Administering measures of students' ethical orientation at various points in the education of business students would be helpful in determining the affective impact of the curriculum. Procedures for eliminating item bias and maximizing the validity and reliability of such measures are discussed and illustrated through actual data collected in the attempt to develop such an instrument. The model of M. Thomas (1989) was used to guide the development of the ethical evaluation instrument by the following steps: (1) generate a pool of ethical and moral concerns; (2) select knowledgeable judges; (3) have judges identify the moral and ethical issues from the list compiled; and (4) establish a hierarchy of issues. A list of 52 potential concerns was prepared and rated by 52 college business faculty members and 61 business practitioners in the community. Top issues for both cohorts were identified; and a high degree of consistency was found between the two groups, providing a set of items for an eventual student instrument. The data collection and analysis procedures demonstrated the viability of the framework for construction of a student test. Two tables and one figure contain study data. An appendix lists the 52 ethical issues. (SLD)
INVESTIGATION OF A TECHNIQUE FOR MEASURING ETHICAL DEVELOPMENT OF STUDENTS IN BUSINESS: A HEURISTIC EXAMPLE

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Abstract

Many business curricula now emphasize the development of business ethics, and frequently include courses in business ethics. Administering measures of students' ethical orientation at various checkpoints during the business students' educational career would be beneficial in determining the affective impact of the curriculum.

Unfortunately, most previously developed measures of ethical functioning have lacked psychometric integrity or have been biased against certain populations; hence there is a need for more appropriate measures to be developed. Various procedures for eliminating item bias and maximizing the measurement validity and reliability of such measures are discussed. Actual data collected by the authors in an attempt to develop such an instrument are presented to illustrate the appropriateness of these procedures.
The measurement of attitudes has long been a concern of behavioral research. Argument exists to support the use of numerous techniques for measuring attitudes, including interviews (Baxter-Magolda, 1987), analysis of written statements (Taylor, 1983), and analysis of subjects' responses to objective items (Thomas, 1989). Attitudinal measures may be especially useful to educators in charting progress of students toward affective goals.

In the college or university business classroom, for example, the instructor may find use for such measures to determine the ethical orientation of students toward various business situations. Many business curricula now include courses in business ethics or encourage the inclusion of ethics topics and discussion in all business classes. Administering measures of students' ethical orientation at various checkpoints during the business students' educational career would be beneficial in determining the affective impact of the curriculum.

Various instruments have been developed to look at universal ethical concerns. Many such instruments have been criticized for lacking psychometric integrity. For instance, Reidenbach and Robin (1990) point out that many such instruments fail to honor the multidimensional complexity of the individual ethical judgment process. Cortese (1984) points out that the scales often lack predictive validity. In addition, evidence suggests that some of these instruments may be biased against certain populations, such as females (Baxter-Magolda, 1987; Cortese, 1984) or persons from diverse cultural backgrounds (Thomas, 1989).

A popularly-used technique for measuring ethical judgment has been developed by Kohlberg and his associates (Kohlberg, 1969; Kohlberg, Colby, Gibbs, Speicher-Dubin, & Powers, 1978). This measurement technique involves
observing how people respond when confronted with a number of moral-decision situations, also referred to as incidents or episodes. Thomas (1989) has criticized the content validity of instruments structured according to this technique from the viewpoint of moral episode sampling. It is Thomas's contention that items on these instruments often fail to have adequate content validity as they represent the bias of the author rather than truly representing viable ethical or moral concerns within the particular area of interest. In a nutshell, Thomas' basic argument is, "How adequately do the moral-decision episodes [included in such an instrument] represent the entire domain of moral reasoning as it is found in daily life?" (p. 60).

The contention of the authors of the present paper is that a viable Kohlberg-type moral episodes instrument can be developed which centers specifically on business situations, rather than on universal ethical scenarios. The ultimate goal of the present research is to develop such a means of measuring ethical orientation, using procedures that eliminate item bias and maximize instrument validity and reliability.

