \begin{cases} \frac{X^{S}_{NCVS_j}}{X^{S}_{NCS_j}} & if \ \frac{X^{S}_{NCVS_j}}{X^{S}_{NCS_j}} \ significantly \ different \ from \ 1 \\ 1 & Otherwise \end{cases}$$

Where $X^{S}_{i_j}$ *i* = NCS or NCVS is the estimated victimization rate from the split-sample for crime type *j*. Lynch and Cantor (2005) then adjusted the standard errors assuming the ratio adjustment is a fixed constant

$$SE\left(X'_{NCS_j}\right) = SE\left(X_{NCS_j}\right) \times R_j$$

Given the PPCS is a supplement of the NCVS, to be consistent, it was determined that the Lynch and Cantor (2005) adjustment method was the most appropriate. However, for the PPCS, the adjustment is made for each type of contact where for a given type of contact *c*, the ratio adjustment is defined as

$$R_c = \begin{cases} \dfrac{X^S_{2011_c}}{X^S_{2008_c}} & if\ \dfrac{X^S_{2011}}{X^S_{2008_c}}\ signantly\ different\ from\ 1 \\ 1 & Otherwise \end{cases}$$

And, the resulting adjusted estimate is calculated as

$$X^A_{YYYY_c} = X_{YYYY_c} \times R_c$$

Where *YYYY* represents the survey year prior to 2011 being estimated (i.e., 2002, 2005, or 2008). Following the Lynch and Cantor approach, the standard errors for each type of contact in a given year were also adjusted with the ratio adjustment as a fixed constant. While this approach may inflate the standard errors, other options are also problematic given the limited number of sample cases in the 16% split.

As discussed in ***Section 2***, understanding the differences between the 2008 and 2011 instruments is integral to evaluating estimate comparability. There is consistency over time across a number of PPCS questionnaire items, necessitating an adjustment factor to account for instrument and item revisions and to support trend continuation.

3.2 Determining appropriate level for adjustment

As noted earlier, the ratio adjustment to account for differences in the estimates due to the instrument change is applied only when the split-sample indicates that the ratio is significantly different from one. ***Exhibit 3.1*** presents the PPCS estimates that are based on the split-sample and the resulting ratio adjustments. For most comparable estimates, the difference in adjustment ratios were significantly different from one. The exceptions were the percent of those with contact who were arrested, the percent of those who experienced a traffic accident as the most recent contact, and the percent who believed the police behaved properly during the contact. For the estimates in which the 2011 estimate is significantly different from 2008, the ratio adjustment showed that the revised PPCS instrument elicited higher percentages than the prior instrument. This suggests the 2011 instrument revisions improved respondents' recall of contact with police.

Exhibit 3.1 Estimates by type of contact based on the PPCS split-sample and resulting ratio adjustment

Estimate Type	Initial (2008) Instrument Estimate	Revised (2011) Instrument Estimate	Ratio (2011/2008)	Ratio Adjustment
Face-to-face contact	19.1%	22.8%††	1.2††	1.2
Use or threat of force during contact	2.5	4.1†	1.6†	1.6
Arrested during contact	3.6	3.1	0.9	1.0
Driver in a traffic stop as most recent contact	7.0	9.0††	1.3††	1.3
Passenger in a traffic stop as most recent contact	0.5	2.0††	4.2††	4.2
Traffic accident as most recent contact	2.4	2.3	1.0	1.0
Reported crime or problem to the police as most recent contact	4.4	7.0††	1.6††	1.6
Police behaved properly	89.7	91.2	1.0	1.0

See appendix table 2 for standard errors.

†Ratio significantly different from 1 at the 0.05 level.

††Ratio significantly different from 1 at the 0.01 level.

Appendix Tables 3 to 6 show the adjustment factors when conditioned on sex, age, and race/Hispanic origin. As the tables show, the sample sizes did not always allow for detectable differences to be found. Because of the sample sizes at the sub-domain level, it could not be determined if this was because there was no difference or because the comparison was under-powered. Due to this uncertainty, the sub-domain level adjustment factors were not used.

4. PPCS Rates Over Time

4.1 Estimates for which trends can be examined

For the eight estimates discussed in ***Section 2***, trends from 2002 to 2011 could be examined due to the general comparability of these measures over time. However, as previously discussed, most of those estimates were significantly different between the split-sample groups, so adjustment factors were applied to previous survey years' estimates for comparability. As described in ***Section 3.1.1***, each adjustment factor was applied to all previous survey years and thus the general direction of each trend line during the 6-year period remained unchanged.

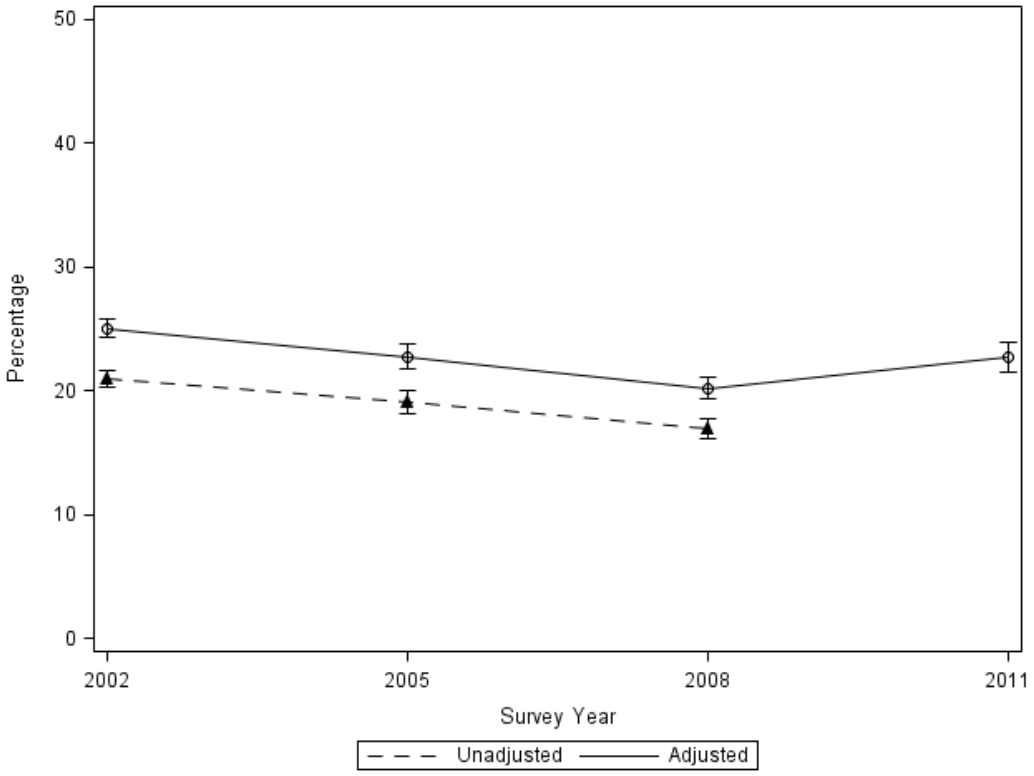
In this section, the rates over time, both adjusted and unadjusted, are presented for the eight key estimates that were measured comparably over time.

