Conditional Order Effects

By

Tom W. Smith

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Despite over forty years of study, question order is probably the least developed and most problematic aspect of survey research. As Schuman and Presser remark in their recent work on survey methodology (1981, p. 77), "Overall, order effects...constitute one of the most important areas of methodological research. They can be very large and are difficult to predict.... At this point research needs to be aimed not merely at producing more examples, but at understandiing why those already obtained occur." This perplexity is shared by Bradburn (forthcoming) who observes, "No topic in questionnaire construction is more vexing or resistant to easy generalization than that of question order." There is a temptation to blame our collective befuddlement on a dearth of experimental studies. While we, like Oliver Twist, would like "more," the paucity of data is not the main cause for our ignorance. There have been nearly 50 studies of order effects, most involving split ballot experiments.

Most fundamentally, understanding has been limited because the topic is extremely complex. It now appears that there are many distinct types of order effects. Until recently we have been like nineteenth century physicians who used the term "a cancer" to cover many separate diseases. We are now only beginning to distinguish, sort out, and study the different types of order effects and their causes. We are not even sure at this point if we have identified the correct classification principles and isolated the major types of order effects. We are beginning to realize that a knowledge of social psychology (e.g. attitude change) and cognitive psychology (e.g. memory recall and linkage) will be required to understand order effects. Secondly, development has been hampered by an atheoritical focus. Most studies have lacked explicit (and a number even implicit) explanations for the effects under investigation. The development and testing of competing hypotheses has

typically been ignored and even when the previous literature is cited by later studies there is often no cumulativeness of research. Studies are cited as examples, but we have not tended to learn from these examples. Thirdly, there has been a major underanalysis of existing empirical data. The majority of experiments merely compare the marginal distribution of B under orders AB and $\overline{AB}$. Reciprocal marginal effects, interitem associations, conditional effects, and interactions with other variables have rarely been examined. In brief, we have been trying to understand a complex problem without adequately applying either the theoritical or empirical tools of the social scientific method. As a result we have been able to repeatly demonstrate the existence or nonexistence of various particular order effects with little cumulative understanding of the causes and conditions involved.

CONDITIONAL ORDER EFFECTS

In this paper we will examine one of the commonly overlooked aspects of order effects, conditional effects. Almost all studies prior to Schuman and Presser's (1981) have assumed that it is the prior question(s) itself that induced order effects in subsequent questions. This holistic assumption appears likely for certain types of order effects (see discussion below), but not for other types. Implicitly (and rarely explicitly) in the early literature, there is an indication that the order effect does not rest on the prior question per se, but rather how one responded to the antecedent question. This interaction between question order and response to the antecedent question is what we call a conditional order effect. We chose to focus on this aspect of order effects because a) we believe that conditional effects are common, perhaps even typical, among order effects and b) understanding the conditional relationship between antecedent and subsequent responses greatly facilitates a comprehension of the nature and causes of context effects.

A review of the order effect literature reveals that prior to the work of Schuman and Presser not one study tested for conditional effects. This makes conditional effects the most neglected aspect of order effects (interitem associations, reciprocal marginal effects, and interactions with other variables have been measured in various studies). To study conditional order effects we were able to draw on three examples from Schuman and Presser (general and specific abortion, Russian and American reporters, and general and specific job discrimination) and three examples from the General Social Surveys (tax and spending, alienation and institutional confidence, and marital and general happiness). All examples are based on samples of the national adult population conducted between 1976 and 1980 by either the Survey Research Center, University of Michigan or the National Opinion Research Center, University of Chicago (for more details see Schuman and Presser, 1981 and Davis and Smith, 1982).

