

# Reflections and Reviews

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## Self-Reports in Consumer Research: The Challenge of Comparing Cohorts and Cultures

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Self-reports are a key source of information in consumer research. Unfortunately, self-reports are highly context dependent, and this problem is compounded when comparisons across cohorts or cultures are of interest. Age-related changes in cognitive functioning and cultural differences in cognition and communication influence the response process, resulting in differential context effects that may reverse the ordinal placement of cohorts or cultures on the measure of interest. Any observed difference between age groups or cultures may therefore reflect a meaningful difference in attitudes or behaviors, a difference in the response process, or an unknown mix of both.

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Theorizing in consumer behavior has taken on a decidedly cognitive flavor since the early 1980s, when researchers began to adopt models of information processing from cognitive psychology and social cognition. This development advanced our understanding of consumers' judgment and decision processes and highlighted the extent to which preferences and decisions are shaped by temporary contextual influences (for recent reviews, see Shavitt and Wänke 2001; Simonson et al. 2001). What has often been overlooked, however, is that our key source of knowledge about consumer behavior, namely, consumers' self-reports, is subject to the

same influences. While research at the interface of psychology and survey methodology has identified many of the underlying processes (for reviews, see Schwarz 1999b; Schwarz and Oyserman 2001; Sudman, Bradburn, and Schwarz 1996; Tourangeau, Rips, and Rasinski 2000), this work has had limited impact on consumer research. Even in graduate programs that emphasize cognitive approaches to consumer behavior, the research methods training focuses almost exclusively on sophisticated statistical analyses and rarely addresses the cognitive and communicative processes underlying data collection. Yet the principle of "garbage in, garbage out" applies as much to consumer research as to any other field, and the results of even the most sophisticated statistical procedures will not be more meaningful than the data to which those procedures are applied. An understanding of the psychology of self-reports is therefore of crucial relevance to consumer research, unless we want to run the risk of putting theory tests and managerial decisions at the mercy of haphazard decisions at the questionnaire construction stage. This essay draws attention to these issues by highlighting some age-related and culture-related differences in the self-report process.

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### OLDER CONSUMERS AND GLOBAL MARKETS

A rapidly growing number of older consumers and the globalization of consumer markets present an increasing

need to understand consumer behavior across age groups and cultures. Consumer researchers responded to this challenge with a growing number of studies that address the influence of cultural differences in cognitive style, and of age-related differences in cognitive functioning, on consumer judgment, and on decision making (e.g., Aaker and Maheswaran 1997; Cole and Gaeth 1990; Yoon 1997). Consistent with the blind spot noted above, however, little attention has been paid to how these cognitive differences influence our key source of knowledge about consumer behavior, consumers' self-reports. As the examples below, taken from public opinion research and psychological experimentation, illustrate, age-related differences in cognitive function and cultural differences in cognition and communication can result in differential context effects—often to the extent of reversing the ordinal placement of cohorts or cultures on the attitude or behavior under study. Unfortunately, our knowledge of cohort and culture differences in consumer behavior will remain on shaky ground if we fail to take such complications into account.

### SELF-REPORTS ACROSS COHORTS

Normal human aging is accompanied by profound cognitive changes, ranging from decreased sensory functioning to the slower execution of cognitive processes and a general decline in working memory capacity (for an overview, see Park 2000). These changes influence the performance on each of the tasks involved in question answering, namely, question comprehension, the recall of relevant information from memory, judgment formation, and response editing (see Schwarz and Knäuper [2000] and the contributions in Schwarz et al. [1999]). As a result, any observed cohort differences in self-reported attitudes and behavior may reflect a true cohort difference, a difference in the response process, or an unknown mix of both, as three examples may illustrate.

