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Prevalence and characteristics of student attitude surveys used in public elementary schools in the United States

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There is anecdotal evidence of an increase in school administrators' use of surveys of students to obtain school climate information even though it is difficult to obtain valid measurement from student self-report. To better understand the context, this research estimated the prevalence of the use of student surveys in elementary schools and reviewed the types of questions and response options currently used in applied settings. A survey was administered to a nationally representative sample of 300 public elementary school principals (34% response rate). Approximately half of the schools use surveys of students in their schools, with rates of surveying depending on the grade. A qualitative review of example surveys suggests that many typically-used questions may be problematic, given research on best methods of attitude measurement. Suggestions for practice and future research directions are provided.

Anecdotally, there is evidence of an increase in the occurrence of school administrators using surveys of students to obtain climate information to improve learning conditions. For example, starting in 1995, the Broward County Public Schools (BCPS) in Florida conducts an "Annual Customer Survey" containing items asking about school safety, bullying, and climate regarding trust and respect (BCPS, 2007). Students in grades 3 through 12 participate in the survey which asks students to respond to statements on a scale from *strongly agree* to *strongly disagree*. Reports from this survey include a comparison of percent endorsement to statements across grade levels (for example, in 2006, it was reported that a higher percentage of students in the 3rd through 5th grades agreed with the statement that *students carry weapons at my school* than students in later grades. Also a higher percentage of the 3rd through 5th grade students agreed that they *felt safe at school* compared with older children.

Another example of the use of student surveys in the schools is found at Wissahickon Charter School (WCS) in Philadelphia, Pennsylvania. In their annual surveys of 3rd through 8th grade students, begun in 2004, children are asked whether given climates exist in the classroom (for example, *Is your classroom a fun place to be?*) and at the school level (for example, *Do students fight a lot with each other?*) Responses are collected on a three point scale, anchored by the words *Yes*, *No*, and *Sometimes*. Over the past two years, administrators at WCS have been concerned that the younger students endorse the response "*Yes*" more often than older students and are concerned that the older students are not having a positive experience at the school (Carroll, J.S., personal communication, July 27, 2006).

These two examples highlight a possible problem in administering self-report questionnaires to students at differing grade levels and then comparing the results across grade, thus comparing responses of children at differing developmental levels. Are the different rates of percent endorsement reflective of true differences in attitudes or are they reflective of differences in the cognitive approach to the response process based on developmental differences? Before we can begin to study differences and developmental best practices in surveying children, we need to understand the prevalence of surveying in schools, where and with what mode the survey is administered and the topics that are

typically addressed. The current research sought to provide this basic information to paint the context under which the cognitive response process of students is operating. The following sections of the paper discuss the survey response process in general, development theories and how they might play a role in student survey cognition, and the specific research questions that drove our study.

THE SURVEY RESPONSE PROCESS

The survey response process or cognitive response model is typically described as having four components: comprehension (understanding the question), retrieval (gathering information from memory), judgment (assessing the retrieved information in relation to the question), and communication (translating the information into a response, given response options and external considerations) (Tourangeau, Rips, & Rasinski, 2000). At each of these steps there is room for measurement error no matter the age of the respondent. At the comprehension stage, the words that comprise the question stem can be understood differently by respondents and thus answer differently (even though they may have the same underlying opinion). At the retrieval stage, memory processes can be faulty or respondents with more salient experiences or higher incidences of the item in question may have better retrieval of the information. At the judgment stage, the abilities of respondents to summarize the information that has been retrieved and to assimilate the relevant material and weed out irrelevant material may differ. Finally, the response stage can be problematic if either the available response options do not adequately represent the range of possible feelings or if the respondent feels that he or she needs to edit the response for social desirability. The process of questionnaire construction should seek to address each of these possible sources of error, ensuring that question stems and response options are written to elicit the appropriate information with as little burden to the respondent as possible.