Table 1 shows four cases in which the context effects were conditional on responses to the antecedent question (see wordings in Appendix). In the first example, the overall context effect is for the appearance of the marital/happiness question immediately before the general happiness question to increase the general happiness level.[1] Looking at conditional context effects we see that the effect is largely confined among those who rate their marriages very happy. Mentions of marital happiness increase general happiness since most married people rate their marriage as very happy, but among the unhappily married there is no nuptial bliss to spread to general happiness. In the second example, the inclusion of alienation items before confidence items reduces the confidence rating of major companies. This

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[1]A result which is at odds with Schuman and Presser's similar experiment.

effect is however entirely confined among those who agreed with the proposition that "The rich get richer and the poor get poorer." Similarly, asking about allowing Russian reporters to gather news in the United States first reduces support for allowing an American reporter to cover the Soviet Union only among those opposed to allowing Russian coverage of the United States.[2] Likewise, in the tax/spending example ~~the situation~~, fiscal conservatives (people rejecting most current spending levels as too high) do not vary their opinion on taxes while spending moderates and liberals are less likely to object to taxes after the spending items.

For two of these examples we were able to examine conditional effects in greater detail by looking at seven levels on the alientation scale and four spending levels (Table 2). First, we see that in both cases the overall order effect (less confidence in business after alienation items and less opposition to taxes after spending questions) is not merely absent under certain conditions, but reverses at one pole. The outlook of the extreme anti-spending and unalienated groups differs so from the majority that the spending and alienation items have an opposite impact on them than for the majority. This means that the gross order effect across groups is substantially greater than the net effect observed among the aggregate population. The second similarity is more surprising, the largest order effect in the main direction doesn't occur at the opposite pole on alienation but in the middle. The middle conditional order effect is also large on the tax/spend example. In both cases this effect occurs among the median group, those with three agrees and three disagrees on the alienation scale and those with an average score of

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[2]The Russian/American reporter example is actually more complicated than the others because the marginal effects are reciprocal. As a result, the distribution of the conditional controls varies by order.

2 (spending about right) on the eleven spending items. We hypothesized that the effects might increase among the median groups because these groups contained a large share of people with weak attitudes on the issues whose median scores were more a product of random responding than a reflection of a considered middle position. Being without fixed attitudes they were more swayable by question order. We tried to check this by examining whether this group showed less interest, knowledge, or involvement. We found that the median group did not overrepresent less educated respondents or those giving don't knows to other attitude questions. On spending, however, the median group had the highest level on non-voting (32.8 percent vs. 22.3 percent for everyone), but on alienation no difference appeared. These minimal results probably came from the fact that the median group contains both random responders and those with moderate positions and because of the difficulty of finding general items that would predict random responding to a particular scale. We take the one sign of conformation on the voting item as indication that our explanation for why middle, order effects were high is plausible, but unproven.[3]

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[3]An experiment that was part of a supplement to the 1982 General Social Survey funded by the Ford Foundation found similar results. This question asked about national service for men and women with the sex asked about first varied (see wording). This question evokes Schuman's norm of evenhandedness. Support for national service for men is lower when it follows the women question than when it comes first (% strongly favor is 43.4% when men comes first and 33.1% when women come first). Depending on how categories are collapsed either all of the order effect is conditional, occuring only among people who oppose or strongly oppose national service for women, or the effect is substantially stronger among those who oppose national service for women rather than among those who favor such service.

140X. A. How would you feel about a program that required all young men to give one year of service to the nation--either in the military forces or in non-military work such as in hospitals or with elderly people--Would you strongly favor it, probably favor it, probably oppose it, or strongly oppose it? RECORD UNDER "A" BELOW

The final two examples (Table 3) show no evidence of conditional order effects, but actually both underscore the importance of checking for these specifications. As Schuman and Presser note, the lack of a conditional effect on the abortion questions is surprising since their prime explanation of the effect (a subtraction effect) implies such an effect. They argue that people presented with the popular specific reason for abortions in case of birth defects first tend to exclude this reason from the subsequent general abortion question and thereby lower their support for the general abortion item. This scenario works nicely for the vast majority of people who approve of abortions in cases of birth defects, but it fails to explain why people who opposed abortion for birth defects are also less likely to approve of general abortions when the specific, birth defect items comes first. Presumably since birth defects have been rejected as a good reason for an abortion there is no positive component to subtract out of the general abortion question. Either there is an appropriate general explanation other than the subtraction effect proposed by Schuman and Presser, or we have two distinct conditional, causal effects that happen to be equal in magnitude.