#### Response Order Effects

In many consumer surveys respondents are asked which of several opinion statements comes closest to their own position, or which of several products they prefer. Presumably, they consider key features of each statement or product, make a comparison, and select the preferred one. The order in which the respective alternatives are presented influences the outcome. A given option is more likely to be chosen when presented in the first position in a visual presentation format (e.g., in a self-administered questionnaire) or when presented last in an auditory presentation format (e.g., in a telephone interview). Primacy effects emerge in a visual format because respondents proceed through the list in the order in which the alternatives are presented, elaborating more on the initial than on the subsequent ones. Recency effects emerge in an auditory format because respondents begin with what is still “in their ears,” elaborating more on the last item read to them (Krosnick and Alwin 1987; Sudman et al. 1996). Age-related declines in working memory

capacity limit older respondents' ability to keep multiple alternatives—and the thoughts bearing on them—in mind and to perform the relevant comparisons. As a result, response order effects are more pronounced for older than for younger respondents, in particular under the auditory conditions of telephone interviews, where memory prompts in the form of a list are absent (for a metaanalysis, see Knäuper 1999).

As an example, consider a study in which younger (ages 20–40) and older (ages 65+) adults were asked, “Which of the following four cities do you find most attractive?” (Schwarz, Park, and Knäuper, unpublished data). Washington, DC, was read to them as either the first or last choice. Of the younger adults, 29% chose Washington, DC, when it was presented first, whereas 37% did so when it was presented last, for a recency effect of eight percentage points. In contrast, 17% of the older adults chose Washington, DC, when it was presented first, whereas 41% did so when it was presented last, for a recency effect of 24 percentage points. Note that we would arrive at different conclusions about cohort differences in city preference: younger adults lead over older adults when the capital was presented first, whereas the ordering is nonsignificantly reversed when it was presented last. Such reversals have been repeatedly observed (Knäuper 1999) and can severely compromise comparisons across age groups, suggesting misleading conclusions about cohort differences or changes across the life span.

#### Question Order Effects in Attitude Reports

Question order effects emerge when preceding questions bring information to mind that respondents may otherwise not consider in answering a subsequent question (see Sudman et al. [1996] for a discussion of the underlying processes). To reduce question order effects, survey researchers often introduce buffer items to separate related questions, thus attenuating the accessibility of previously used information. By the same token, we may assume that age-related declines in memory function attenuate question order effects because they render it less likely that previously used information is still accessible. The available data support this prediction (Knäuper et al. 2002; Schwarz and Knäuper 2000).

One of the most robust question order effects in the survey literature was observed by Schuman and Presser (1981), who asked respondents if a pregnant woman should be able to obtain a legal abortion “if she is married and does not want any more children” (question A) or “if there is a strong chance of a serious defect in the baby” (question B). Not surprisingly, more respondents support legal abortion in response to question B than in response to question A. More important, support for question A decreases when question B is presented first: compared with the risk of a serious birth defect, merely “not wanting any more children” appears less legitimate, reducing support for legal abortion. Secondary analyses show that this question order effect results in a difference of 19.5 percentage points for younger respondents

but decreases with age and is no longer observed for respondents ages 65 and older (see fig. 1). We would again arrive at different conclusions about cohort differences, depending on the order in which the questions were asked. When the “no more children” question (A) is asked first, support for abortion decreases with age, suggesting that older respondents hold more conservative attitudes toward abortion. Yet no age difference can be observed when the same question is preceded by the “birth defect” question. Laboratory experiments (Knäuper et al. 2002) indicate that the attenuation of question order effects among older respondents results from age-related declines in working memory capacity.

In sum, response order effects increase with age, whereas question order effects decrease with age. Such age-sensitive context effects can severely compromise substantive conclusions about cohort differences or changes across the life span, putting theory tests and managerial decisions at the mercy of more or less haphazard decisions of questionnaire design. Note that the same processes are also likely to bear on older consumers' behavior in actual choice situations. On the one hand, previously acquired information about a competing product may fade more quickly from older consumers' memories, reducing its influence on older consumers, as observed for question order effects. On the other hand, the order in which choice alternatives are presented in the decision situation is likely to exert more influence on older consumers, as observed for response order effects. These possibilities deserve systematic investigation.