In writing question stems and response options for both measures of behavior and attitudes, Dillman (2000) has summarized the existing research literature and provided suggested guidelines. In this study we focus on questions regarding attitudes, often measured as part of larger scales. First, the reading level of the question stem is important; if the words used are at a cognitive level above that of the respondent, respondents cannot answer the questions with some measurement error

(Groves, 1989). They may assume the meaning based on context, use a response set (answer the same way across items) given the other items on the questionnaire, answer in the middle of the scale, or skip the question all together (Groves). Additionally, apart from the vocabulary used in the stem, the cognitive difficulty of the item can lead to comprehension problems. Cognitive difficulty would be present in items that use passive or abstract language, contain double-barreled statements (Dillman), or use conditional phrasing (Woolley, Bowen, & Bowen, 2004). In addition, much research has examined the valence of questions: phrasing with negative or positive connotation. Research on the success of the use of negative valence is mixed and indicates that educational level is highly related to the ability of the respondent to attend to the switch between positive and negative phrasing (Barnette, 2000; Benson & Hocevar, 1985; Smith, 1967).

When considering the response options to be provided to the respondent, the optimal number of response options has been studied extensively and has been found to depend on the context of the question, but most researchers suggest that between five and nine options is best for the adult population (Cox, 1980; Krosnick & Fabrigar, 1997). Use of greater than nine options can lead to problems discriminating between choices and can thus lead to unreliability of measurement. Regardless of the number of response options, it has been suggested that the use of anchors (or labels) for each option results in greater reliability of measurement (Krosnick & Fabrigar). Additionally, when appropriate, concrete response options (such as *everyday* and *once or twice a week*) lead to more highly reliable measurement as opposed to vague quantifiers (such as *always*, *most of the time*, and *rarely;* Dillman, 2000). The developmental level of a child can take a role at each of the steps of the survey response process and the considerations in question response option writing discussed above may be particularly salient for questionnaire writers for surveys of children.

DEVELOPMENTAL ISSUES IN SURVEY COGNITION

The accuracy of any responses from self-report questionnaires of children will be a function of children's cognitive and social-cognitive skills, specifically, their level of communication and their ability to understand themselves within their environment (Stone & Lemanek, 1990). Children's communication ability and the ability to see themselves within a larger environment change as

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they develop. Woolley, Bowen and Bowen (2004) suggest that researchers consider the "developmental validity" of their self-report instrument, defining this type of validity as "when an item can be read, comprehended, and validly responded to by children in a targeted age range" (p. 192). Within the developmental literature, several stages have been identified and will be considered here: very young or preoperational (three to six or seven years of age), concrete operational (seven or eight to 11 or 12 years of age), and adolescents (12 years and older). These age groupings roughly translate to school grades of kindergarten to 1st/2nd grade, 3rd grade to 6th/7th grade, and 7th grade and above.

Surveying preoperational children

Very young children differentiate themselves from others mainly on the basis of observable behaviors and characteristics rather than internal experiences (Stone & Lemanek, 1990). Children below the age of seven "do not have sufficient cognitive skills to be effectively and systematically questioned" (de Leeuw, 2005, p.831). de Leeuw encourages face-to-face interviews of children from this age group with a qualitative, open-ended topic list. Children in the early stages of development tend to be literal, interpreting words in unanticipated ways (Borgers, et al., 2000) and thus entrusting the children to read or listen to questionnaire items and understand the intended content without some probing for comprehension is possibly problematic. Researchers have examined the feasibility of surveying children this age with varying results. Stanford, Chambers and Craig (2006) found that young children (ages 3 to 6) could accurately use a self-report scale for pain, the Faces Pain Scale-revised, in response to constructed vignettes but found that the age of the child was a significant predictor of measurement error. Rebok et al. (2001), in their cognitive interviewing studies of 114 children aged 5 to 11, found that 5 year old children did not sufficiently understand written questions to be able to report on their own health and while 6 and 7 year old children understood the question, they tended to respond at the extremes of a response scale of graduated circles. The judgment stage of survey response can also be problematic for this age group. Harter (1986) discusses trait labels and indicates that children younger than 8 tend to think of themselves in an "all-or-none" framework and cannot see themselves as being, for example, both happy and sad during the day. An additional problem, considering the final, response, stage of survey response, is that young children tend to seek to please and not express their own feelings

(Maccoby & Maccoby, 1954). Therefore, it would not be surprising to find higher agreement rates to statements among young children than older children.