Alternative explanations include a contrast effect. The general reason may not seem as attractive when compared to the highly attractive birth defect reason and therefore fewer people may endorse the general abortion question. This contrast effect could work among either people opposed to abortions for birth defects or those in favor of it, since even those opposed to abortions for birth defects might recognize it as a better reason than general abortion and therefore reduce their approval of the general item.

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[3] (cont'd)B. And how would you feel about such a program for all young women--Would you strongly favor it, probably favor it, probably oppose it, or strongly oppose it? RECORD UNDER "B"

Another possible explanation has similarities to the subtraction effect, a redefinition effect. When the general question appears first, some people think of the various reasons for not having another child and since some of the reasons are attractive (e.g. the prevention of birth defects) they approve of the general abortion question. When it comes second, they realize that it does not contain birth defects and may infer that if it does not include any other extenuating circumstances either. It thus changes from being a general abortion question to being a specific question about unwanted children. The specific/general ordering clarifies that the so-called general question does not include any extraordinary reason for not wanting another child, but simply a desire to avoid more children. Thus even someone opposed to abortion for birth defects would be less likely to support general abortion not because birth defects are excluded or subtracted from the question, but because the question is seen as excluding special circumstances in general. Since the context redefines what the general question is asking about, it changes how everyone responds to the question irregardless of their attitude to the birth defect item.

While either of these general explanations may explain the lack of an interaction within the birth defect question, it is also possible to come up with particular explanations for those opposed to abortions for birth defects. From a Guttman scaling perspective those who say no to abortion for birth defects but yes to abortion to prevent more children represent an error group.[4] We might speculate that these cases do represent error by people who are confused by or inattentive to the abortion question. While the specific

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[4]Looking at the six abortion items on the GSS which include the two items used by Schuman and Presser we find that the general abortion item is the hardest item to approve, while birth defect is the second easiest. The coefficients of reproducibility and scalability are .94 and .81.

to general (easy to hard) order reduces error, the opposite order permits more random error on the general question. Perhaps the appearance of the general question second allowed respondents more time to sort out their thoughts on abortion and therefore give consistent rather than inconsistent response patterns. This would leave among the error cases the most confused about the abortion issue (nonattitude holders) and a group whose true pattern deviated from the predominant pattern (e.g. those who though defective children were God's special children and a blessing in disguise, but that unwanted normal children would be raised without love and thus best prevented).

The situation about job discrimination is similar to abortion. No conditional effect is observed, but, as Schuman and Presser note, this is counter to the consistency explanation suggested by the marginal shifts. We will not go through possible alternative explanations for the absence of a conditional order effect, rather reinterate that the absence of such an effect is often as informative as its presence.

In four of six examples available, order effects were concentrated among certain categories of the antecedent question. It was not the mere mention of a prior topic that induced a marginal shift in the subsequent question, but a respondent's level or position on the antecedent variable and the order that induced the order effect. In fact, from the tax/spending and alienation/confidence items we see that even the direction of the order effect is dependent on the position on the antecedent item. This information can not only be used for a better understanding of the particular observed order effects (along with other empirical analysis of reciprocal marginals, interitem correlations, and interactions with other variables), but also perhaps allow a refined classification of order effects, a better developed theory, and improved predictions of when order effects are likely.

CLASSIFICATIONS AND CAUSES

Schuman and Presser (1981) and Bradburn (Bradburn and Mason, 1964 and Bradburn, forthcoming) have formulated two similar classifications schemes for question order effects.[5] (See Table 4.) Both refer to the psychological or cognitive processes by which order influences responses to subsequent questions. Schuman and Presser's classification is more detailed and more hierarchically organized than Bradburn's but principally differs by using question type distinctions (part and whole) within the consistency and contrast categories and the addition of the initial frame of references and simple contrast classes.

Using these classifications and our study of conditional order effects as starting points, we reviewed the extant literature on order effects (see bibliography) and considered the causes of classes of order effects.