4.1.1 Face-to-face contact

To account for the impact of changes to the instrument in 2011, an adjustment factor of 1.2 was applied to the 2002, 2005, and 2008 estimates of the percent of the population with one or more face-to-face contacts with police. If the 2011 instrument had been used in the prior PPCS survey years, the

percentage of the population that had face-to-face contact with police would have been higher: 25.1% compared to 21.0% in 2002; 22.8% compared to 19.1% in 2005; and 20.2% compared to 16.9% in 2008. Moreover, ***Figure 4.1.1*** shows that the adjustment prevents erroneous between-year comparisons; there is no statistical difference between the 2008 estimate of face-to-face contact (20.2%) and the 2011 estimate (22.7%). ***Appendix Table 3*** presents the differences in estimates due to the instrument change by sex, age, and race/Hispanic origin.

Figure 4.1.1 Adjusted and unadjusted rates for face-to-face contact, 2002–2011

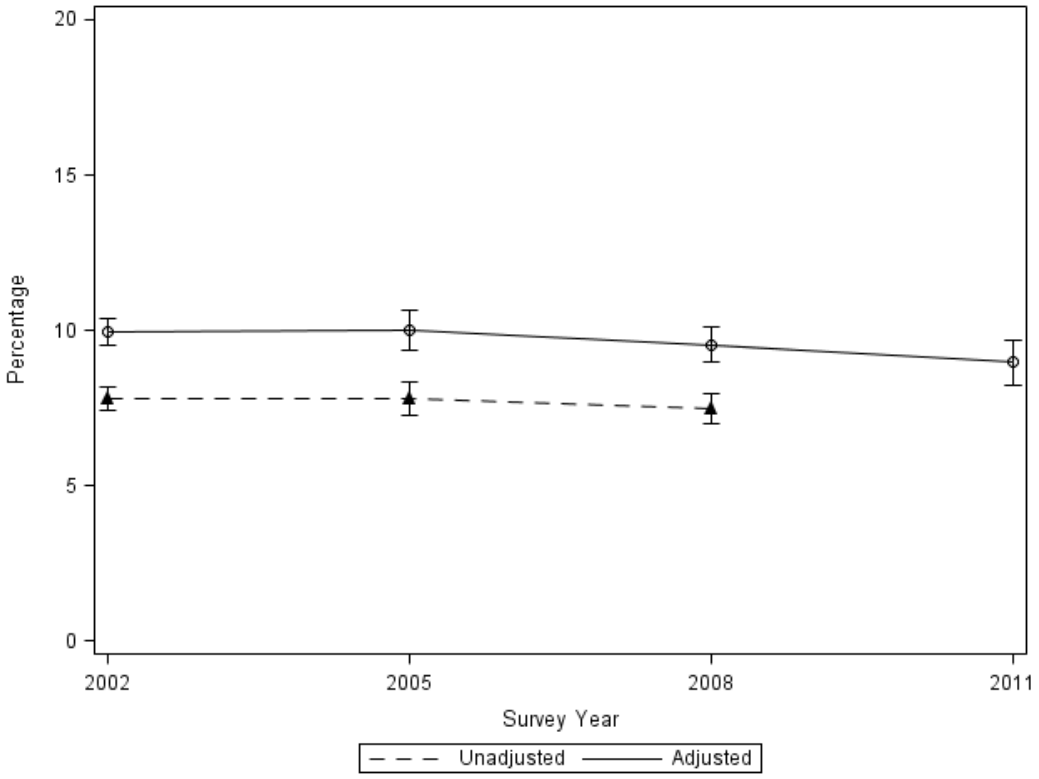


Note: See appendix table 7 for estimates and standard errors.

4.1.2 Driver in a traffic stop as most recent contact

The percentage of persons age 16 or older who reported that they were the driver in a traffic stop during the most recent or only contact was significantly different between the split-sample groups. Therefore, an adjustment factor of 1.3 (see ***Exhibit 3.1***) was applied to the 2002, 2005, and 2008 estimates. The result of this adjustment is an increase in the percent of persons who were stopped as the driver in a traffic stop. The percentages increase from 7.8% to 10.0% in 2002, 7.8% to 10.0% in 2005, and 7.5% to 9.6% in 2008 (***Figure 4.1.2***). The standard error bars associated with the adjusted 2008 estimate (9.6%) and 2011 estimate (9.0%) overlap, suggesting there is not a statistically significant difference between the two. Had the ratio adjustment not been applied, a significant difference would have been detected between the 2008 and 2011 estimates.

Figure 4.1.2 Adjusted and unadjusted rates for driver in a traffic stop, 2002–2011



Note: See appendix table 8 for estimates and standard errors.