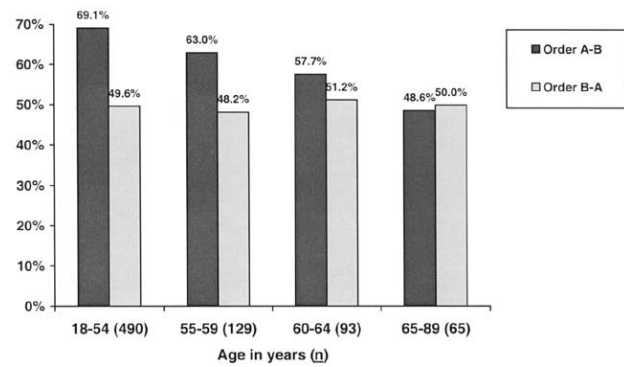
### Frequency Estimation

Consumers are often asked to report how frequently they engaged in a certain behavior or bought a certain product. Because repeated episodes of highly similar mundane events are poorly represented in autobiographical memory, respondents typically resort to estimation strategies (for a review and recommendations see Schwarz and Oyserman 2001). One of these strategies draws on the frequency scale presented by the researcher. Respondents assume that the researcher constructed a meaningful scale, such that values in the middle range of the scale represent the “average” or “usual” behavior, whereas the extremes of the scale correspond to the extremes of the distribution. Based on these tacit assumptions, they use the scale as a frame of reference in estimating their own behavioral frequencies. This results in higher estimates when the scale presents high rather than low frequencies (e.g., Schwarz et al. 1985; for a review, see Schwarz 1996). The influence of scale range is more pronounced, the more poorly the respective behavior is represented in memory, and scale effects are not observed when the behavior is highly regular or otherwise well represented (e.g., Menon, Raghurir, and Schwarz 1995).

Given age-related declines in memory function, we may expect that older adults are more likely to resort to estimation strategies. This should result in more pronounced scale effects, which may distort actual behavioral differences between older and younger respondents. Empirically, this is

FIGURE 1

PERCENT SUPPORTING ABORTION FOR WOMEN WHO ARE MARRIED AND DO NOT WANT ANY MORE CHILDREN



NOTE.—Taken from Schwarz and Knäuper (2000); reprinted by permission.

the case (e.g., Schwarz 1999a). For example, 24% of younger adults (ages 29–40) reported “eating red meat” 10 times a month or more when presented with a low-frequency scale, whereas 43% did so when presented with a high-frequency scale, for a difference of 19 percentage points. In contrast, 19% of older adults (ages 60–90) reported this frequency when presented with a low-frequency scale, but 63% did so when presented with a high-frequency scale, for a difference of 44 percentage points. This differential scale effect again reverses the cohort placements: using a low-frequency scale, we might conclude that younger respondents tend to eat red meat somewhat more often than the older respondents (with a difference of five percentage points); using a high-frequency scale, however, we would confidently arrive at the opposite conclusion (with a difference of 20 percentage points).

Complicating things further, age groups differ in how much attention they pay to different behaviors and experiences. Health issues and physical symptoms, for example, figure more prominently later in life and are closely monitored by older adults (Deeg, Kardaum, and Fozard 1996). If so, older adults' reports of physical symptoms may be less influenced than younger adults' reports. Empirically, this is again the case. For example, 37% of the younger adults in the above experiment (Schwarz 1999a) reported having headaches “twice a month or more often” when presented with a low-frequency scale, whereas 56% did so when presented with a high-frequency scale, for a difference of 19 percentage points. In contrast, older adults' frequency reports were virtually unaffected, with 11% reporting this frequency along a low-frequency scale, and 10% along a high-frequency scale.

