Attitudes and Comprehension of Terms in Opinion Questions About Euthanasia

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Introduction

How do people's interpretations of terms in questions affect the opinions they report? Consider a survey where respondents are asked to rate the extent to which they endorse the statement "I support euthanasia," and how firmly they hold that opinion. Might a respondent's notion of what counts as euthanasia-what the word "euthanasia" means-influence the attitudes the respondent reports?

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We propose that an important and understudied component of response to attitude questions involves comprehension of terms in the questions. Although the comprehension of terms in questions has long been recognized as an important component of responding to questions about facts and behaviors (see, Tourangeau, Rips, & Rasinski, 2000), little attention has been paid to how comprehension might affect responses to attitude questions. We argue that the same processes are at work.

In particular, we propose that a general feature of interpreting words in questions is that different respondents can interpret the same words differently. This has been demonstrated a number of times for questions about facts and behaviors (e.g., Belson, 1981, 1986; Conrad & Schober, 2000; Schober & Conrad, 1997; Schober, Conrad, & Fricker, 2004). For example, one study (Suessbrick, Schober & Conrad, 2001) examined responses to the seemingly straightforward question "Have you smoked at least 100 cigarettes in your entire life?" Some respondents interpreted "cigarettes" as including cigarettes from which they had taken even a single puff, while others interpreted "cigarettes" to mean only cigarettes they had finished. Some respondents included cigarettes they had borrowed, and others only cigarettes they had bought. Disturbingly, this variability affected the answers that respondents gave; 10 percent of the respondents changed answers from "yes" to "no" or "no" to "yes" when given a standard definition of what should count as smoking a cigarette. And it wasn't the case that the majority of respondents shared a single interpretation; question by question and concept by concept, different respondents interpreted ordinary concepts quite differently.

The Suessbrick et al. (2001) study also included opinion questions like "Should smoking be allowed in restaurants?" The finding was that interpretive variability was at least as great for the opinion questions as for the factual questions. For example, for

this particular opinion question respondents differed in whether *smoking* included cigarettes, pipes, or marijuana; in whether *restaurants* included indoor space, outdoor space, bar areas, or restrooms; and in whether they were considering *restaurants* in their community, in the nation, or only ones that they patronize.

We propose that this interpretive variability is likely to affect the opinions that people report. Now, responding to attitude questions is known to be a complex affair involving complex considerations (see Tourangeau, Rips & Rasinski's [2000] review). Answering questions about attitudes differs in at least one important way from answering about facts or memories: attitudes do not have real-world referents that could in principle be verified, while facts or memories are the sorts of things that could potentially be verified. In fact, attitudes can be constructed during an interview rather than retrieved. Attitudes are also notoriously unstable over time; respondents can hold multiple contradictory beliefs, some of which are well formed or crystallized while others may be created on the fly. Years of research on responses to attitude questions shows that respondents can construct their answers based on their feelings, general values, specific beliefs, prior judgments, and impressions or stereotypes (e.g., Bodenhausen & Wyer, 1987; Sanbonmatsu & Fazio, 1990; Schumann & Presser, 1981; Zaller, 1992, among many others). Years of research have also shown how susceptible responses to attitude questions can be to prior context of various sorts (see, e.g., Converse, 1964; Krosnick, 1988; Schumann & Presser, 1981;; Schwarz, 1999; Schwarz & Strack, 1991; Schwarz & Sudman, 1992).

We suggest that an important component of these complex considerations is respondents' interpretations of words in attitude questions.

Experimental Design

The current experiment investigates how respondents' interpretations of terms in attitude questions about euthanasia shape their responses. Respondents in an intercept study on the streets of New York City were given a brief paper-and-pencil questionnaire about euthanasia (see Table 1 for a sample wording).

Respondents were given one of five question wordings reflecting the range of terms that can refer to euthanasia: "I support *euthanasia*," "I support *physician assisted suicide*," "I support *voluntary assisted suicide*," "I support *mercy killings*," or "I support the *right to die*." The response format was a 4-point Likert scale which assessed respondents' level of support; a second 4-point scale assessed how firmly respondents held the opinion- how sure they were about their stance. After respondents answered the questions, they were asked to provide an open-ended written response explaining how they had interpreted the euthanasia term in the statement they had rated.