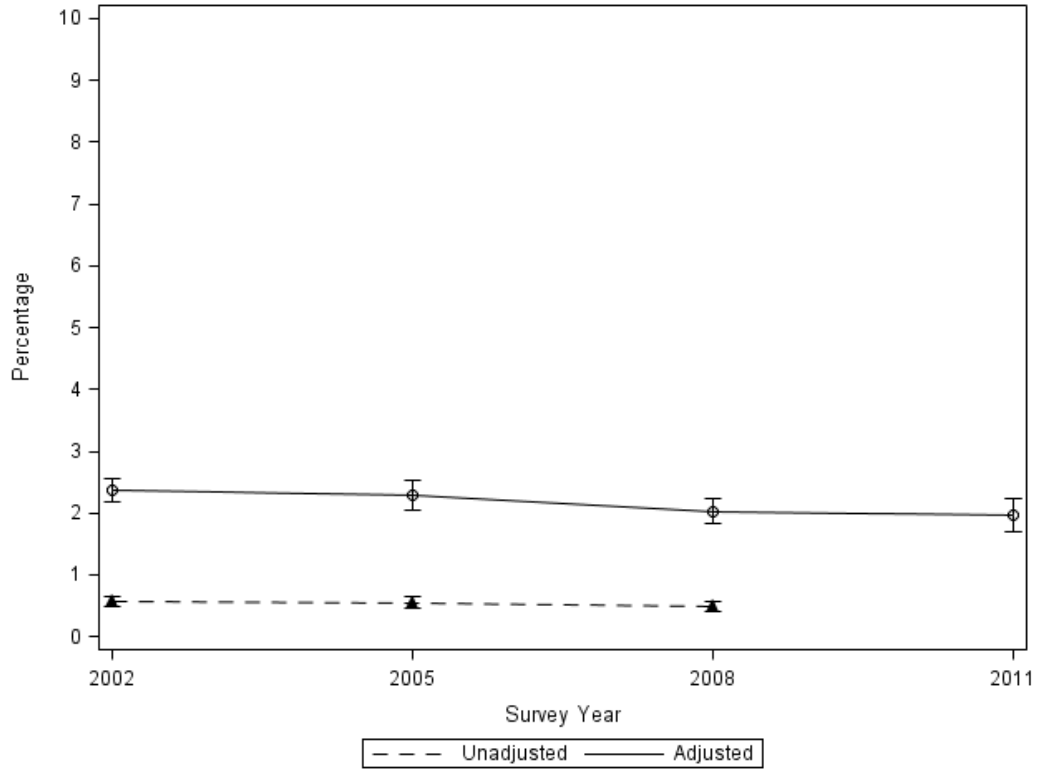
4.1.3 Passenger in a traffic stop as most recent contact

The overall estimate of the percentage of people whose most recent contact with police was as a passenger in a traffic stop was significantly different between the split-sample instrument groups. An adjustment factor of 4.2 was applied to the previous survey years' estimates, showing that had the 2011 instrument been used, the percentage of the population reporting their most recent contact with police as being a passenger in a traffic stop would have increased. The percentage of the population whose most recent contact was as a passenger in a traffic stop increased from 0.6% to 2.4% in 2002; 0.6% to 2.3% in 2005; and 0.5% to 2.0% in 2008 (***Figure 4.1.3***). Without the applied adjustment, the standard

error bars would not overlap and lead to the incorrect conclusion that there was a significant change in the percentage of people whose most recent contact with police was as a passenger in a traffic stop between 2008 (0.5%) and 2011 (2.0%).

The estimates associated with passenger in a traffic stop as the most recent contact with police showed the largest difference in the split-sample estimates. As seen in ***Exhibit 3.1***, the adjustment factor for passenger in a traffic stop is more than twice the size of the next largest adjustment factor (4.2 compared to 1.6 for use or threat of force). This suggests that the changes to the instrument had a larger effect on the estimate than other contact types. The larger change in the percentage of the population reporting their most recent contact with the police as a passenger in a traffic stop between 2008 and 2011 may indicate that the 2008 and prior estimates were underreported. The revised screener served to effectively trigger better recall of this type of contact.

Figure 4.1.3 Adjusted and unadjusted rates for passenger in a traffic stop, 2002–2011

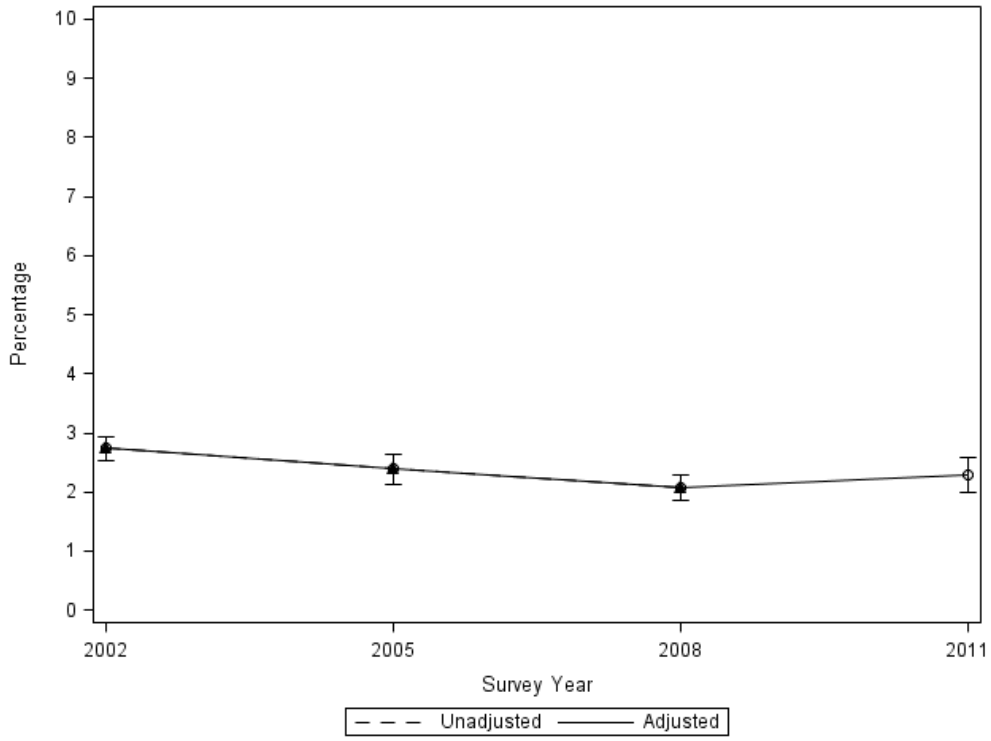


Note: See appendix table 9 for estimates and standard errors.

4.1.4 Traffic accident as most recent contact

There was no significant difference in the 2008 and 2011 split-sample comparison of the percent of persons who experienced a traffic accident as the most recent contact with police. Therefore, no adjustment was needed in the analysis of trends from 2002 to 2011, and the adjusted and unadjusted lines are identical (see ***Figure 4.1.4***). This leads to estimates of 2.7% in 2002, 2.4% in 2005, 2.1% in 2008, and 2.3% in 2011. The PPCS data suggest that the percentage of people with traffic accidents as their most recent contact with the police remained stable over the years.