These differential scale effects are consistent with the general observation that frequency scales exert more influence on respondents' reports, the more poorly the respective behavior is represented in memory. Given age-related declines in memory function, we may expect that older adults

**TABLE 1**  
**BEHAVIORAL FREQUENCY REPORTS ACROSS CULTURES: THE IMPACT OF RESPONSE SCALES**

|                         | Open format (%) | Low scale (%) | High scale (%) |
|-------------------------|-----------------|---------------|----------------|
| Unobservable behaviors: |                 |               |                |
| U.S. respondents        | 23              | 13            | 24             |
| Chinese respondents     | 27              | 16            | 27             |
| Observable behaviors:   |                 |               |                |
| U.S. respondents        | 32              | 22            | 38             |
| Chinese respondents     | 29              | 29            | 30             |

NOTE.—Shown is the mean percentage of respondents reporting a frequency above the comparison point of the respective frequency scales for three unobservable and three observable behaviors;  $N = 246$  Chinese and 255 U.S. respondents, randomly assigned to conditions. Adapted from Ji et al. (2000); reprinted by permission.

are more likely to resort to estimation strategies, rendering them more vulnerable to scale effects on most questions, unless the behavior is of high relevance and closely attended to.

## SELF-REPORTS ACROSS CULTURES

Related complexities arise when respondents from different cultures are interviewed. Psychologists have long portrayed “the mind as a machine or computer that is the same in all times and places, while only the raw materials processed by the machinery or the data in the computer vary” (Fiske et al. 1998, p. 918). Challenging this assumption, recent research documented pervasive differences in reasoning styles and conversational conduct between Western and East Asian cultures (see Fiske et al. 1998; Kim and Gudykunst 1988; Nisbett, forthcoming). Although consumer researchers consider cultural issues in the design of marketing strategies and advertising campaigns (e.g., Han and Shavitt 1994; Miracle 1987), researchers’ attention to cultural issues in questionnaire design is usually limited to the quality of question translation (for a discussion of translation issues, see Harkness 2003) and occasional discussions of differences in response style (e.g., Baumgartner and Steenkamp 2001) or social desirability (for a review, see Johnson and van de Vijver 2003). Here, I focus on two aspects, namely, cultural differences in individuals’ knowledge about their own and others’ behavior and differences in conversational conduct.

In a nutshell, Western cultures foster an independent perspective on the self. They conceptualize the self as fundamentally distinct from others and defined in terms of internal features such as attributes, abilities, and attitudes (e.g. Markus and Kitayama 1991; Oyserman, Coon, and Kimmelmeier 2002). In contrast, Eastern cultures foster an interdependent perspective on the self. They conceptualize the self as fundamentally connected to others and defined primarily in terms of relationships, group memberships, and social roles. Maintaining the interdependence of the self requires pervasive attentiveness to others in the social context, a need that is further compounded by an emphasis on maintaining harmony in relationships and “fitting in.” These

differences in attention to the social context have important implications for the emergence of context effects.

## Frequency Estimation

If East Asian cultures put a premium on fitting in, we may expect that Asians are more knowledgeable about their own and others’ behavior than Westerners. After all, ensuring that one fits in requires that one monitors one’s own and others’ behavior to avoid unwanted discrepancies. If so, Asians should have more detailed representations of their own behavior available in memory, attenuating the need to rely on estimation strategies when asked to provide behavioral reports. Accordingly, they should be less affected by the range of frequency scales, provided that the behavior is public and observable and, hence, requires monitoring (as is the case for most consumer behaviors). The available data support this prediction.

Ji, Schwarz, and Nisbett (2000) asked students in China and the United States to report the frequency of private, unobservable behaviors (like having a nightmare) and of public, observable behaviors (like using the library) along high- or low-frequency scales or in an open-response format. The behaviors were pretested to be of similar frequency in both countries. As expected, Chinese as well as U.S. students reported higher frequencies along high- rather than low-frequency scales when the behaviors were private and unobservable (see table 1). This establishes that the scale was used as a frame of reference in both countries, provided that respondents needed to estimate. Replicating numerous previous findings, U.S. students also reported higher frequencies for public, observable behaviors when provided with a high- rather than low-frequency scale. In contrast, Chinese students’ reports of public behaviors were virtually unaffected by scale range, presumably because they did not need to resort to an estimation strategy for public behaviors.

Much as age-sensitive context effects can reverse the ordinal placement of cohorts, culture-sensitive context effects can reverse the ordinal placement of countries. In the present case, the reports in an open-response format suggest that the public behaviors are of similar frequency in both countries, consistent with pretests. The reports along the high-

frequency scale, however, suggest that Americans engage in these behaviors more often than do the Chinese, whereas the reports along the low-frequency scale suggest that they do so less often. Once again, our substantive conclusions are at the mercy of the scale we happened to use.