Surveying concrete operational children

Borgers et al. (2000) state that children of age 8 and through 11 can be surveyed but stress that it is not easy to survey this age group successfully. When children are in the concrete operational stage, between 7 or 8 and 11 or 12 years old (typically 3rd through 6th grade) the issue of literal translation of words in the comprehension stage of survey response still exist (Borgers et al., 2000). It is possible that in the BCPS survey, the phrase *students carry weapons at my school* might have connoted to young children that students, when playing, carry objects as pretend weapons such as sticks on the playground. Woolley et al. (2004) undertook cognitive pretesting with groups of 3rd and 5th graders and found items on scales to be too abstract for the 3rd graders, statements such as *I feel good about myself* and *I am happy with myself*. The researchers had more success once items were changed to more concrete statements such as *I am smart* and *I am good at art*. They also found that children have problems with comprehension of the question when items have a conditional context at the end of the statement, such as *I can talk to grown-ups at my school when I need help* and suggest that the conditional context might be better when presented first (although they have not fully tested such practice). Another issue in comprehension is valence. In their study of the use of negative versus positive valence with 4th to 6th graders, Benson and Hocevar (1985) found that "elementary school children do not understand negation, and consequently, fail to convey their true attitude when confronted with a negatively phrased item" (p. 237).

As part of the judgment process, Harter (1986) indicates that at about the age of 8, children begin to comprehend that they can be, for example, "smart" in one area and "dumb" in another; by the time they are 10 years old, they begin to realize that they can be both "smart" and "dumb" even in the same domain. Understanding that one can have two different feelings at the same time has been shown by others to be developmentally dependent, with this understanding increasing between the ages of 8 and 12 (Caroll & Steward, 1984; Harter, 1986).

An additional issue that faces students in this age group is the format of the response options. Because of children's inability to cognitively process vague quantifiers such as *strongly* and *somewhat*, researchers

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suggest using simple *yes* and *no* type of responses (Rebok et al., 2001; de Leeuw, Borgers, & Smits, 2004). However, other studies have not been as conclusive. Borgers, Hox and Sikkel (2003) examined the use of vague quantifiers and response options without anchors with a group of 91 children aged 8 to 16. Specifically, they hypothesized that the use of vague versus concrete quantifiers and the absence of response option labels would yield greater measurement error. They also hypothesized that the relation between the response option types and measurement error would be moderated by child age. Contrary to their hypotheses, however, they found no relation between the response option wording and formatting and measurement error, however, structural models suggested possible different underlying factor processes. An additional issue in the response option format is the use of visuals or graphics, such as circles growing from small to big or changes in drawn faces that represent levels of happiness. These visuals have been found to be successful with this age group (Rebok et al., 2001).

Children at this age also still have a tendency to acquiesce (Borgers et al., 2000). Acquiescence theory would explain the findings in both the BCPS and WCS survey results where younger children, in 3rd grade, were found to have higher agreement rates than older children within the same school. Related, students at this age who are uninterested in the questions tend to satisfice (Holaday & Turner-Henson, 1989), thus most survey administration is still suggested to be face-to-face with this age group.

Surveying adolescents

From 11 to 15 or 16 years old (covering the middle or junior high school years), paper-and-pencil administration is deemed more acceptable (Borgers, de Leeuw, & Hox, 1999; de Leeuw, 2005). Response formats can take on more sophisticated structure, with the use of words (instead of visuals) and more scale points. In their meta-analytic research, Borgers, de Leeuw, and Hox (1999) found that, across age levels from 9 and 10 to 11 and 12 and 14 and 15, the internal consistency of a multi-item scale increased as children were older. Additionally, item non-response decreased as children aged.

Memory is also another important factor which can impact questionnaire item validity. At around age 10-11 children have the same memory capacity as adults, therefore, asking questions which require children to recall upon their previous experiences should cause few

problems for children of this age range (de Leeuw, Borgers & Smits, 2004).

RESEARCH QUESTIONS

While there is evidence that there are elementary schools that are surveying their students, it is not clear how pervasive such surveying is. Based on the Schools and Staffing Survey in 2003-04 (Tourkin et al., 2007), just under 90 percent of public school respondents indicated that they had a school improvement plan and, of those principals with school improvement plans, about 84 percent reported using surveys of "parents or students" to assess progress on the plan. Thus, we can assume that at least 75 percent of schools are surveying parents and/or students. Because the item wording on the questionnaire included both surveys of parents and students, it is not clear what percent of schools actually use parent surveys and what percent use student surveys. Furthermore, it is not apparent at what age level any student surveys are administered. Therefore, a logical first step in our research was to determine the prevalence of such surveying of students. Additionally, because question format and mode of administration can affect survey cognition, we wanted to determine the parameters around which these surveys occur. Our specific research questions were the following:

- What percent of public elementary schools are regularly administering surveys to children and at what grade levels?