Figure 4.1.4 Adjusted and unadjusted rates for traffic accident, 2002–2011

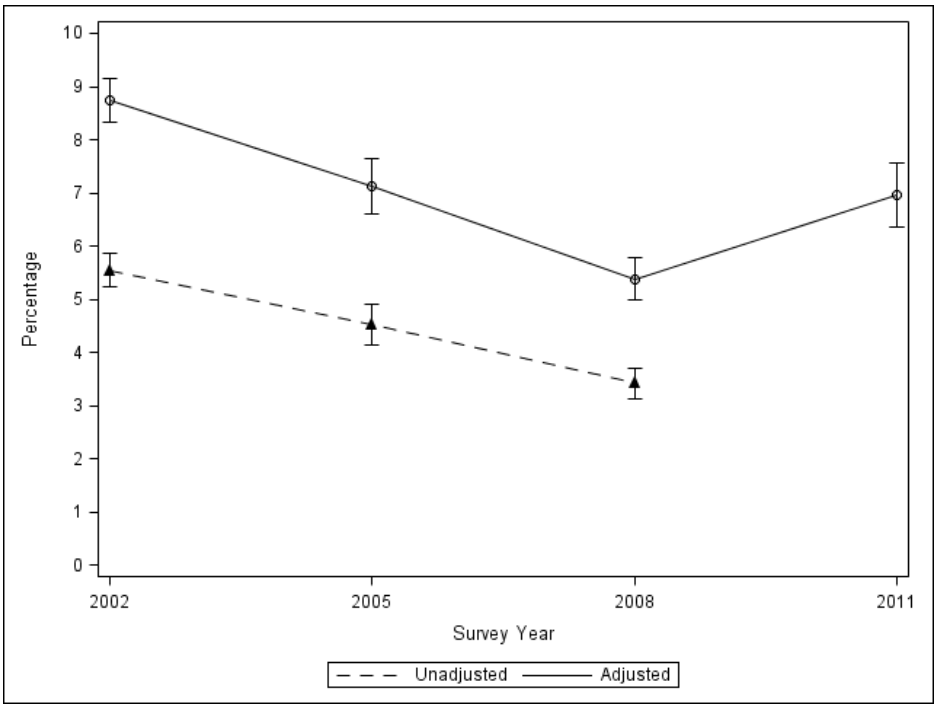


Note: See appendix table 10 for estimates and standard errors.

4.1.5 Reported crime or problem to police as most recent contact

Due to the significant difference in the overall estimates for the population of individuals whose most recent contact with police was while reporting a crime or some other problem, an adjustment factor of 1.6 was applied to the previous survey year estimates (see ***Exhibit 3.1***). This means that if the 2011 instrument had been used in previous survey years, the percentage of the population whose most recent contact with police was reporting a crime or problem would have been higher (5.6% unadjusted compared to 8.7% adjusted in 2002, 4.5% unadjusted compared to 7.1% adjusted in 2005, and 2.8% unadjusted compared to 4.4% adjusted in 2008). Even after the adjustment was applied, the 2011 percentage (7.0%) is greater than 2008 (4.4%), representing a reversal of the previous declines from 2002 and 2008 (see ***Figure 4.1.5***). After accounting for changes to the survey instrument, the percent of persons age 16 or older whose most recent or only contact with police in the past year was reporting a crime or problem in 2011 was similar to what it had been in 2002. The 95% confidence interval associated with the 2008 adjusted estimate is (5.0, 5.8) and the 95% confidence interval associated with the 2011 adjusted estimate is (6.4, 7.6).

Figure 4.1.5 Adjusted and unadjusted rates for reported crime or problem to police, 2002–2011



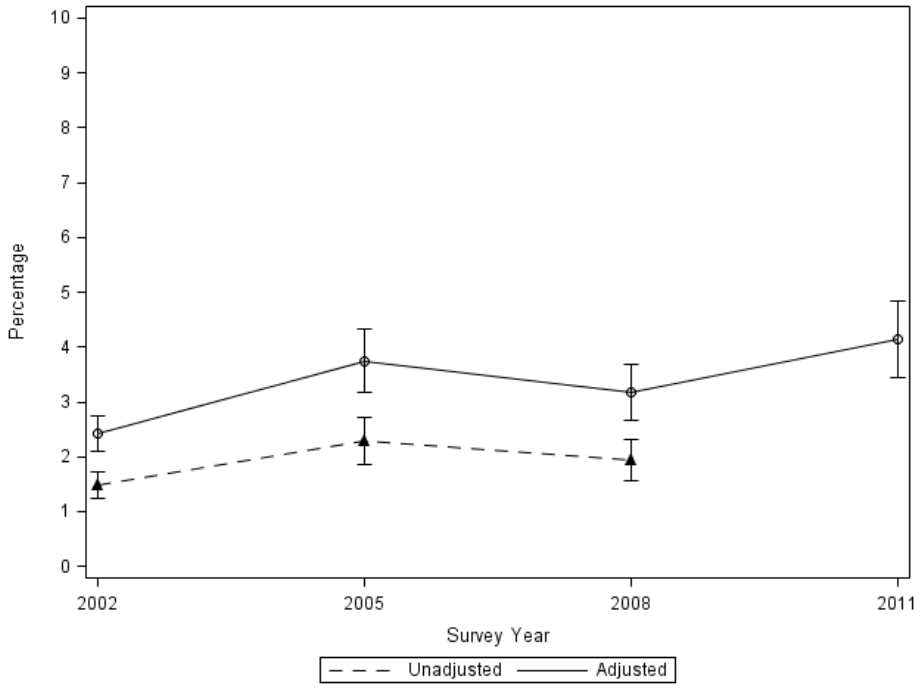
Note: See appendix table 11 for estimates and standard errors.

4.1.6 Use or threat of force

Figure 4.1.6 shows the adjusted and unadjusted trend lines for the use or threat of force that persons experienced during their most recent police contact. The overall estimate of use or threat of force the population experienced during their most recent contact was significantly different between the split-sample instrument groups, and an adjustment factor of 1.6 was applied to the 2002, 2005, and 2008 survey year estimates (see ***Exhibit 3.1***). After applying the adjustment factor, the results showed that had the 2011 instrument been used in prior survey years, the percentage of the population that experienced the use or threat of force during a police contact would have been higher overall (1.5%, 2.3%, and 1.9% unadjusted compared to 2.4%, 3.8%, and 3.2% adjusted for respective survey years, see ***Figure 4.1.6***).