The reviewed findings further suggest that East Asian consumers may be less susceptible to advertising campaigns that attempt to present a product as highly popular and frequently used, provided that its use is publicly observable. This possibility deserves investigation.

### Conversational Conduct and Question Order Effects

East Asian cultures further put a premium on maintaining harmony in social relationships and value indirect forms of communication that require the recipient to read between the lines. Hence, we may expect Asians to be more sensitive to the conversational context of a given utterance, with important implications for the form of question order effects. When answering a question, speakers are supposed to provide information that is new to the questioner, not to reiterate information that the questioner already has (see Grice 1975; Schwarz 1996). Respondents observe this norm when asked partially redundant questions and disregard information that they have already provided, as an example may illustrate.

Schwarz, Strack, and Mai (1991; see also Strack, Martin, and Schwarz 1988) asked respondents to report their marital satisfaction and their general life satisfaction. When the questions were presented in the life-marriage order, the answers correlated  $r = .32$ . This correlation increased to  $r = .67$  when the question order was reversed. This reflects that answering the marital satisfaction question brought marriage-related information to mind, which respondents drew on when they subsequently evaluated their lives in general. Not so when both questions were introduced with a joint lead-in that read, "We now have two questions about your life. The first pertains to your marriage and the second to your life as a whole." In this case, the correlation dropped from  $r = .67$  without a lead-in to  $r = .18$ . Apparently, emphasizing the relatedness of both questions made respondents aware of their potential redundancy, prompting them to disregard their marriage when assessing their general life satisfaction. Supporting this interpretation, a correlation of  $r = .20$  was obtained when other respondents were asked, "Aside from your marriage, which you already told us about, how satisfied are you with your life as a whole?" Such redundancy problems arise whenever an earlier question inquires about a subset of the information (e.g., a specific product or service feature) that is relevant to a subsequent more general one (e.g., pertaining to the overall product or service experience; see Schwarz 1996).

If East Asians are more sensitive to the common ground of the conversation, we may expect that they adopt the latter interpretation even in the absence of a joint lead-in that draws attention to redundancy. A series of experiments with Chinese and German students supports this prediction (Haberstroh et

al. 2002). In one study, students were asked to report their general life satisfaction as well as their academic satisfaction. As typically observed in Western samples, the correlation increased from  $r = .53$  in the general-academic order to  $r = .78$  in the academic-general order for the German respondents. In contrast, the correlation decreased from  $r = .50$  in the general-academic order to  $r = .36$  in the academic-general order for the Chinese respondents. Thus, the Chinese respondents spontaneously behaved like Western respondents from earlier studies who were explicitly made aware of the conversational context through a joint lead-in: they disregarded information that they had already provided, consistent with the conversational norm of nonredundancy.

We would again arrive at different substantive conclusions. In the general-academic order, the nearly identical correlations of .50 and .53 suggest that academic satisfaction contributes about equally to the life satisfaction of German and Chinese students. But when the question order is reversed, we would conclude that academic satisfaction looms much larger in the well-being of German students ( $r = .78$ ) than of Chinese students ( $r = .36$ ). A substantive explanation would easily be at hand—for example, that individualistic cultures value individual achievement more highly than collectivist cultures. Yet at the heart of this pattern may solely be cultural differences in conversational conduct. Supporting the latter interpretation, experimentally inducing German students into either an independent or an interdependent mind-set reproduced the cross-cultural results: when primed for independence, the reports of German respondents correlated  $r = .76$  in the academic-life order, and this correlation dropped to  $r = .34$  when primed for interdependence, paralleling the Chinese reports (Haberstroh et al. 2002).