Of the 118 respondents, 72 were female and 43 were male. The respondents came from a wide age range (19-65+, with a median reported age range of 31-35) and they represented a range of ethnic backgrounds (73 were White, 21 were black, 8 were Asian, 4 were Hispanic, 1 was Native American, and 12 self identified as Other). The respondents were relatively well educated-42% had an MA degree and an additional 35% had a bachelors degree. They were also relatively politically liberal, with 66% identifying as Democrats.

Results

In order to objectively assess the content of the definitions, which varied substantially in their style and detail, lexical analysis of the self-reported definitions was carried out with the Pennebaker

Questionnaire

To what extent do you agree with the following statement?
 	
I support voluntary assisted suicide.
     1   2   3   4
strongly disagree   disagree   agree   strongly agree
 	
How firmly do you hold this opinion?
     1   2   3   4
Not at all firmly   not firmly   firmly   extremely firmly
 	
When you answered this question, how did you interpret the term "voluntary assisted suicide"?
 	
_____
_____
_____
_____

Table 1. Sample questionnaire

and Francis (2001) Linguistic Inquiry and Word Count (LIWC) software. LIWC classifies text for words belonging to 65 different grammatical and semantic categories, e.g. first person words, past tense words, causality words, negative emotion words, death words, family words, etc.

The LIWC analyses showed that attitudes did indeed reflect respondents' definitions. Respondents who defined euthanasia terms differently reported different levels of support for euthanasia and different levels of firmness of their opinion. This was true regardless of which euthanasia term they had seen on the questionnaire.

In reporting the details of these results we will use the term "euthanasia" to encompass all five different euthanasia terms (*euthanasia, physician assisted suicide, voluntary assisted suicide, mercy killings, and right to die*).

Level of support. As Figure 1 shows, respondents who used at least one cognitive mechanism related term-these include words like "believe," "think," and "know"-in their definitions were substantially less likely to strongly oppose euthanasia (22.2%) than to oppose it (76.5%, LSD $t(109) = 2.84$, $p = .005$), support it (66.7%, LSD $t(109) = 2.65$, $p = .009$), or strongly support it (72.7%, LSD $t(109) = 2.95$, $p = .004$), no matter how the question was worded. As an example of what such a definition looked like, one strong opponent defined euthanasia simply as "assisted
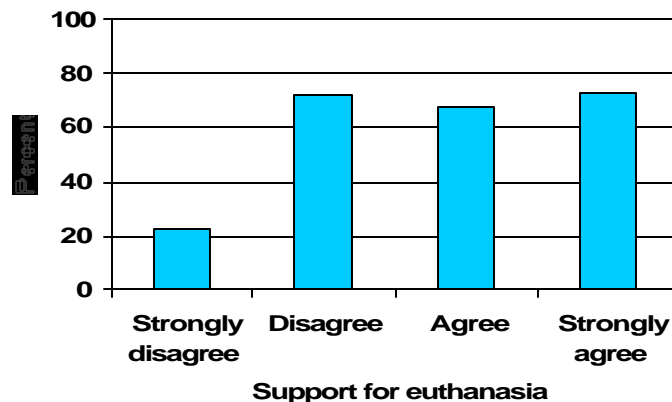

Figure 1. Respondents using at least one cognitive mechanism word in their definition

suicide." In contrast, a supporter included a cognitive mechanism related word in their definition: "Assisting in the killing of or <u>causing</u> the death of a person or an animal in some specific circumstances e.g. sickly person/ people."

As Figure 2 shows, respondent who defined euthanasia (under any question wording) using at least one anxiety related word (e.g., "discomfort," "misery," and "desperate") were much more likely to support euthanasia strongly (15.2%) than were respondents whose support was weaker (for example, compared to