Another important finding as result of the adjustment is that 2011 has similar rates of use or threat of force as prior survey years. These findings also indicate that previous instruments suppressed estimates of use or threat of force during respondents' most recent contact or any other contact in the past year. However, despite the perceived increase when no adjustment is applied, the application of the adjustment factor shows that these differences are not statistically significant. If the adjustment ratio had not been applied, the standard errors associated with the 2008 estimate (1.9%, unadjusted) would not overlap with those associated with the 2011 estimate (4.1%), erroneously suggesting that there was a statistically significant difference between the 2008 and 2011 survey year estimates.

Figure 4.1.6 Adjusted and unadjusted rates for use or threat of force, 2002–2011

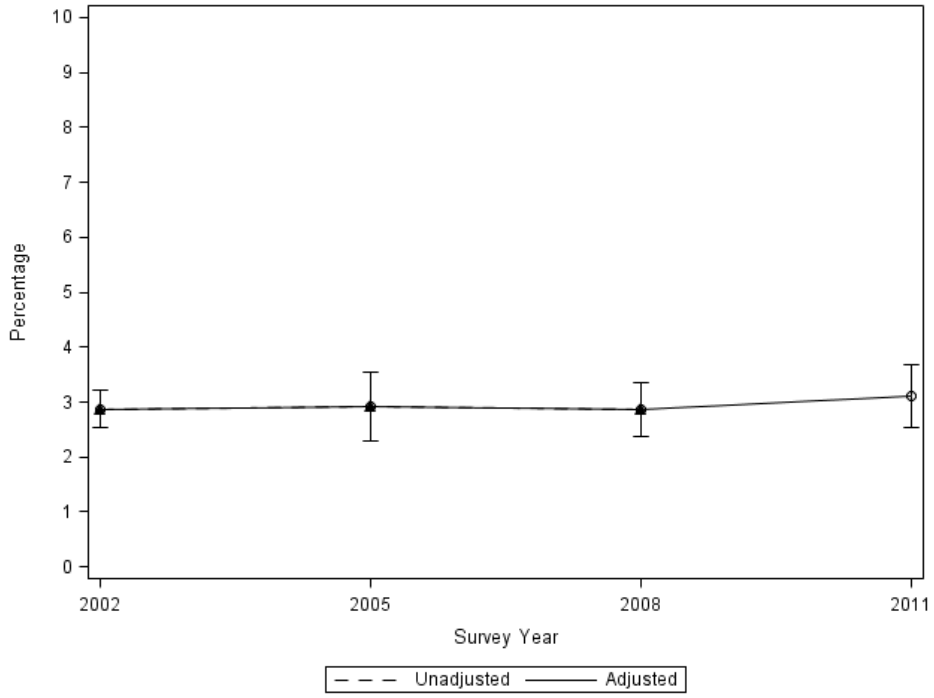


Note: See appendix table 12 for estimates and standard errors.

4.1.7 Arrest during contact

There was no significant difference in the 2008 and 2011 split-sample comparison of the percent of persons who experienced an arrest as the most recent contact with police. Therefore, no adjustment was needed in the analysis of trends from 2002 to 2011, and the adjusted and unadjusted lines are identical (see ***Figure 4.1.7***). This leads to estimates of 2.9% in 2002, 2.9% in 2005, 2.9% in 2008, and 3.1% in 2011. The PPCS data suggest that the percentage of people reporting arrest during their most recent contact with the police stayed stable over the years.

Figure 4.1.7 Adjusted and unadjusted rates for arrest, 2002–2011

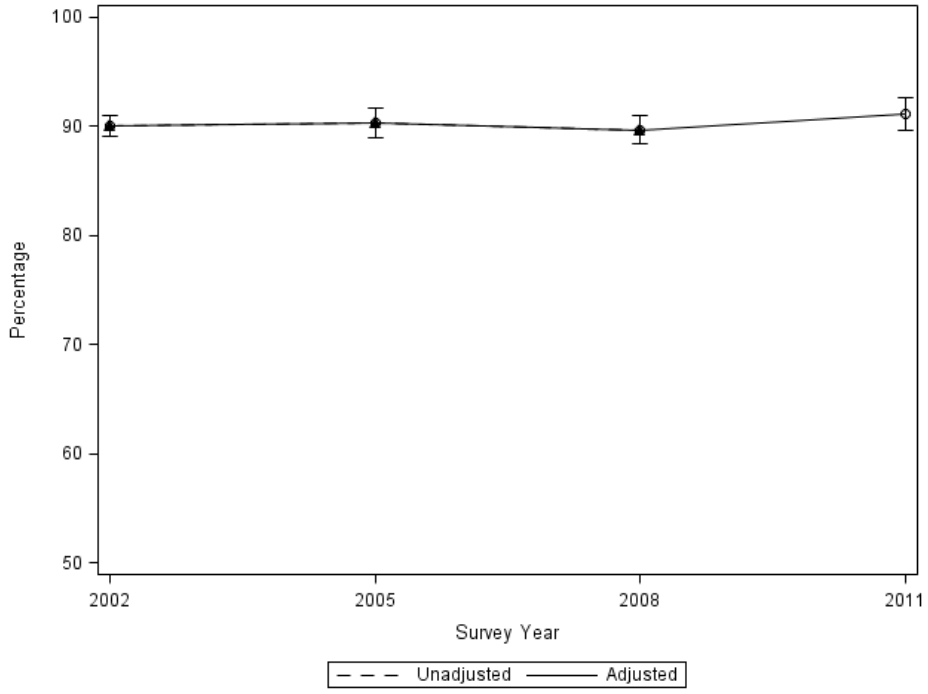


Note: See appendix table 13 for estimates and standard errors.

4.1.8 Police behaved properly

Using the split-sample in 2011, it was determined that changes to the instrument did not have a significant impact on the percentage of persons with contact who believed that that police behaved properly during contacts. Since there was no significant difference between the split-sample estimates, an adjustment factor of 1.0 is used when comparing the 2011 estimates to prior survey years (see ***Exhibit 3.1***). Thus, the adjusted and unadjusted lines are identical. In 2002 and 2005, the percentage of people who had contacts with the police who believed the police behaved properly during the contact was above 90%, and the percentage in 2011 was 91.2%. This estimate dipped below 90% to 88.8% in the 2008 survey year—although none of these estimates are statistically different across time (see ***Figure 4.1.8***).

Figure 4.1.8 Adjusted and unadjusted rates for police behaved properly, 2002–2011



Note: See appendix table 14 for estimates and standard errors.

4.2 Estimates for which trends cannot be continued

While many important outcomes from the PPCS can be trended with the assistance of an adjustment, as noted in ***Section 2***, there are some that cannot. In these cases, the rates over time need to be interpreted with caution.