- Are comparisons of distributions or means on these items made across grade levels?

- What is the typical mode of administration of surveys of students?

- What topics are most prevalent on surveys of student attitudes?

- What response options are typically provided to students?

- At what reading level are questions on typical surveys?

METHOD

Sampling and Procedures

A stratified random sample of 300 schools was drawn from the list of public schools with grades ranging from pre-kindergarten or kindergarten up to 8th grade in the 2003-2004 Common Core of Data (CCD; National

Center for Education Statistics, 2006). We drew a sample of 300 with the expectation of obtaining responses from 200 schools, which would yield a maximum 95 confidence interval of $\pm$ 7%. Specifically, the 60,723 schools on the CCD with at least one elementary grade (kindergarten to 6th grade) were divided into four categories: Pre-K/K to 5th/6th grade (N=37,209), Pre-K/K to 8th grade (N=5,510), Pre-K/K to 12th grade (N=2,727), and other (which included schools with only kindergarten and first grade, for example, or schools with only 4th through 6th grade; N=15,277). We included only the first two categories in this study: pre-K/K to 5th/6th and pre-K/K to 8th. Therefore, our population of interest included 42,719 schools, 87 percent of which enrolled children up to 5th or 6th grade and 13 percent of which included grades up to 8th grade. Explicit stratification included strata defined by state and by grade level (within each state, schools in the sampling frame were divided into our two groups of interest: pre-K/K to 5th or 6th and pre-K/K to 8th) and schools were randomly drawn within each stratum for a fixed sample size of four Pre-K/K to 5th/6th schools and two PreK/K to 8th schools within each state. The name, e-mail address and phone number of the principal of each of the schools was determined from a search of the world wide web and the current school address was verified (school address and phone number from 2003-2004 were already available on the CCD dataset). For those schools with no principal information available on the world wide web, surveys were sent to the school address under the salutation "Dear Principal." The survey was pre-tested via three cognitive interviews with principals and school personnel from different schools. Pre-testing of the survey suggested that some of Dillman's (2000) guidelines for survey administration would not be successful, in particular, a pre-notification letter. Therefore, a personally-signed letter and a one-page (two sided) questionnaire (see Appendix A) were mailed to the principal with no prenotification in early February, 2007. Note that, although not shown on the survey in the Appendix, a hand-written identification number was included on the survey in the top right corner for non-response tracking. As part of the questionnaire, principals were encouraged to return, in the self-addressed stamped return envelope, a copy of any surveys used with students. Non-response follow-up two weeks after the initial mailing was conducted in two ways. For principals whose e-mail address was available, a non-response e-mail was sent including a link to a web-based version of the same questionnaire. Principals for whom we did not have an e-mail address were sent

another letter with a second copy of the questionnaire and a return envelope.

Analysis

Simple descriptive analyses were conducted using SAS version 9; all analyses use non-response adjusted sampling weights with robust standard error estimation. Weights were constructed as given in Biemer and Christ (2008) to account for the disproportionate sampling rate across the explicit strata and then adjusted to reflect the non-response of some elements within state. Additionally, data from the 2003-2004 CCD were appended to the records for the sample to examine possible non-response bias. Qualitative analyses were conducted on the information gleaned from copies of survey instruments provided by the responding principals. Each survey was coded to document the grade of the intended respondent, the types of response options provided to the students, including the categories of number of response points, format (visual/graphic vs. words and/or numbers), and for those response options that use words, the exact wording was captured. The wording used in the questions was examined for its positive or negative valence, for the abstract versus concrete nature of the question, and for its reading grade level using the Flesch-Kincaid grade level evaluation (DuBay, 2004). The widely-used Flesch-Kincaid grade level formula is a function of the average number of words per sentence and the average number of syllables per word.