respondents who simply supported euthanasia [1.9%], LSD t(109)= 2.45, p= .013.) In fact, not a single respondent who strongly opposed euthanasia used a single anxiety related word in their definition. An example of a definition including an anxiety
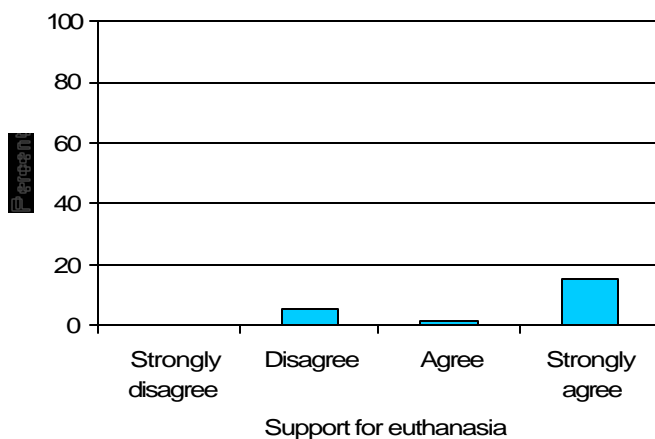

Figure 2. Respondents using at least one anxiety word
in their definition

related term comes from a supporter: "The right for a person to choose death instead of suffering. If a person is extremely ill, they should be able to be put out of their <u>misery</u>." In contrast an opponent's definition had no anxiety related words: "Medicine
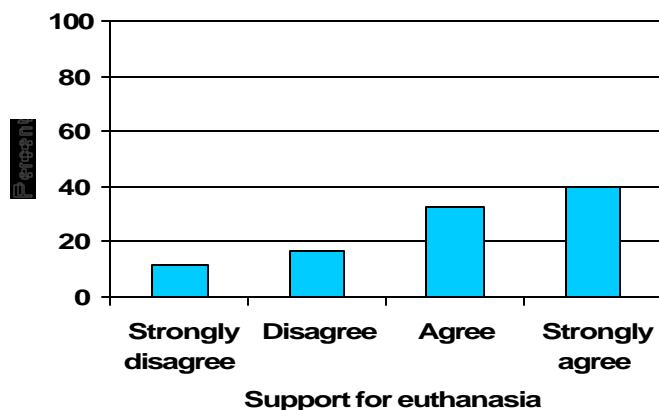

Figure 3. Respondents using at least one suffer-
ing word in their definition

provided by a physician that the patient must take him/ herself."

Respondents who used at least one suffering related word in their definition were marginally more likely to support euthanasia, linear trend $F(1,111) = 3.61$, $p = .061$, as shown in Figure 3. For example, one supporter defined euthanasia like this: "If someone is very ill, suffering, and or in pain, that person has the right to choose to end their life. This might mean unplugging machines or tubing various medications that lead to death." In contrast, an opponent wrote that euthanasia is "The right for someone to take their own life."

Firmness of opinion. Respondents' definitions of euthanasia also were reflected in how firmly they reported holding their attitude toward euthanasia. Definitions reliably predicted firmness of opinions on 8 LIWC dimensions, and marginally predicted firmness of opinions on 9 additional LIWC dimensions.
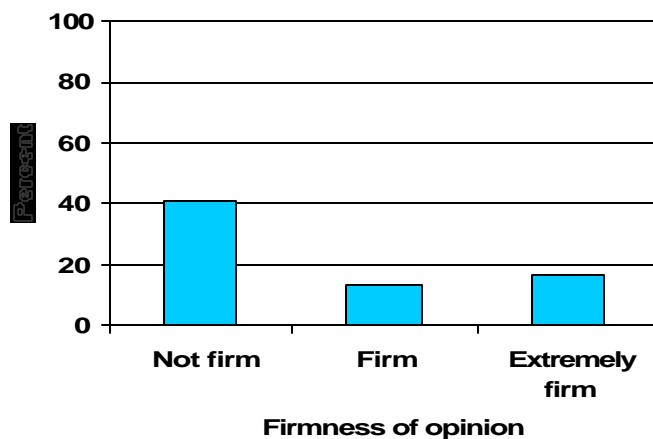
Figure 4. Respondents using at least one anger word in their definition

For example, as Figure 4 shows, respondents whose definitions included at least one anger related word-words like "cruel," "kill," "torture"-were substantially more likely to report being "not firm" (40.6%) in their opinions, as opposed to being "firm"

(13.5%), post hoc LSD t(110) = 2.97, p = .003 or "extremely firm" (17.2%), post hoc LSD t(110) = 2.23, p = .026. A respondent who was "not firm" in their opinion defined euthanasia as "The right of a patient/ suffering person to choose to ask someone else for help in <u>killing</u> themselves in order to relieve themselves of suffering and pain from which they could otherwise not escape." In contrast, a respondent who reported having a "firm" opinion wrote, "Your own farewell in determining whether or not to end your own life."