4.2.1 Impact—break in series; how to interpret the estimates

When an adjustment cannot be used to correct for differences in measurement across instruments, there is a break in the series of estimates. In these cases, it is probably best not to compare estimates across time due to unintended changes. If discussions of change are necessary, it must be noted that

any apparent shift over time could be attributed to methodological changes rather than true temporal changes.

It is recommended that the following outcomes not be compared over time due to a break in series from the estimates available prior to 2011:

- The overall distribution of most recent contact and the following types of contact: (1) police suspected respondent of something, (2) police were investigating a crime, and (3) police were providing a service or assistance to the respondent; and
- The characteristics and outcome estimates associated with all types of contact except for drivers in a traffic stop.

The following two sections (4.2.2 and 4.2.3) explain why these estimates should not be evaluated over time.

4.2.2 Most recent contact distribution

As described in ***Section 2.2***, several contact types in the 2008 screener were moved into the street stop section of the 2011 instrument: police assistance, police investigating a crime, or police suspected respondent of wrongdoing. Therefore, these types of contacts are only asked of those who were routed into the street stop module (see ***Exhibit 4.2.1***) rather than of all respondents as in 2008. The result of this instrument change is a suppression of respondents indicating this type of contact. For this reason, the 2011 distribution cannot be compared to prior survey years. Therefore, when examining trend, only the distributions between 2002 and 2008 can be compared, and the distributions for 2011 can only be compared with future iterations of the survey.

Exhibit 4.2.1 Distribution of most recent contact among split-sample respondents by instrument

	2008 Instrument	2011 Instrument
Traffic-related contacts		
Driver during traffic stop	37.8%	40.2%
Passenger during traffic stop	2.5	8.8
Traffic accident	12.8	9.7
Other contacts		
Reported crime/problem to police	23.9%	26.7%
Police provided assistance or service	8.1	2.5
Police investigating crime	5.4	0.5
Police suspected resident of wrongdoing	4.1	0.8
Other reason[a]	5.2	10.8

[a]Includes a small percentage of cases in which the reason for contact was unknown.

4.2.3 Characteristics and outcome estimates for all types of contact except drivers in a traffic stop

As described in ***Section 2.1***, the 2008 instrument filtered respondents into more detailed questionnaire modules to collect information regarding various characteristics and outcomes of the reported contact with police. Respondents were routed according to their reported most recent contact, and many of the detailed characteristic and outcome measures were included in the revised instrument. Characteristics and outcomes of police-public contacts include but are not limited to personal or vehicle

searches and enforcement actions like tickets or warnings. Though the revised questionnaire also filtered respondents into detailed modules based on the reported most recent contact, the incomparability of the distributions of most recent contact type resulted in an incomparability between the associated characteristic and outcome measures. Because of this, the same groups of respondents answered different characteristics and outcome measures depending on the version of the instrument received. For this reason, most of the 2011 measures associated with characteristics and outcomes of contacts cannot be compared to past survey years.

However, the characteristics and outcome measures associated with respondents reporting their most recent contact with police as a driver in a traffic stop were found to be mostly comparable since both instruments routed these respondents to analogous questionnaire modules. Since both instruments collected much of the same information from the same group of respondents, the trends associated with these outcomes and characteristics for drivers in a traffic stop can be continued in the 2011 survey year for those estimates measured in previous survey years.

5. References

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6. Appendix

Appendix Table 1. PPCS constructs of interest and comparability categorization

Construct of Interest	Comparability
Face-to-face contact with police in the past 12 months	Similarly measured, adjustment needed
Number of face-to-face contacts in the past 12 months	Similarly measured, not examined
Most recent contact with police in the past 12 months	Incomparably measured
Contact occurred as a driver in a traffic stop	Similarly measured, adjustment needed
Contact occurred as a passenger in a traffic stop	Similarly measured, adjustment needed
Contact occurred due to involvement in a traffic accident reported to police	Similarly measured, adjustment not needed
Contact occurred due to reporting a crime to the police	Similarly measured, adjustment needed
Contact occurred because police were providing some sort of service or assistance	Incomparably measured
Contact occurred because police were investigating a crime	Incomparably measured
Contact occurred because police suspected respondent of something	Incomparably measured
Reasons for traffic stop	Incomparably measured
Reasons for street stop	Incomparably measured
Arrest during most recent contact	Similarly measured, adjustment not needed
Use or threat of force during most recent contact	Similarly measured, adjustment needed
Use or threat of force during prior 12 months	Similarly measured, not examined
Perception of excessive force	Similarly measured, not examined
Injury as a result of force used during contact	Incomparably measured
Respondent actions during contact	Incomparably measured
Respondent filed complaint as a result of contact	Similarly measured, not examined
Number of officers present during contact	Similarly measured, not examined
Race of officer(s) present during contact	Incomparably measured
Time of day or night contact occurred	Similarly measured, not examined
Length of contact	Similarly measured, not examined
Location of contact relative to respondent's home	Incomparably measured
Presence of other people with respondent during contact	Incomparably measured
Vehicle and personal searches during contact	Similarly measured, not examined
Perception of police action legitimacy during contact	Similarly measured, not examined
Ticket or warning (verbal or written) received during contact	Incomparably measured
Police officer asked respondent to exit vehicle	Incomparably measured
Perception of police behaving properly during contact	Similarly measured, adjustment not needed
Perception of police treating respondent respectfully during contact	Similarly measured, adjustment not needed

Similarly measured, adjustment needed: Survey items are measuring the same underlying construct but differ in a way that affects the resulting estimates.
Similarly measured, adjustment not needed: Survey items are measuring the same construct and the manner of measurement did not change.
Similarly measured, not examined: Survey items are measuring the same underlying construct, but were not examined in this report.
Incomparably measured: Survey items were measuring fundamentally different constructs.