This differential sensitivity to conversational norms may result in many surprises in cross-cultural consumer studies. Suppose, for example, that a researcher first inquires about consumers' satisfaction with a specific product feature, followed by an inquiry about overall satisfaction with the product experience. Based on the above pattern, the researcher might erroneously conclude that the product feature makes a profound contribution to overall satisfaction for U.S. consumers, but not for Chinese consumers. Note also that these findings highlight the limits of question translation. No matter how well we equate the literal meaning of a given question through careful backtranslations, its pragmatic meaning will differ across cultures when respondents are differentially likely to bring contextual information to bear on its interpretation.

### WHAT TO DO?

After two decades of research at the interface of psychology and survey methodology, the general processes underlying self-reports are reasonably well understood (for reviews, see Schwarz 1999b; Sudman et al. 1996; Tourangeau et al. 2000). Nevertheless, we have only scratched the surface of how population differences in cognition and communication affect the response process, and many key issues,

like the interaction of these processes with different modes of data collection, have not yet been addressed. As the selected examples illustrate, differences in cognitive functioning (as in the case of older respondents), in conversational conduct (as in the case of Chinese respondents), or in the attention devoted to certain behaviors (as in the case of both groups) may interact with the specifics of the research instrument, resulting in differential context effects. Hence, any observed differences in self-reports may reflect an actual difference between cultures or cohorts, a difference in the response process, or an unknown mix of both.

Unfortunately, there are no silver bullets of questionnaire design. Every design decision involves complex trade-offs, requiring researchers to think through the issues at hand for every particular study (for guidelines, see Schwarz and Oyserman 2001; Sudman et al. 1996). Some obvious precautions include cognitive pretests (see the contributions in Schwarz and Sudman [1996]) that explore potential differences in question interpretation with a small number of respondents from all target populations. In doing so, it is important to test questions in the context in which they are to be presented in the final questionnaire, or else contextual influences on question interpretation will be missed. Moreover, the order in which response alternatives, or substantively related questions, are presented should be varied to alert researchers to the potential influence of order effects. Theoretically, such context effects reflect the constructive nature of consumer preferences and are an integral part of consumer judgment. To the extent possible, the context created in the questionnaire should therefore resemble the context in which consumers are likely to make the respective decision in daily life, which usually requires exploratory studies. Admittedly, this recommendation is more easily offered than heeded in practice. Finally, numeric frequency scales can simply be replaced with open-ended frequency reports, which do not guarantee accuracy but do avoid systematic bias.

Yet it is usually impossible to optimize all features of questionnaire design at the same time, and the researcher faces complex trade-offs (Schwarz and Oyserman 2001; Sudman et al. 1996) that require an understanding of the psychology of self-reports. At present, the standard training of consumer researchers does little to equip them for this task. Although they are likely to learn about the contextualized nature of human cognition and judgment in their consumer behavior courses, the material is not linked to the question answering process that is at the heart of data collection, and their methods training is limited to advanced statistics. Given the current state of knowledge, this is hard to justify, and the psychology of self-reports should become an integral part of the methods training of consumer researchers. In principle, consumer researchers are in an excellent position to contribute to our understanding of self-reports because many consumer behaviors lend themselves to external verification, providing reality checks that are difficult to obtain in the public opinion domain in which most of this work is currently conducted.

Independent of such desirable developments, research re-

ports should provide specific information about what was asked, how it was asked, and in which order it was asked. This information is often difficult to extract from published reports, even in the field's leading journals. Outside the academic domain, the reports provided by many market research companies lack even the most essential information needed to gauge the likelihood of context effects, asking the client to take the tabulations at face value. Hopefully, sophisticated editors and clients will eventually demand more.

Unless the context dependency of self-reports receives more attention in consumer research, theory tests and managerial decisions may often be at the mercy of haphazard decisions at the data collection stage. As the present examples illustrate, these problems are compounded when the study includes populations who differ in the cognitive and communicative processes they bring to bear on the task, resulting in differential context effects, which may exaggerate or obscure actual differences between populations. No statistical magic can compensate for these problems after the fact.

[David Glen Mick served as editor for this essay.]