RESULTS

Of the 300 schools contacted, it was determined that eight were out of range, either closed or with no forwarding address. Responses were received from 100 of the remaining 292 principals, representing a 34 percent response rate. The low level of response was a cause for concern and thus several analyses were conducted to examine possible response bias. Response status was found not to be related to school enrollment size, percent of students with free and reduced lunch, or number of full-time equivalent teaching staff ($F_{(1,298)}$=.20, p=.65, $F_{(1,298)}$=.00, p=.96, and $F_{(1,298)}$=.01, p=.91 respectively). Additionally, response status was not related to school level strata or charter school status ($\chi^2_{(df=1)}$= .21, p=.73 and $\chi^2_{(df=2)}$ = 2.1, p=.34 respectively). Sampling weights were rescaled to account for non-response within state, however four states were not represented at all among the respondents: Illinois, Kentucky, Oklahoma, and Pennsylvania.

As a check that our survey respondents were reflective of the general population of schools, the first question on the survey asked whether the school conducts surveys of parents and/or students. The weighted estimate was 81.8 percent (with a standard error of 6.7). Given the comparability of this estimate with the national estimate of approximately 75 percent of schools surveying parents or students on progress of school improvement plans (from the SASS), we found further support that our sample was representative of schools across the U.S. We also asked principals to specify the estimated frequency with which they surveyed parents and students and this information is displayed in Table 1. While nearly 60 percent of schools report surveying parents every year and another 20 percent report surveying parents less frequently, students are surveyed at a lesser rate: about one-third of schools report surveying students every year. Note, however, that about half of the schools report surveying students with some regularity, if not yearly. The surveying of students is clearly a function of the grade level of the students. Table 2 provides the estimated percentage of schools that conduct surveys of students by grade level. Approximately one-fifth to one-quarter of the schools that have kindergarten, first and second grade classes survey the students in those classes as compared to approximately half of the schools with 3rd, 4th and 5th grades surveying those classes and over 80 percent of schools that survey their seventh and eighth grade classes.

We asked respondents whether their surveying of parents and students was required. For both types of surveys, approximately three out of five respondents indicated that the surveying was required (62.2 percent for surveys of parents and 59.8 percent for surveys of students). For the most part, the state and the district were the bodies requiring the surveying and for some schools, the surveys were part of their charter agreement.

Topics of the student surveys appeared to be centered on the academic enterprise and not about other aspects of the children's lives. Table 3 lists the percentage of schools reporting whether the topic was addressed on their survey. This focus on the academic functions of the school make it clear that these surveys are not trivial, such as helping to determine whether to hold a school dance, but clearly the information

Table 1: Weighted percentage of schools reporting frequency of surveying parents and students

Respondent	N	% Never	% Every couple of years	% At least once a year
Parents	100	21.0 (7.0)	19.9 (5.3)	59.1 (7.9)
Students	100	43.8 (6.6)	21.5 (6.1)	34.7 (5.5)

NOTE: numbers in parentheses indicate estimate of standard error.

Table 2: Weighted percentage of schools reporting that they survey students, by grade level

Grade Level	N	% that survey	SE
Kindergarten	89	21.4	4.6
1st grade	91	25.3	4.6
2nd grade	90	29.8	5.2
3rd grade	95	45.3	5.7
4th grade	96	46.7	5.6
5th grade	90	51.5	6.9
6th grade	55	73.0	6.0
7th grade	36	82.4	9.8
8th grade	36	82.4	9.8

collected is intended to inform the school decision-making process. In fact, in response to the write-in portion of item 5 on our questionnaire, two respondents indicated that the surveys were part of the teacher evaluation process.

Regarding the mode of administration, 78.8 percent of schools (SE=3.5) report using paper and pencil versions of surveys with an additional 21.2 percent (SE=3.5) using computer-based surveys. No schools reported using face-to-face interviews as the typical mode for survey administration. An overwhelming percentage of schools, 95.4 percent (SE=1.7), report conducting the surveys in class with another 4.2 percent (SE=1.6) report sending the surveys home. Only one school reported administering surveys in large groups such as during assemblies or lunch (weighted percentage = 0.4, SE=0.4).