As another example (see Figure 5), respondents whose definitions included at least one cause related word-words like "reason," "because," and "motive"-were more likely to report being "not firm" in their opinions (28.1%) than "firm" (7.7%, LSD t(110) = 2.82, p =.005) or "extremely firm" (3.4%, LSD t(110) = 3.05, p = .003). As one respondent with a "not firm" opinion
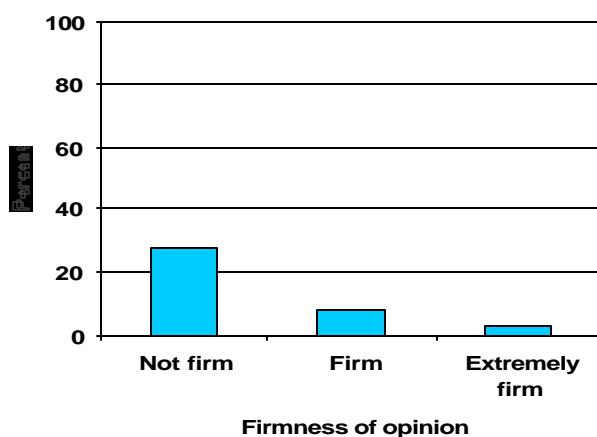

Figure 5. Respondents using at least one cause word in their definition

defined it, euthanasia means "Physician helping a person to commit suicide for one <u>reason</u> or another-mostly people with terminal illness." This contrasts with the definition by a respondent whose opinion was "extremely firm": "Doctor assisted suicide for terminally ill/ suffering individuals."

As yet another example, respondents whose definitions included at least one death related word (i.e. "burial," "dying," and "grief") were marginally more likely to report being "not firm" in their opinions, as opposed to being "firm" or "extremely firm." In particular, people who reported being "not firm" in their opinion were marginally more likely to use at least one death related term in their definitions (71.9%) than people who reported being "firm" (50%, LSD t(110) = 1.98. p =.051) or "extremely firm"
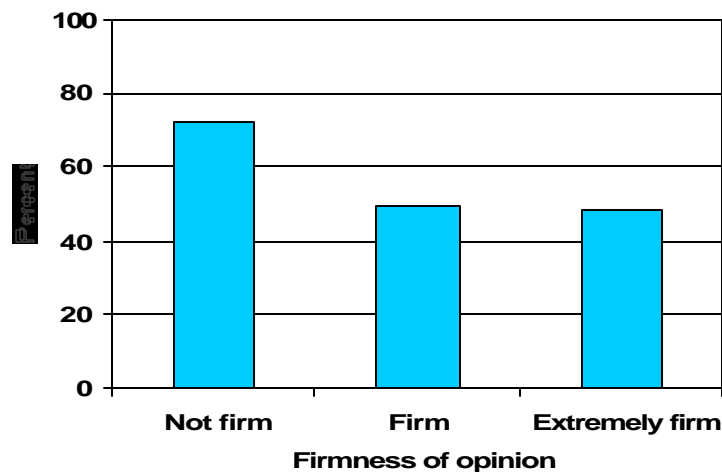

Figure 6. Respondents using at least one death word in their definition

(48.3%, LSD t(110) = 1.91, p = .064), as shown in Figure 6. This is exemplified by a respondent whose opinion was "not firm" who wrote, "Right to <u>die</u> if in pain", as opposed to someone to was "extremely firm" who defined euthanasia as the "right to refuse life support."

In addition, respondents' definitions were reflected in firmness of opinion for first person singular words such as "I" and "me." Respondents whose opinions were "not firm" were marginally more likely to use an "I' word (53.1%) than those whose opinions were "firm" (34.6%, LSD t(110) = 1.81, p = .08), and reliably more likely to use an "I" word than respondents whose opinions

were "extremely firm" (17.2%, LSD t(110) = 3.03, p = .003). The pattern was similar for first person plural words like "we" and "us." Also, respondents whose opinions were "not firm" were reliably more likely (71.9%) to define euthanasia with a word in the LIWC "tentative" category-words like "maybe" and "conflicted"-than those whose opinions were firm (50%, LSD t(110) = 2.02, p = .046) or "extremely firm" (31%, LSD t(110) = 3.31, p = .001).