Order effects come in many shades and shapes. First there are the group of what Schuman and Presser label sequence effects (often elsewhere referred to as position effects). These are sometimes described as "mechanical" and are believed to be completely unrelated to the substance of the preceding question(s). A rapport effect argues that a more trusting and open exchange of information occurs after the interview has developed. At the opposite pole a fatigue effect stipulates that after a long series of questions a respondent grows tired and gives less complete and more perfunctory answers. Both effects are widely ascribed to by survey researchers and questionnaire designers. Empirical evidence is quite slim, but does tend to support the existence of slight effects of both kinds. Another less commonly mentioned position effect is what Schuman and Presser call an initial frame of reference

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[5]Here, as elsewhere in this paper we exclude the related but distinct matter of response order effects. See Schuman and Presser, 1981; pp. 56-74.

effect. With a battery of questions rating or comparing topics on a common criterion, an item will tend to receive either its lowest or highest mean rating when it appears first.

While these sequence effects can be unrelated to the substance of preceding questions, it is also possible for their effects to be increased or decreased by either the substance of previous questions or one's responses to them. Rapport effects would undoubtedly be suppressed by a series of highly threatening questions about intimate matters or deviant behavior. In particular rapport might be destroyed in the case of someone who was "guilty" of several of the deviant behaviors inquired about. Similarly, boring or difficult questions (such as how many rather small holes there are in Blackburn Lancashire) would bring on fatigue more quickly than a series of stimulating, pleasant questions.

Second, there are what Schuman and Presser call context effects, which involve some transference of meaning between the antecedent question and the subsequent question. All context effects involve salience and consistency in some sense. The antecedent question increases certain cognitive connections and subsequent responses are consciously or unconsciously influenced by these salient factors. Some of these context effects depend only on the topics raised in the prior questions and not on a respondent's attributes or responses on these items. One example is a stimulation effect in which questions about a subject stimulates more reports of behavior related to or interest in the topic. For example, attitude questions about crime lead to more reports of criminal vicimization and questions about politics increase reported levels of interest in politics. Three quite distinct explanations have been offered for these increases: improved memory searching leading to more complete reports, increased telescoping of behaviors causing exaggerated

reports, and intentional exaggeration because of social desirability pressures. While improved memory searching is usually the favored explanation, it is quite possible that all three processes can be at work either in different situations or even simultaneously in the same situation (e.g. some of the increased crime reports may come from a more thorough memory dragnet, while some come from increased telescoping).

Another effect that depends on the substance of prior questions is a redefinition or clarification effect. For example, as part of a series of questions about the brand of washer, TV, and frige you own an inquiry about "And what kind of car do you own?" would elicit more model names than the same question appearing alone which would get more references to vans, sedans, convertibles, etc. Similarly we posited above that the general-specific abortion effect might involve a redefinition of the general question. When the redefinition effect involves the elimination of a specific element from the subsequent question we have a subtraction effect as discussed earlier. This might well involve a conditional effect since it is not only the subtraction but how you feel towards what is being excluded that determines the order effect. As in the case of other effects, redefinition effects can come in conditional and nonconditional forms.

Closely related to the redefinition effect is redundancy. As Bradburn describes it, a person having mentioned certain behaviors at an earlier point may consider it repetitive to mention them again. This may result from the conclusion that these elements are excluded from the subsequent question (redefinition) or simply a reluctance to go over the same ground twice even if the respondent realizes that the same information is applicable to the later questions.

Finally, simple contrast effects may fall into this category. Here one

judges the desirability of the second question in light of the first. If the first represents a highly positive situation and the other a less attractive situation, it is contended that the relative merit of the second item will seem even less because it is contrasted to the first and pales in comparison.[6] (A highly negative situation preceding a positive question might be expected to have a similar type of impact.) This effect necessitates that a respondent recognizes a contrast between the desirability of two propositions, but not necessarily that he endorses the attractive proposition. He needs only recognize that in general such a distinction is seen.