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Table 3: Weighted percentage of schools reporting that the topic is addressed on their surveys of students, N=68

Topic	%	SE
Attitudes about the instructional climate in the classroom	97.9	0.5
General satisfaction with the school	97.1	0.3
Safety (fighting, drugs, etc.)	95.8	1.0
Student-peer relations	94.1	1.5
Student-administrator/teacher relations	93.2	2.4
Academic activities outside school (i.e., time on homework)	80.3	5.0
Ideas for improvements to school	75.3	6.6
Non-academic activities outside school (sports, hobbies)	46.2	6.6
School social activities (clubs, dances)	42.0	5.9
Transportation (busses, crosswalks, etc)	35.8	6.6
Lunch/snack preferences	19.8	3.5

Most schools, 66.0 percent (SE=5.6), report that all or almost all of the questions on their surveys are the same across grade level and another 34.0 percent indicate that some of the questions are the same. The great majority, 73.4 percent (SE=6.1), report that they do compare responses across grade levels.

Principals were requested to include a copy of their surveys with the returned questionnaires. Of the 68 schools that reported surveying students, just five schools included a copy of a student survey and an additional four schools provided us with information to retrieve the survey on the web. Some schools indicated that they used a proprietary evaluation service and could not share the questionnaire or reported the use of a district- or state-wide survey that we were unable to obtain. We reviewed this sample of nine surveys to determine the typical approach used with regard to question wording and response options. In all, there were 240 items on the surveys, ranging in number from just five to 61 items per survey.

In terms of question wording, previous research has suggested that questions should be at an appropriate age level, be concrete as opposed to abstract, avoid the use of negative valence, and not have conditional contexts at the end of the question stem. We reviewed the items for their readability using the Flesch-Kincaid grade level readability scoring system (scores are shown in Table 4). Three of the surveys were intended for use with kindergarten students and older children. Of these three surveys, the average readability grade level scores were 0.9, 2.4 and 4.4. The survey with the readability grade

level of 4.4 clearly included items pitched at a very high level (for both reading and comprehension). Items included *Do you understand how your school expects you to behave at school?* and *Do you understand what it takes to be a successful student?* This particular survey (A) was a state-created survey. In general, the state-created surveys that were provided as examples included fairly high reading requirements. Other survey creators (such as associations, universities, and for-profit institutions) appeared better able to target the reading level of items. However, even though the average reading level appeared appropriate, some single items had high grade level scores. For example, the following item was found on Survey E, *I know what I am supposed to be learning in my classes*, rating a grade level score of 5.5.

Of the 240 items that we reviewed, basic guidelines in survey question writing appeared to be followed, with only some occurrences of negative valence, double-barreling, and conditional contexts. Only two questions included a negative valence. These two questions were found on the same survey, Survey G, which was administered to students in 3rd, 4th and 5th grades: *My school does not allow cheating* and *There are no problems with bullies at our school.* Additionally, there were only a few cases of double-barreled questions on the school-created survey (Survey I): *You know your neighbors and think they care about you* and *You feel cared for and encouraged at school.* Conditional contexts at the end of the sentence were found in two items: *You can say no to your friends if they want you to do something you know is not right* and *My teachers give me extra help when it is needed.*

Table 4: Characteristics of sample surveys

Survey	Grade levels assessed	Grade level readability	Response options
A: State created	K-2	4.4	*No, So-so, OK, Yes* (with accompanying faces)
B: State created	3-6	4.0	1=*Hardly ever*, 3=*sometimes*, 5=*almost always*
C: State created	4-6	5.6	*hardly ever, sometimes, most of the time*
D: District created	K-6	0.9	*No, sometimes, yes*
E: Other	K-3	2.4	No words; three faces: frown, straight line, smile
F: Other	1-6	3.1	*Strongly disagree, disagree, neutral, agree, strongly agree*
G: Other	3-5	3.2	*I agree, I'm not sure, I don't agree* (with accompanying faces)
H: Other	2-8	2.0	*disagree, not sure, agree* (with accompanying faces)
I: School created	4-6	3.2	*Yes, no, sometimes* and also includes *not important, sort of important,* and *very important*

The abstract versus concrete nature of a question was more difficult to diagnose. Most surveys offered many concrete questions, such as *I like to come to this class* and *My teacher is nice to me*, both on a survey for K to 6th graders. Other concrete questions included *You do 2 hours or more of homework every day* and *My teachers listen to my ideas* both on a survey for 4th to 6th graders. However, more cognitively difficult items were abundant: *I know how well I am learning in this class, Young people have a useful place in the community, Do you think you have the reading skills to understand the materials you need to or asked to read in school?*, and *My family feels welcome at my school.*