## REFERENCES

- Aaker, Jennifer L. and Durairaj Maheswaran (1997), "The Effect of Cultural Orientation on Persuasion," *Journal of Consumer Research*, 24 (December), 315–328.
- Baumgartner, Hans and Jan-Benedict E. M. Steenkamp (2001), "Response Styles in Marketing Research: A Cross-National Investigation," *Journal of Marketing Research*, 38 (May), 143–156.
- Cole, Catherine A. and Gary J. Gaeth (1990), "Cognitive and Age-Related Differences in the Ability to Use Nutritional Information in a Complex Environment," *Journal of Marketing Research*, 27 (May), 175–184.
- Deeg, Dorly J. H., Jan W. P. Karduum, and James L. Fozard (1996), "Health, Behavior, and Aging," in *Handbook of the Psychology of Aging*, ed. James E. Birren and K. Warner Schaie, San Diego, CA: Academic Press, 129–149.
- Fiske, Arthur P., Shinobu Kitayama, Hazel R. Markus, and Richard E. Nisbett (1998), "The Cultural Matrix of Social Psychology," in *The Handbook of Social Psychology*, Vol. 2, 4th ed., ed. Daniel T. Gilbert and Susan T. Fiske, Boston: McGraw-Hill, 915–981.
- Grice, H. Paul (1975), "Logic and Conversation," in *Syntax and Semantics*, Vol. 3, *Speech Acts*, ed. P. Cole and J. L. Morgan, New York: Academic Press, 41–58.
- Haberstroh, Susanne, Daphna Oyserman, Norbert Schwarz, Ulrich Kühnen, and Li-Jun Ji (2002), "Is the Interdependent Self More Sensitive to Question Context than the Independent Self? Self-Construal and the Observation of Conversational Norms," *Journal of Experimental Social Psychology*, 38 (May), 323–329.
- Han, Sang-Pil and Sharon Shavitt (1994), "Persuasion and Culture: Advertising Appeals in Individualistic and Collectivistic Societies," *Journal of Experimental Social Psychology*, 30 (July), 326–350.
- Harkness, Janet (2003), "Questionnaire Translation," in *Cross-Cultural Survey Methods*, ed. Janet Harkness et al., New York: Wiley, 35–56.