Next there are context effects that depend not only on the substance of the prior question, but responses to the antecedent question constraining response to the subsequent question. One such constraint effect involves the establishment of a normative principle between two questions. This is exemplified by the Russian and American reporter question. This type probably represents the strongest of context effects and usually, if not always, will cause reciprocal marginals effects (i.e. both A and B distributions will differ in orders AB and BA). A second constraint effect establishes a logical connection between questions. This would include the tax and spending example. While not too distant from normative effects (especially if we consider logic as a norm) and involving like the former also a conscious attempt to bring responses into line, the logical connection effect does not rest on a general social norm separate from the main substance of the items.[7] In addition it appears that logical connections are more likely to be undirectional rather than reciprocal.

Next comes a rather large and fairly amorphous category of focus

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[6]This contrast effect does not depend on how a respondent answered the antecedent question, but does depend on a respondent recognizing the first as more favorable (even if the respondent does not personally favor it). If the two are not seen as differing in desirability no constrast effect takes place.

[7]For example, where context failed to induce logical constraint see Smith, 1981a and Smith, 1981c.

effects. They focus attention on some topic that relates to the subsequent question. Questions about children preceding an abortion question might reduce support for abortion since the salient images of children might focus attention on the unborn child rather than the women when one considers the abortion questions. These differ from logical connection effects in several regards. First, the constraint does not come from strictly logical propositions, but rather from more subtle pressures and inclinations. Second, the impact is seen as working through memory access rather than conscious reconciliation of response patterns.

It is however often difficult to determine whether conscious logical constraint (I am very happily married. My marriage is the most important part of my life. Therefore my life is very happy) is involved or patterns of cognition (thinking about general happiness R has most ready access to the marital happiness memories that were just recalled from memory). In either case being very happy on marriage will lead to increased reports of happiness on the general question, but the causes or processes are not the same. In the former general happiness responses are being consciously reconciled with the prior marital happiness response (which comes from the accessed memories of marital happiness), while in the second case the effect comes directly from the memories.

Third, while involving conditional effects in a general sense, it may not be possible to demonstrate conditionality because the antecedent questions may not have an item that explicitly records the attitude that specifies the order effect. A focus effect is conditional in that it is what you feel towards the topic covered by the antecedent question that determines your subsequent response. This may not be discernable since the antecedent question may not inquire about feelings towards the topic. For example, in the classic dress-advertising example "questions regarding dresses" preceded attitudes towards towards advertising. We do not know just what dress questions were asked, but suppose that these questions covered such matters as

place of purchase, styles favored, and the like. Subsequent attitude questions revealed that after the dress questions 1) ratings of advertising was more favorable and 2) dress advertising was the main type of advertising thought of. The factor that leads the increased focusing on dresses to improve advertising ratings is that women like dresses and as a result presumably like dress advertisements. Among the presumably small proportion of women who disliked clothes in general or dresses in particular (Ms. Nacktkultur or Amelia Bloomer), we would presumably not find an increase in favorable ratings of advertisements. While there are distinct differences in the processes involved in these two classes of effects, they are differences of degree and specific examples may involve blends of both.

A final special form of a constraint effect is a propaganda effect. Under this situation prior questions either lead to attitude formation or attitude change. While not clearly distinguishable from logical connection or focus effects, it differs in that the prior question does not merely tap a pre-existing connection or access existing memories and information, but rather supplies connections and information to form a basis for answering subsequent questions. It is the prior question rather than memory that supplies the information that induces a context effect. For example consider the following example of a propaganda question supplying information that might well influence one's response to the latter question: "Did you know that 50,000 Americans die each year because of drunk drivers?" "Do you favor or oppose tougher penalties for drunk drivers?" While this is a sufficiently different process to justify separate classification, there is the problem of determining whether the propaganda is really creating de novo a context or only tapping existing attitudes and information in a similar, if heighted, fashion as other context processes.