Appendix Table 2. Standard errors for Exhibits 2.3 and 3.1. Estimates by type of contact based on the PPCS split-sample and resulting ratio adjustment

Estimate Type	Initial (2008) Instrument Estimate SE	Revised (2011) Instrument Estimate SE
Face-to-face contact	1.40%	0.60%
Use or threat of force during contact	0.60	0.40
Arrested during contact	0.27	0.30
Driver in a traffic stop as most recent contact	0.74	0.36
Passenger in a traffic stop as most recent contact	0.12	0.14
Traffic accident as most recent contact	0.36	0.15
Reported crime or problem to the police as most recent contact	0.55	0.31
Police behaved properly	2.00	0.70

Appendix Table 3. Respondents with face-to-face contact with police, by questionnaire and demographic characteristics, 2011

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	Number	**Percent**	**Number**	**Percent**
Overall	46,506,800	19.1%	54,922,500	22.8%††
Sex				
Male	22,683,100	19.5%	28,653,500	24.2%††
Female	23,823,700	18.8	26,269,000	21.3‡
Race				
White[a]	33,758,000	20.4%	39,056,100	23.3%†
Black/African American[a]	5,408,700	17.7	6,558,900	23.6†
Hispanic/Latino	5,104,500	16.4	6,091,500	19.5
Other[a,b]	1,624,000	12.0	2,313,300	18.5††
Two or more races	611,600	24.8	902,700	35.7‡
Age				
16–17	1,027,000	11.8%	1,338,900	16.6%‡
18–24	8,887,600	27.7	9,294,800	32.3‡
25–34	10,719,700	25.0	11,543,100	27.6
35–44	7,907,700	20.3	10,096,300	24.8†
45–54	8,221,700	18.5	9,996,100	22.5†
55–64	6,117,400	17.1	7,289,800	19.3
65 or older	3,625,700	9.0	5,363,600	13.4††

See appendix table 15 for standard errors.

‡ Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.10 level.

† Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.05 level.

†† Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.01 level.

[a]Excludes persons of Hispanic origin.

[b] Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.

Appendix Table 4. Respondents who experienced arrest during their most recent contact with police, by questionnaire and demographic characteristics, 2011

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	Number	Percent	Number	Percent
Overall	1,686,300	3.6%	1,710,300	3.1%
Sex				
Male	1,160,800	5.12%	1,200,300	4.19%
Female	525,500	2.21	510,000	1.94
Race				
White[a]	1,037,000	3.07%	899,200	2.30%
Black/African American[a]	435,700	8.06!	383,100	5.84
Hispanic/Latino	213,500	4.18!	321,100	5.27
Other[a,b]	--	--	82,100	3.55
Two or more races	--	--	24,700	2.74!
Age				
16–17	--	--	30,700	2.29%!
18–24	377,200	4.24%!	576,300	6.20
25–34	714,100	6.66	513,100	4.44
35–44	296,500	3.75	259,000	2.57
45–54	236,000	2.87!	178,800	1.79
55–64	62,500	1.02!	115,800	1.59
65 or older	--	--	36,700	0.68

See appendix table 16 for standard errors.

‡ Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.10 level.

†† Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.01 level.

! Interpret with caution; estimate based on 10 or fewer sample cases or coefficient of variation is greater than 50%.

-- Number rounds to less than 0.5

[a]Excludes persons of Hispanic origin.

[b] Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.

Appendix Table 5. Respondents who experienced use or threat of force during the most recent contact, by questionnaire and demographic characteristics, 2011

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	Number	Percent	Number	Percent
Overall	1,176,000	2.5%	2,277,300	4.1%†
Sex				
Male	756,200	3.3%	1,490,800	5.2%†
Female	419,800	1.8	786,500	3.0†
Race				
White[a]	753,200	2.2%	1,318,800	3.4%‡
Black/African American[a]	233,800	4.3!	424,000	6.5
Hispanic/Latino	127,800	2.5!	440,100	7.2††
Other[a,b]	20,500	1.3!	57,000	2.5!
Two or more races	40,600	6.6!	37,400	4.1!
Age				
16–17	--	--!	74,200	5.5%!
18–24	283,600	3.2%!	745,300	8.0††
25–34	427,700	4.0	612,400	5.3
35–44	171,000	2.2!	327,900	3.2
45–54	181,800	2.2!	270,000	2.7
55–64	111,900	1.8!	140,700	1.9
65 or older	--	--!	106,900	2.0

See appendix table 17 for standard errors.

‡ Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.10 level.

† Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.05 level.

†† Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.01 level.

! Interpret with caution; estimate based on 10 or fewer sample cases or coefficient of variation is greater than 50%.

-- Number rounds to less than 0.5.

[a]Excludes persons of Hispanic origin.

[b]Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.

Appendix Table 6. Respondents with perceptions that police behaved properly during the most recent contact, by questionnaire and demographic characteristics, 2011

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	Number	Percent	Number	Percent
Overall	41,166,700	89.7%	54,138,600	91.2%
Sex				
Male	19,679,800	87.9%	27,448,200	90.6%
Female	21,486,900	91.3	26,690,300	91.8
Race				
White[a]	30,346,400	91.0%	39,468,200	92.2%
Black/African American[a]	4,462,100	83.6	5,756,800	86.8
Hispanic/Latino	4,523,100	89.9	5,853,100	89.3
Other[a,b]	1,420,200	87.5	2,207,900	91.5
Two or more races	414,900	73.1	852,700	91.3‡
Age				
16–17	1,005,100	97.9%	1,197,400	86.8%††
18–24	7,917,500	89.6	8,469,900	89.8
25–34	9,269,600	87.3	11,341,800	90.0
35–44	7,000,600	89.7	10,265,000	91.5
45–54	7,195,000	89.5	9,977,300	91.5
55–64	5,433,900	90.3	7,413,300	92.3
65 or older	3,345,000	93.7	5,473,900	94.5

See appendix table 18 for standard errors.

‡ Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.10 level.

† Difference in the 2008 questionnaire estimate and the 2011 questionnaire estimate are significant at the 0.05 level.

[a]Excludes persons of Hispanic origin.

[b]Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.

Appendix Table 7. Standard errors for Figure 4.1.1. Adjusted and unadjusted rates for face-to-face contact, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	21.01%	0.34%	25.08%	0.37%
2005	19.09	0.47	22.79	0.51
2008	16.92	0.40	20.20	0.44
2011	22.75	0.61	22.75	0.61

Appendix Table 8. Estimates and standard errors for Figure 4.1.2. Adjusted and unadjusted rates for driver in a traffic stop, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	7.79%	0.19%	9.95%	0.22%
2005	7.82	0.28	9.99	0.32
2008	7.47	0.24	9.55	0.28
2011	8.96	0.36	8.96	0.36

Appendix Table 9. Estimates and standard errors for Figure 4.1.3. Adjusted and unadjusted rates for passenger in a traffic stop, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	0.57%	0.04%	2.37%	0.09%
2005	0.55	0.05	2.29	0.13
2008	0.48	0.04	2.03	0.11
2011	1.97	0.14	1.97	0.14