While many of the question stems were written at an appropriate grade level for readability and followed basic guidelines in question writing, the response options provided with the questions might present some difficulty for students. An extremely problematic survey, developed by a school (Survey I), included two response option formats for each question stem. The response options were *yes, no, sometimes,* and *not important, sort of important,* and *very important*. Asking two questions in one item in this way is seen as not appropriate with adults (Dillman, 2000), much less 4th, 5th, and 6th graders. Other response option formats included more appropriate visual cues, such as smiley faces to signify approval and disapproval. Only one survey used response numbers without anchors for each of the scale points and one survey used fairly vague quantifiers (*hardly ever, sometimes,* and *most of the time*) when asking questions which could have much more concrete responses: *how often do your parents talk with you about stories in the news, how often do your parents take you to the library, and how often do your parents help*

you with your homework. More concrete response options such as *daily* and *once or twice a week* might have been more appropriate.

Especially helpful in this review of surveys was to identify the common topics or issues that are measured on surveys of children by public elementary schools. Future research should identify appropriate question wording and response options to capture student opinions about these frequently addressed topics. All of the surveys touched on some aspects of the following issues: fairness of teachers, knowledge of rules by the child or other students in the school, respectfulness (both of teachers/adults and of students), feelings of safety in school and traveling to and from school, understanding what it takes to be academically successful, whether the child likes to learn and attend school, and parental involvement, help with homework, or expectations.

DISCUSSION

As expected, this study found that public elementary schools are using surveys of students and/or parents often, with an estimated 80 percent of schools reporting such. Unknown was the percentage of school using surveys of students. Approximately one in four or five schools report surveying very young children, in kindergarten through second grade, and eighty percent of schools report surveying children in the upper grades of 7th and 8th. For the most part, the topics on these student surveys focus on the instructional climate, relationships, safety and satisfaction with the school. While some surveys (20%) are administered using a

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computer (most likely these are survey programs developed by outside associations or for-profit firms that are purchased by the schools), the great majority use paper-and-pencil mode of administration. No schools reported using the suggested format for young children, face-to-face interviews. The lack of the use of face-to-face interviews is not surprising given the already-strained resources at schools. Unfortunately, we did not obtain information on whether the questionnaire was read aloud in the classroom for those children who had difficulty reading. The vast majority of questionnaires were administered in the classroom, thus facilitating such reading. Given prior research on the ability of young children to understand questions (Borgers et al., 2000), we suggest that administrators plan to read aloud their surveys to children in grades kindergarten through 6th grade and allow for children to ask questions to clarify item meaning.

It should be noted that our response rate was low and the resulting statistics may be biased. Principals may have opted not to respond to the questionnaire if they did not survey students or parents. Our non-response checks, however, indicate that this self-selection bias may not be large, if it indeed exists. One possible reason for the low response rate may be district policies that prevent principals from participation in requests not approved through the district office.

Given that schools are using paper-and-pencil surveys of children in classrooms to assess their attitudes about the functioning of the school (presumably to inform school decision making), research efforts should be made to improve the current measurement process. The surveys that we examined in detail provide hints at where survey methods can be improved but because we were only able to examine a small number of surveys, our findings in this area can only be considered illustrations of possible problems, not to be generalized to all school surveys. The review of the select surveys that were sent in response to our query suggests that schools are commonly interested in a core set of issues: fairness, respect, a safe atmosphere, encouraging teachers, and family involvement. In general, many of the questions were targeted at a higher reading level than administered or, coupled with the response options provided, were somewhat cognitively difficult. Developers of surveys for children should attempt to write the questions using simple words, short sentences, and not include conditional statements.

About half of the surveys reviewed included helpful face pictures with the response options and one survey

used only faces. The latter practice would eliminate measurement error due to differences in cognition of words across students at various developmental stages, however may be difficult for students as it provides no context for the faces. Future research should consider whether these faces should be used with or without accompanying anchor words.