In brief, order effects can be induced by a variety of cognitive and social psychological processes. Sometimes position alone is sufficient to create an effect, while other effects are stimulated by the substance of prior

questions and often by a respondent's implicit or explicit attitude towards the prior substance.[9] In addition many types of order effects can interact and comingle. For example, fatigue effects can be reduced or increased by question form and the topics covered. While there may be a general fatigue curve associated with time or number of responses, the slope of this curve may be lengthened or shortened by such factors as the format of the questions and the interest and difficulty of the questions involved. In fact, two or more different (and even conflicting) effects may be relevant in the same instance. For example, extended discussions of a topic usually results in more interest in that issue being subsequently reported. Bishop (Bishop, Oldendick, and Tuchfarber, 1982) however found that when the discussion included several difficult knowledge questions about which most people lacked information interest was decreased. In this instance it appears that the stimulation effect was overcome by a logical connection effect that linked low knowledge with low interest. Finally, the picture has been complicated further by the demonstration that the order effect inducing question does not have to appear immediately before the target question, but can be separated by a number of intervening questions(Schuman, Kalton, and Ludwig, forthcoming and Bishop, Oldendick, and Tuchfarber, 1982). Order effects alas are not of Horation simplicity.

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[9]We assume that an explicit conditional effect will be greater than an implicit effect. Verbalized positions should exercise more influence than predispositions that are accessed only indirectly. This has not been demonstrated, however.

CONCLUSION

Refining our understanding of order effects will not be an easy task given a) the large number of different processes involved, b) the difficulty of distinguishing between competing explanations and c) the interaction of order effects with such other factors as question type (e.g. behavioral, affective), question specificity, response type (substantive response vs. non-response), and time (e.g. the Russian-American reporters and parental-student party identification). One key to further progress is simply to apply theoretical models, setting up experiments to test specific hypotheses about the causality of order effects and clearly chose between competing explanations. This will involve moving beyond simple split ballot experiments. Useful as split ballots are with their experimental controls, we will have to apply even more elaborate designs to gain a better understanding of the mental processes that cause order effects. One promising approach would be the addition of a followup question after the antecedent and subsequent question that would inquire about what the respondent was thinking about. Take Kalton's example where evaluations of driving standards were rated more positively immediately after a similar question about the driving standards of young drivers. Kalton hypothesizes that the more positive evaluation of drivers in general resulted from a subtraction effect that excluded young drivers from consideration in the second question. We should be able to test for this effect by asking after the general driving condition either an open ended question about what type driver one had in mind or a more focused closed question something like "When you answered the question about general driving standards were you thinking mostly about young drivers, middle-aged drivers, or older drivers?" If a subtraction effect was operating, there should be a reduction in references to young drivers when the general question was preceded by the question about young drivers. Other follow-up questions could be used to test the operation of other effects such as consistency or simple contrast. Another possibility is the use of

questions probing other dimensions besides affect - importance, salience, information, knowledge, and commitment (Smith, 1981; Gallup, 1948; and Schuman and Presser, 1981). By learning with what dimensions and conditions order effects interact we should better understand its causes. Another useful approach would be a test/retest design in which four orders could be used ($A_1B_1A_2B_2$; $A_1B_1B_2A_2$; $B_1A_1B_2A_2$; and $B_1A_1A_2B_2$). This would allow a comparison of the consistency of each item in each order (Hayes, 1964 and Smith and Stephenson, 1978). Given certain assumptions, it would also permit an intra-respondent analysis of order effects. Alternatively, one might ask respondents the subsequent question later in the same interview in a different context. Interviewers could then reconcile discrepancies in responses. Through these and other elaborations of the basic split ballot technique, it should be possible to examine directly the causes of context effects and gain a deeper understanding of the mental processes involved.

By more fully analyzing split-ballot order experiments, by elaborating these experiments with specific inquires about mental processes and other auxiliary items, and by greater grounding in appropriate cognitive and social psychological theories, we should be able to greatly advance our understanding of order effects. While the natural complexity of language and human cognition will undoubtedly hinder precise and comprehensive generalizations about order effects, thorough and cumulative analysis as conducted by Schuman and Presser should greatly advance the art of ordering questions.