Appendix Table 10. Estimates and standard errors for Figure 4.1.4. Adjusted and unadjusted rates for traffic accident, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	2.73%	0.10%	2.73%	0.10%
2005	2.39	0.13	2.39	0.13
2008	2.07	0.11	2.07	0.11
2011	2.29	0.15	2.29	0.15

Appendix Table 11. Estimates and standard errors for Figure 4.1.5. Adjusted and unadjusted rates for reported crime or problem to police, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	5.55%	0.16%	8.74%	0.21%
2005	4.53	0.20	7.13	0.26
2008	3.42	0.15	5.38	0.20
2011	6.96	0.31	6.96	0.31

Appendix Table 12. Estimates and standard errors for Figure 4.1.6. Adjusted and unadjusted rates for use or threat of force, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	1.48%	0.12%	2.42%	0.16%
2005	2.29	0.22	3.75	0.29
2008	1.94	0.20	3.19	0.26
2011	4.15	0.35	4.15	0.35

Appendix Table 13. Estimates and standard errors for Figure 4.1.7. Adjusted and unadjusted rates for arrest, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	2.88%	0.18%	2.88%	0.18%
2005	2.91	0.32	2.91	0.32
2008	2.86	0.25	2.86	0.25
2011	3.11	0.30	3.11	0.30

Appendix Table 14. Estimates and standard errors for Figure 4.1.8. Adjusted and unadjusted rates for police behaved properly, 2002–2011

	Unadjusted		Adjusted	
Year	Percent	SE Percent	Percent	SE Percent
2002	90.09%	0.48%	90.09%	0.48%
2005	90.35	0.69	90.35	0.69
2008	89.68	0.67	89.68	0.67
2011	91.12	0.77	91.12	0.77

Appendix Table 15. Standard errors for Appendix Table 3. Respondents with face-to-face contact with police, by questionnaire and demographic characteristics, 2011

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	SE Number	SE Percent	SE Number	SE Percent
Overall	3,306,900	1.4%	1,479,900	0.6%
Sex				
Male	2,164,200	1.7%	1,031,700	0.8%
Female	2,231,400	1.6	979,600	0.7
Race				
White[a]	2,756,300	1.6%	1,233,800	0.7%
Black/African American[a]	842,900	2.3	406,300	1.2
Hispanic/Latino	810,500	2.2	387,200	1.0
Other[a,b]	371,900	2.4	205,600	1.4
Two or more races	192,600	6.0	112,100	3.2
Age				
16–17	272,700	2.7%	144,200	1.5%
18–24	1,177,300	2.8	509,700	1.3
25–34	1,333,600	2.5	586,100	1.1
35–44	1,088,800	2.3	537,700	1.1
45–54	1,117,600	2.1	534,200	1.0
55–64	916,100	2.2	435,300	1.0
65 or older	642,400	1.4	356,200	0.8

[a]Excludes persons of Hispanic origin.

[b]Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.

Appendix Table 16. Standard errors for Appendix Table 4. Respondents who experienced arrest during their most recent contact with police, by questionnaire and demographic characteristics, 2011

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	SE Number	SE Percent	SE Number	SE Percent
Overall	129,900	0.27%	169,000	0.30%
Sex				
Male	102,800	0.43%	134,500	0.44%
Female	63,000	0.26	78,200	0.29
Race				
White[a]	95,800	0.27%	111,800	0.28%
Black/African American[a]	56,300	0.96	65,500	0.93
Hispanic/Latino	36,900	0.69	58,800	0.91
Other[a,b]	--	--	26,200	1.09
Two or more races	--	--	13,400	1.44
Age				
16–17	--	--	15,000	1.10%
18–24	51,600	0.55%	84,400	0.84
25–34	76,000	0.66	78,500	0.64
35–44	44,700	0.54	51,600	0.49
45–54	39,100	0.46	41,300	0.40
55–64	18,300	0.30	32,000	0.43
65 or older	--	--	16,600	0.31

-- Number rounds to less than 0.5.

[a]Excludes persons of Hispanic origin.

[b]Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.

Appendix Table 17. Standard errors for Appendix Table 5. Respondents who experienced use or threat of force during the most recent contact, by questionnaire and demographic characteristics, 2011

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	SE Number	SE Percent	SE Number	SE Percent
Overall	298,800	0.6%	203,500	0.4%
Sex				
Male	222,000	0.9%	154,600	0.5%
Female	150,100	0.6	102,700	0.4
Race				
White[a]	221,400	0.6%	142,800	0.3%
Black/African American[a]	102,500	1.8	69,800	1.0
Hispanic/Latino	69,800	1.3	71,400	1.1
Other[a,b]	23,100	1.4	21,300	0.9
Two or more races	34,600	5.3	16,800	1.8
Age				
16–17	--	--	24,700	1.7%
18–24	116,100	1.2%	99,300	1.0
25–34	152,000	1.3	87,700	0.7
35–44	83,900	1.0	59,600	0.6
45–54	87,200	1.0	52,900	0.5
55–64	64,200	1.0	35,800	0.5
65 or older	--	--	30,500	0.6

-- Number rounds to less than 0.5.

[a]Excludes persons of Hispanic origin.

[b]Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.

Appendix Table 18. Standard errors for Appendix Table 6. Number and percent of respondents with perceptions that police behaved properly during most recent contact in 2011, by questionnaire and demographic subdomains

	Initial (2008) Questionnaire		Revised (2011) Questionnaire	
	SE Number	SE Percent	SE Number	SE Percent
Overall	3,090,600	2.0%	1,469,200	0.7%
Sex				
Male	1,979,000	2.7%	1,005,700	0.9%
Female	2,092,000	2.3	989,000	0.9
Race				
White[a]	2,587,100	2.1%	1,241,000	0.8%
Black/African American[a]	739,800	4.6	373,100	1.7
Hispanic/Latino	746,700	3.8	377,200	1.6
Other[a,b]	339,500	6.0	199,400	2.0
Two or more races	148,900	11.5	108,100	2.9
Age				
16–17	268,700	3.1%	134,300	3.0%
18–24	1,089,700	3.3	479,900	1.4
25–34	1,210,800	3.4	579,500	1.2
35–44	1,003,300	3.4	543,500	1.2
45–54	1,021,900	3.4	533,600	1.2
55–64	845,600	3.5	440,100	1.3
65 or older	608,100	3.4	361,000	1.2

[a]Excludes persons of Hispanic origin.

[b]Includes American Indian and Alaska Natives; Asian, Native Hawaiian, and Other Pacific Islanders.