Question wording. The preceding findings were reliable across the five different question wordings. Perhaps not surprisingly, respondents defined the different terms for euthanasia differently as well; their definitions differed reliably on 11 LIWC dimensions.

Consider, for example, respondents' use of communication related terms ("speak," "ask," and "refuse") in their definitions (see Figure 7). Respondents defining *euthanasia* were reliably less likely to use communication related words (only 3.7% of respondents) than respondents defining *voluntary assisted suicide*,
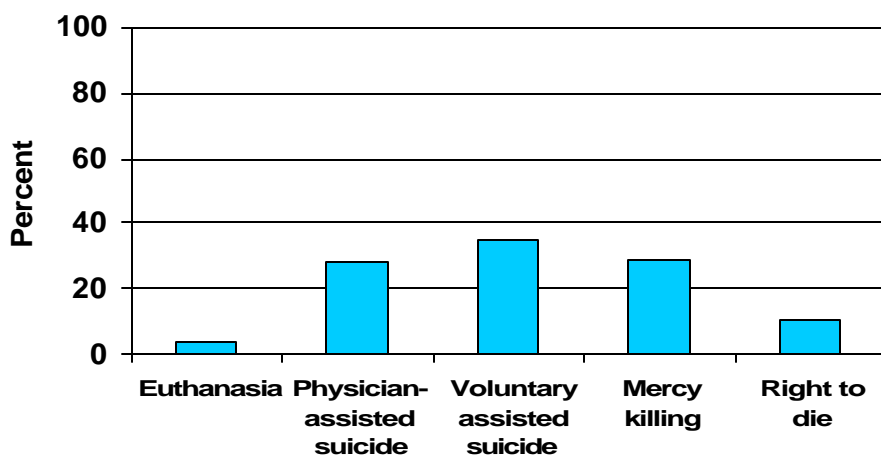

Figure 7. Respondents using at least one communication word in their definition

34.8%, LSD t(108) = 2.84, p = 005, as well as respondents defin-
ing *mercy killings*, 31.8%, LSD t(108) = 2.55, p = .012.
Respondents defining *right to die* were also reliably less likely to
use communication words in their definitions (10.7%) than
respondents defining *voluntary assisted suicide* (34.8%), LSD
t(108) = 2.22, p = .028.

As shown in Figure 8, respondents who defined *euthanasia* were
reliably more likely to use at least one death related word (63%)
than were respondents defining *voluntary assisted suicide*
(34.8%), LSD t(108) = 2.09, p = .038. Respondents who defined
mercy killing were reliably more likely to use at least one death
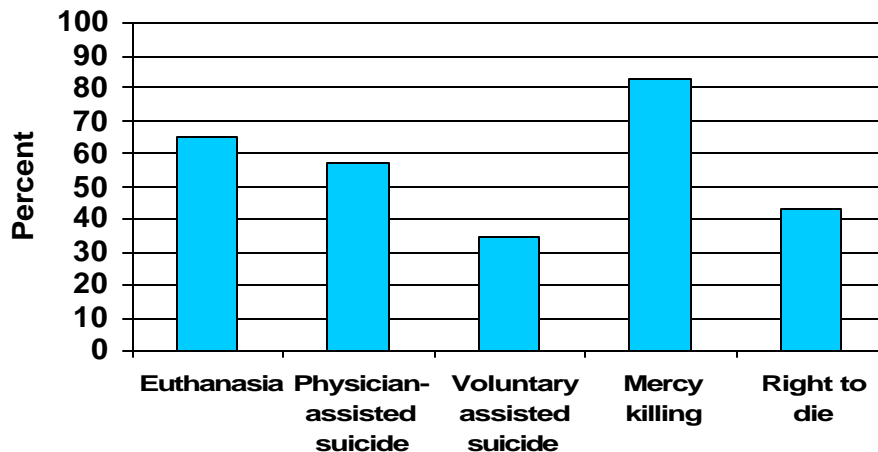related word (86.4%) than were respondents defining *voluntary*