TABLE 1A

GENERAL HAPPINESS BY MARITAL HAPPINESS BY ORDER

	Order		Context Effect
	Marital/General	General/Marital	(Order1 - Order2)
General Happiness (% Very)	Marital Happiness = Very Happy		
	56.1 (421)	47.5 (177)	8.6
	Marital Happiness = Not Very Happy		
	11.5 (192)	8.8 (91)	2.7

TABLE 1B

CONFIDENCE IN MAJOR COMPANIES BY ALIENATION BY ORDER

	Order		Context Effect
	Alienation/ Confidence	Alienation/ Confidence	(Order1 - Order2)
Major Companies (% Great Deal)	Rich get Richer = Yes		
	11.9 (528)	22.6 (541)	-10.7
	Rich get Richer = No		
	38.9 (175)	39.2 (169)	0.7

TABLE 1C

AMERICAN REPORTER BY RUSSIAN REPORTER BY ORDER

	Order		Context Effect
	American/Russian	Russian/American	(Order1 - Order2)
American Reporter (% Allow)	Russian Reporter = Allow		
	99.0 (100)	96.2 (130)	2.8
	Russian Reporter = No		
	21.6 (74)	40.0 (40)	-18.4

TABLE 1D

TAX APPROVAL BY SPENDING PREFERENCES BY ORDER

	Order		Context Effect
	Spend/Tax	Tax/Spend	(Order1 - Order2)
	Spend Scale = Anti-Spending		
Tax (% Taxes too high)	59.7 (144)	61.0 (141)	-1.3
	Spend Scale = Not Most Anti-Spending		
	68.0 (400)	49.4 (389)	18.6

TABLE 2A

CONFIDENCE IN MAJOR COMPANIES BY ALIENATION SCALE BY ORDER

	Order		Context Effect (Order1 - Order2)
	Alienation/ Confidence	Confidence/ Alienation	
Confidence in Major Companies (% Great Deal)	Alienation Scale = 0		
	51.5 (68)	40.0 (40)	11.5
	Alienation Scale = 1		
	27.9 (61)	34.9 (83)	-7.0
	Alienation Scale = 2		
	20.9 (86)	34.5 (94)	-13.4
	Alienation Scale = 3		
	10.1 (89)	33.0 (94)	-22.9
	Alienation Scale = 4		
	24.1 (87)	28.7 (108)	-4.6
	Alienation Scale = 5		
	10.0 (110)	13.5 (104)	-3.5
	Alienation Scale = 6		
	6.2 (97)	12.1 (91)	-5.9

TABLE 2B

TAX APPROVAL BY SPENDING PREFERENCES BY ORDER

	Order		Context Effect (Order1 - Order2)
	Spend/Tax	Tax/Spend	
Tax (% Taxes Too High)	Spend Scale = Most Anti-Spending		
	57.8 (90)	65.2 (89)	-7.4
	Spend Scale = Low Spending		
	69.8 (182)	49.4 (168)	20.4
	Spend Scale = Moderate Spending		
	65.4 (208)	55.0 (191)	10.4
	Spend Scale = High Spending		
	65.6 (64)	40.2 (82)	25.2

TABLE 3A

GENERAL ABORTION BY SPECIFIC ABORTION BY ORDER

	Order		Context Effect
	Specific/General	General/Specific	(Order1 - Order2)
	Specific Abortion (Defect) = Yes		
General Abortion (no more children) = Yes	56.1 (246)	69.2 (253)	-13.1
	Specific Abortion (Defect) = No		
	6.4 (47)	19.2 (52)	-12.8

TABLE 3B

GENERAL JOB DISCRIMINATION BY SPECIFIC JOB DISCRIMINATION BY ORDER

	Order		Context Effect
	Specific/General	General/Specific	(Order1 - Order2)
	Spec. Disc. (avoid friction) = favor		
General Discrimination (in Principle) = favor	18.7 (32)	13.3 (30)	5.4
	Spec. Disc. (avoid friction) = oppose		
	9.6 (157)	3.2 (158)	6.4