- Ji, Li-Jun, Norbert Schwarz, and Richard E. Nisbett (2000), "Culture, Autobiographical Memory, and Behavioral Frequency Reports: Measurement Issues in Cross-Cultural Studies," *Personality and Social Psychology Bulletin*, 26 (May), 586–594.
- Johnson, Timothy P. and Fons J. R. van de Vijver (2003), "Social Desirability in Cross-Cultural Research," in *Cross-Cultural Survey Methods*, ed. Janet Harkness et al., New York: Wiley, 195–205.
- Kim, Young Yun and William B. Gudykunst, eds. (1988), *Theories in Intercultural Communication*, Newbury Park, CA: Sage.
- Knäuper, Bärbel (1999), "The Impact of Age and Education on Response Order Effects in Attitude Measurement," *Public Opinion Quarterly*, 63 (Fall), 347–370.
- Knäuper, Bärbel, Norbert Schwarz, Denise C. Park, and Andreas Fritsch (2002), "The Perils of Interpreting Cohort Differences in Attitude Reports: Question Order Effects Decrease with Age," unpublished manuscript, McGill University, Montreal.
- Krosnick, Jon A. and Duane F. Alwin (1987), "An Evaluation of a Cognitive Theory of Response Order Effects in Survey Measurement," *Public Opinion Quarterly*, 51 (Summer), 201–219.
- Markus, Hazel R. and Shinobu Kitayama (1991), "Culture and the Self: Implications for Cognition, Emotion, and Motivation," *Psychological Review*, 98 (April), 224–253.
- Menon, Geeta, Priya Raghuram, and Norbert Schwarz (1995), "Behavioral Frequency Judgments: An Accessibility-Diagnosticity Framework," *Journal of Consumer Research*, 22 (September), 212–228.
- Miracle, G. E. (1987), "Feel-Do-Learn: An Alternative Sequence Underlying Japanese Consumer Response to Television Commercials," in *The Proceedings of the 1987 Conference of the American Academy of Advertising*, ed. F. G. Feasley, Columbia: University of South Carolina Press, R73–R78.
- Nisbett, Richard E. (forthcoming), *The Geography of Thought*, New York: Free Press.
- Oyserman, Daphna, Heather Coon, and Markus Kemmelmeier (2002), "Rethinking Individualism and Collectivism: Evaluation of Theoretical Assumptions and Meta-analyses," *Psychological Bulletin*, 128 (January), 3–72.
- Park, Denise C. (2000), "The Basic Mechanisms Accounting for Age-Related Decline in Cognitive Function," in *Cognitive Aging: A Primer*, ed. Denise C. Park and Norbert Schwarz, Philadelphia: Psychology, 3–22.
- Schuman, Howard and Stanley Presser (1981), *Questions and Answers in Attitude Surveys*, New York: Academic Press.
- Schwarz, Norbert (1996), *Cognition and Communication: Judgmental Biases, Research Methods and the Logic of Conversation*, Hillsdale, NJ: Erlbaum.
- (1999a), "Frequency Reports of Physical Symptoms and Health Behaviors: How the Questionnaire Determines the Results," in *Processing Medical Information in Aging Patients: Cognitive and Human Factors Perspectives*, ed. Denise C. Park et al., Mahwah, NJ: Erlbaum, 93–108.
- (1999b), "Self-Reports: How the Questions Shape the Answers," *American Psychologist*, 54 (February), 93–105.
- Schwarz, Norbert, Hans J. Hippler, Brigitte Deutsch, and Fritz Strack (1985), "Response Categories: Effects on Behavioral Reports and Comparative Judgments," *Public Opinion Quarterly*, 49 (Fall), 388–395.
- Schwarz, Norbert and Bärbel Knäuper (2000), "Cognition, Aging, and Self-Reports," in *Cognitive Aging: A Primer*, ed. Denise C. Park and Norbert Schwarz, Philadelphia: Psychology, 233–252.
- Schwarz, Norbert and Daphna Oyserman (2001), "Asking Questions about Behavior: Cognition, Communication and Questionnaire Construction," *American Journal of Evaluation*, 22 (Spring), 127–160.
- Schwarz, Norbert, Denise C. Park, Bärbel Knäuper, and Seymour Sudman, eds. (1999), *Cognition, Aging, and Self-Reports*, Philadelphia: Psychology.
- Schwarz, Norbert, Fritz Strack, and Hans P. Mai (1991), "Assimilation and Contrast Effects in Part-Whole Question Sequences: A Conversational Logic Analysis," *Public Opinion Quarterly*, 55 (Spring), 3–23.
- Schwarz, Norbert and Seymour Sudman, eds. (1996), *Answering Questions: Methodology for Determining Cognitive and Communicative Processes in Survey Research*, San Francisco: Jossey-Bass.
- Shavitt, Sharon and Michaela Wänke (2001), "Consumer Behavior," in *Blackwell Handbook of Social Psychology: Intraindividual Processes*, ed. Abraham Tesser and Norbert Schwarz, Oxford: Blackwell, 569–590.
- Simonson, Itamar, Ziv Carmon, Ravi Dhar, Aimee Drolet, and Stephen M. Nowlis (2001), "Consumer Research: In Search of Identity," *Annual Review of Psychology*, 52, 249–275.
- Strack, Fritz, Leonard L. Martin, and Norbert Schwarz (1988), "Priming and Communication: The Social Determinants of Information Use in Judgments of Life-Satisfaction," *European Journal of Social Psychology*, 18 (October), 429–442.
- Sudman, Seymour, Norman M. Bradburn, and Norbert Schwarz (1996), *Thinking about Answers: The Application of Cognitive Processes to Survey Methodology*, San Francisco: Jossey-Bass.
- Tourangeau, Roger, Lance J. Rips, and Kenneth Rasinski (2000), *The Psychology of Survey Response*, Cambridge: Cambridge University Press.
- Yoon, Carolyn (1997), "Age Differences in Consumers' Processing Strategies: An Investigation of Moderating Influences," *Journal of Consumer Research*, 34 (December), 329–342.