The anchor words for the response options varied across the sample surveys, from the more cognitively difficult Likert format to a simple *yes*, *sometimes*, and *no*. Clearly, given the ambiguity sometimes associated with the Likert format among adults (Dillman, 2000), the use of this format with children in unadvised and survey creators should strive to change their item wording to work with either frequency rating response options (e.g., *never*, *sometimes*, *always*), or to more declarative *yes* and *no* statements. The latter sets of response options offer more typical responses for children and future research should verify that such response options yield more accurate ratings than the agreement options. Even the use of the *yes*, *no*, *sometimes* response options set may yield different responses as compared with the *yes*, *sometimes*, *no* response options. It is conceivable that with the first response option set, because children are used to hearing the words *yes* and *no*, children will focus on the *yes* and *no* options (and not hear that *sometimes* is an option). Future research should consider whether the placement of the *sometimes* option in the middle or at the end affects the distribution of the responses among children.

Overall, our study suggests that survey practice differs in format across schools and there is a need for research into surveying this population of children with regards to administration style, response options, and item wording. Furthermore, given the proportion of schools that are undertaking surveys, such research has the possibility of benefiting a great number of schools and institutions. This study provides a first step in improving survey methods in schools by suggesting some parameters under which this research should take place.

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Appendix

The following questions address how your school collects attitudes and opinions of students or parents in the school. Please consider the past __three__ years of school operation as you answer these questions.

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1. Do you or a central unit (such as the school board) conduct surveys on attitudes of students or parents of students in your school?
- ❑ No → *if no, you may skip to question 13*
- ❑ Yes

2. How often do you survey parents of students?
- ❑ Never. We do not survey parents.
- ❑ Every couple of years.
- ❑ At least once a year.

3. If you survey parents, is this surveying required *(by a body such as the state or district)***?**
- ❑ No
- ❑ Yes *(If yes, please indicate who requires it: _____)*

4. How often do you survey students?
- ❑ Never → *if never, you may skip to Question 13*
- ❑ Every couple of years.
- ❑ At least once a year.

5. If you survey students, is this surveying required *(by a body such as the state or district)***?**
- ❑ No
- ❑ Yes *(If yes, please indicate who requires it: _____)*

6. Please indicate whether the following types of questions are __typically__ included on your surveys of students.

	Yes	No
Safety (fighting, drugs, etc.)	❑	❑
Student-peer relations	❑	❑
Student-administrator/teacher relations	❑	❑
Lunch/snack preferences	❑	❑
Ideas for improvements to school	❑	❑
Transportation (busses, crosswalks, etc)	❑	❑
School social activities (clubs, dances)	❑	❑
Academic activities outside school (i.e., time on homework)	❑	❑
Non-academic activities outside school (sports, hobbies)	❑	❑
Attitudes about the instructional climate in the classroom	❑	❑
General satisfaction with the school	❑	❑

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7. Please indicate the typical mode of administration of your student surveys.
- ❑ Paper and pencil
- ❑ On computer
- ❑ One-on-one interview

8. Please indicate the typical time that you request students to take surveys.
- ❑ In class
- ❑ At home
- ❑ During assembly or lunch

9. Please indicate whether you survey children at the following grade levels.

	Yes	No	Grade not in your school
Kindergarten	❑	❑	❑
1st grade	❑	❑	❑
2nd grade	❑	❑	❑
3rd grade	❑	❑	❑
4th grade	❑	❑	❑
5th grade	❑	❑	❑
6th grade	❑	❑	❑
7th grade	❑	❑	❑
8th grade	❑	❑	❑

10. If you survey more than one grade of students, how comparable are the questions on your surveys across grade levels?
- ❑ all or almost all of the questions are exactly the same
- ❑ some of the questions are the same
- ❑ none of the questions are the same

11. If you survey more than one grade of students, do you compare the data across grade level?
- ❑ yes, items are compared
- ❑ no, no comparisons are made across grade level

12. We are gathering examples of student surveys to better understand the question wording used with students. Could you help us by sending us a typical survey used in your school? In return for your help, if you are interested, we would be happy to provide you with suggestions for how you might improve the design and questions on your survey. If you are unable to provide us with a copy of a survey, we would like to be able to call you to discuss your survey, if possible. Please indicate the action you will take.
- ❑ a copy of an example survey is enclosed with this questionnaire
- ❑ a copy is <u>not</u> enclosed but I will talk on the phone about the survey
- ❑ a copy is <u>not</u> enclosed and I do <u>not</u> wish to talk on the phone about the survey

13. If you would like to make any additional comments about surveying students and parents, we would very much like to hear them.

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