Figure 8. Respondents using at least one death word

assisted suicide (34.8%), LSD t(108) = 3.69, p = .000, or the right
to die (42.9%), LSD t(108) = 3.26, p = .002. One respondent who
defined *mercy killings* using death related words wrote,
"Assisting in the <u>death</u> of a person who is suffering and wishes to
<u>die</u>"; this contrasts sharply with the definition by a respondent
defining *voluntary assisted suicide* as "Helping someone who
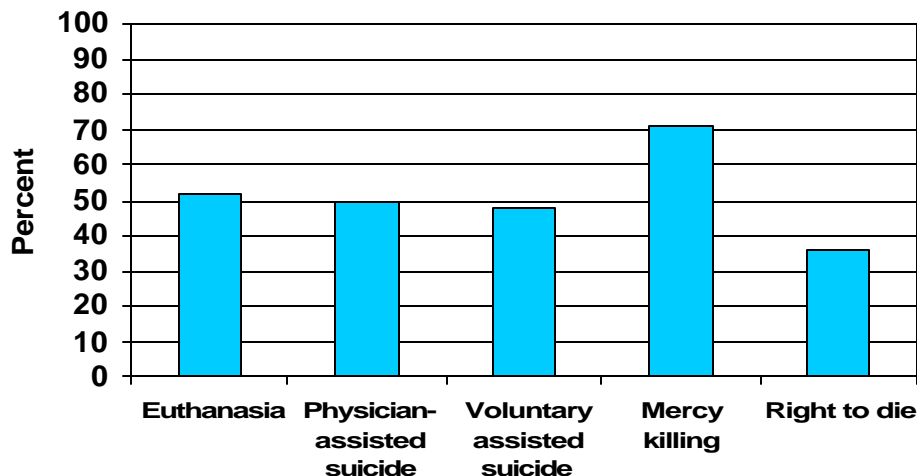wants to end their misery."

Figure 9. Respondents using at least one negative emotion word in their definition

When respondents defined *mercy killing* they were reliably more likely to use at least one negative emotions related word (72.7%) than respondents defining the *right to die* (35.7%), LSD t(108) = 2.62, p = .010, as shown in Figure 9. An example of a definition of *mercy killings* in which the respondent used negative emotions words is "An act that occurs to satisfy those who have been wronged or suffer an incurable death." Compare this with the definition of a respondent defining the *right to die* as "Every human being has the right to choose to end his or her own life."

When people defined *mercy killings* they also were reliably more likely to use religious related words-"God," "faith," and "heaven"-in their definitions (45.5%) compared to those defining *euthanasia* (7.4%), LSD t(108) = 4.58, p < .001, *physician assisted suicide* (15.4%), LSD t(108) = 2.97, p = .004, *voluntary assisted suicide* (0%), LSD t(108) =-5.23, p < .001, and *right to die* (0%), LSD t(108) = 5.49, p < .001, as shown in Figure 10. One respondent defined *mercy killing* as "To choose your own des-
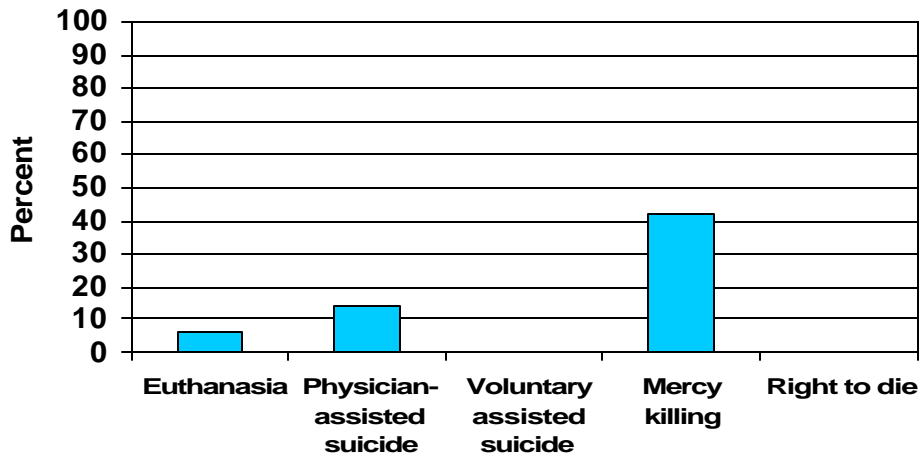
Figure 10. Respondents using at least one religious word in
their definition

tiny," while another respondent avoided any religious related
terms in definition of *physician assisted suicide* "The right to die
if in pain."