TABLE 4

CLASSIFICATIONS OF ORDER EFFECTS

Schuman and Presser	Bradburn
I. Context Effects (transfers of meaning)	
A. Part-Part Consistency	
1. Normative Principles	
2. Logical Inference	1. Consistency
B. Part-Whole Consistency	
C. Part-Part Contrast	
D. Part-Whole Contrast	
1. Subtraction	2. Redundancy
2. Simple Contrast	
E. Salience	3. Saliency
II. Sequence Effects (more mechanical types of artifacts)	
A. Rapport	4. Rapport
B. Fatigue	5. Fatigue
C. Initial Frame of Reference	

SOURCE: Schuman and Presser (1981) and Bradburn and Mason, 1964 and Bradburn, forthcoming.

APPENDIX:
QUESTION WORDINGS

A. Marital and General Happiness (GSS 1980)

ASK ONLY IF CURRENTLY MARRIED.

Taking things all together, how would you desribe your marriage? Would you say that your marriage is very happy, pretty happy, or not too happy?

ASK EVERYONE:

Taken all together, how would you say things are these days--would you say that you are very happy, pretty happy, or not too happy?

B. Alienation and Confidence in Institutions (GSS 1978)

Now I want to read you some things some people have told us they have felt from time to time. Do you tend to feel or not . . . (READ LIST)

A. The people running the country don't really care what happens to you.

B. The rich get richer and the poor get poorer.

C. What you think doesn't count very much anymore.

D. You're left out of things going on around you.

E. Most people with power try to take advantage of people like yourself.

F. The people in Washington, D.C. are out of touch with the rest of the country.

I am going to name some institutions in this country. As far as the people running these institutions are concerned, would you say you have a great deal of confidence, only some confidence, or hardly any confidence at all in them? REACH EACH ITEM, CODE ONE FOR EACH. REPEAT THE QUESTION, OR CATEGORIES, AS NECESSARY.

HAND CARD

A. Major companies

B. Organized religion

B. (Continued)

C. Education

D. Executive branch of the federal government

E. Organized labor

F. Press

G. Medicine

H. TV

I. U. S. Supreme Court

J. Scientific community

K. Congress

L. Military

M. Banks and financial institutions

C. Taxation and Spending (GSS 1976)

Do you consider the amount of federal income tax which you have to pay as too high, about right, or too low?

We are faced with many problems in this country, none of which can be solved easily or inexpensively. I'm going to name some of these problems, and for each one I'd like you to tell me whether we're spending too much money on it, too little loney, or about the right amount. First (READ ITEM A) . . . are we spending too much, too little, or about the right amount on (ITEM)? READ EACH ITEM: CODE ONE FOR EACH.

A. The space exploration program

B. Improving and protecting the environment

C. Improving and protecting the nation's health

D. Solving the problems of the big cities

E. Halting the rising crime rate

F. Dealing with drug addiction

G. Improving the nation's education system

H. Improving the conditions of Blacks

C. (Continued)

I. The military, armaments and defense

J. Foreign aid

K. Welfare

D. General and Specific Abortion (SRC 1979)

Do you think it should be possible for a pregnant woman to obtain a legal abortion if she is married and does not want any more children?

Do you think it should be possible for a pregnant woman to obtain a legal abortion if there is a strong chance of serious defect in the baby?

E. Russian and American Reporters (SRC 1980)

Do you think the United States should let Communist newspaper reporters from other countries come here and send back to their papers the news as they see it?

Do you think a Communist country like Russia should let American newspaper reporters come in and send back to America the news as they see it?

F. General and Specific Job Discrimination (SRC 1980)

Now I'd like your opinion about a different subject. Suppose that a well-qualified black engineer applied for an executive-level engineering job. The personnel director explained: 'Personally, I'd never give your race a thought, but the two people you would work with most closely--the plant manager and the chief engineer--both have strong feelings about blacks. I can offer you a job as a regular engineer, but not at the executive level, because any serious friction at the top would ruin the organization.'

In general, do you think employers should hire persons for top management without paying attention to whether they are white or black?

Was it right for the personnel director in this case to refuse to hire a black engineer as an executive in order to avoid friction with other employees?

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