Respondents reported different definitions for questions worded
differently on a number of other LIWC dimensions. For example,
more respondents used at least one past tense word like
"worked," "admitted," and "resolved" when defining *voluntary
assisted suicide* and *mercy killings* than when defining *euthana-
sia* or *right to die*. More respondents used at least one optimism
related word like "encourage," "free," and "best" when defining
physician assisted suicide than when defining any other euthana-
sia terms. More respondents defining *mercy killings* used at least
one anger related word like "contradict," "fight," and "skeptical"
than respondents defining any of the other euthanasia terms.
More respondents used at least one metaphysical word like
"faith," "soul," or "sin" when defining *mercy killings* than when
defining *euthanasia*, and even fewer when defining *right to die*
or *voluntary assisted suicide*.

More respondents used at least one body related word like "brain," "symptom," or "breath" when defining *mercy killings* than when defining *euthanasia* and *voluntary assisted suicide*, and even fewer used any body related words in defining *right to die.* Respondents were more likely to use at least one second person word ("you" and "your") when defining *voluntary assisted suicide* than when defining *mercy killings*. And respondents were far more likely to use at least one insight related word like "analyze," "effect," or "feel" when defining *mercy killings* than when defining *euthanasia*.

Interestingly, the definitions that people provided were far better predictors of their degree of support for euthanasia and the firmness of their opinion than which question wording they received. Despite the fact that different wordings seemed to yield different definitions, respondents' degree of support and firmness did not reliably differ for the different question wordings.

Discussion

These findings demonstrate that comprehension of terms in attitude questions can be highly variable, as Suessbrick et al. (2001) found, and as has been reported for questions about facts and behaviors. This variability of comprehension is also reflected in the attitudes that respondents report: respondents whose definition of euthanasia includes suffering, for example, are more likely to endorse euthanasia, while respondents whose definition of euthanasia does not include words referring to cognitive mechanisms are likely to be against it. The degree to which respondents report that their opinions are firm reflects their definition of terms as well. For example, respondents whose definitions include anger, death, and causation terms are less likely to report that they are sure about where they stand on euthanasia.

Although these sorts of patterns are intriguing to speculate about,

as we see it, the import of these results is not the particulars about which kinds of definitions affect which attitudes. The point is that definitional differences seem to predict attitudes.

We see these findings as preliminary and suggestive, rather than conclusive. The premise of the study-that respondents' self-reported definitions accurately capture their mental representations and processes-obviously needs to be verified using other methods. Although we have suggested that attitudes are filtered through definitions, respondents' self-reported definitions may have been filtered through their attitudes as well. Additional research examining whether the respondents' definitions from this study affect other respondents' attitudes when they are presented along with the question could help establish the causal direction of the effect.

Nonetheless, the data do suggest that the role of semantics in constructing responses to attitude questions is potentially quite large. This has serious implications for questionnaire design. If respondents' attitudes are indeed filtered through their interpretations of words in questions, then leaving interpretation of words in questions up to respondents may, in part, just be measuring their semantic interpretations of words in questions. More broadly, simply presenting the same standardized wording to respondents does not guarantee that they are considering the same attitude objects.

The practical question these data raise-whether terms in attitude questions should be defined for respondents-is premature to answer. Although one might imagine that defining attitude terms for respondents could reduce the variability of their interpretations just as it can for questions about facts and behaviors (Conrad & Schober, 2000; Schober & Conrad, 1997; Schober, Conrad & Fricker, 2004), the serious potential drawback is that definitions could bias reported attitudes in unethical ways. In

addition, surveys with definitions of attitude terms could become long and unwieldy.

However, we propose that just leaving interpretation of terms up to respondents is also dangerous, as it may lead to undetected measurement error. Surely we want people to be answering questions about the same attitude object; simply presenting uniform wording does not guarantee this.

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