To date, several measures have been developed for assessing the ethical orientation of persons in business settings. For instance, Budner (1987) developed a 40-item Kohlberg-type instrument to assess marketing students' level of acceptance of various controversial marketing practices. Reidenbach and Robin (1990) developed a three scenario multidimensional ethical judgment scale based on five contemporary normative moral philosophies. These and other instruments have some promising potential; however, none of them have been substantially tested to the point that their psychometric integrity is firmly established.
Framework for Research Design

Thomas (1989) has provided an overarching model for guiding the development of ethical evaluation instruments. Thomas's model includes a five-step process: (a) generate a pool of potential moral/ethical concerns, (b) select knowledgeable judges to identify from the list of concerns those that they judge to be ethical issues, (c) have judges identify moral/ethical issues, (d) establish a hierarchy of issues based on the responses received from judges, and (e) prepare test episodes.

The Thomas model provided a working framework for the present study. Steps (a) through (d) have been completed for this project, and the final step is in progress. In the present study, Thomas' first four steps were applied as follows:

**Step 1: Generate a pool of potential moral/ethical concerns.**

The purpose of this initial step, according to Thomas (1989), is to collect principles and conditions that potentially, in the opinions of at least some people in some societies, would bear on morality. Items may be drawn from a variety of sources, such as laws, writings on ethics, news items, etc. In the present study, the researchers compiled a long list of potential ethical situations based upon examination of business ethics textbooks (e.g., DeGeorge, 1990; Frederick, Davis, & Post, 1988; Hay, Gray, & Smith, 1989), discussions with business faculty, and current events. The list was then scrutinized for redundancy and condensed to 52 potential moral/ethical concerns. Care was taken to eliminate emotionally-laden wording from the items and to randomize the order of the items so that items related to particular themes or categories were not clustered. The 52 items became the
basis for the design of the "Issues Rating Scale." These items are presented in Appendix A.

**Step 2: Select knowledgeable judges.**

According to Thomas, the judges should be individuals well acquainted with the issue—in this case, business ethics. Because business faculty are charged with the responsibility of teaching business ethics to students, their inclusion as judges seems logical. But the opinions of business practitioners are also vital, since they more closely reflect the ethics actually practiced in the world of work. Thus, two groups of judges were identified for inclusion: business faculty and practicing business people. A small pilot study was conducted in which business faculty and business persons were asked to complete the Issues Rating Scale and to make comments about its design. The approximate time required for the form's completion was also established.

The pool of judges consisted of judges from the business faculty category and the business practitioner category. The business faculty cohort consisted of the business faculties employed at Stephen F. Austin State University, Nacogdoches, Texas, and at the University of Southern Mississippi, Hattiesburg, Mississippi. Both campuses are located in rural southern settings and have approximately the same student enrollment. All faculty members (n = 174) in these schools of business were sent a survey consisting of the Issues Rating section described previously and a few items designed to obtain background information from participants (such as teaching area, years in teaching, and perceptions about ethics of business students). Ninety-two questionnaires were distributed at Stephen F. Austin State University; 82 were distributed at the University of Southern Mississippi. The business
practitioner cohort was created by surveying businesses in the communities immediately surrounding the two universities. Manufacturers lists were obtained from the area chambers of commerce. Correspondence was addressed to the president or other executive/managerial officer. The business version of the survey form contained the same Issues Rating section sent to faculty, but the background information requested was different. Questions in this section referred to type of business, characteristics of the business, and title of respondent. The manufacturers list for the Hattiesburg area consisted of 105 company names, all of whom were sent a survey form. Similarly, 98 surveys were mailed out to the Nacogdoches-Lufkin manufacturers.

Step 3: Have judges identify moral/ethical issues.

The Issues Rating Scale listed 52 items explained previously and requested that judges rate each issue as to its importance as an ethical concern for business. Typically, when researchers wish to have respondents give ratings of importance to various issues, one of three widely-used scaling models is used: (a) an ipsative scale (for instance, having the respondent select between two bipolar responses, such as "important" and "unimportant"), (b) a numeric Likert scale (for instance, having the respondent circle a number value between "1" and "5" with "1" labeled as "unimportant" and "5" as "important"), or (c) a "Q-sort" strategy (for instance, having the respondent sort items on cards into 10 categories, with the categories ranging from "least important" to "most important"). As described by Nunnally (1978), all of these scaling models lead to comparative rather than absolute ratings of the items; hence all are appropriate for determining the relative importance of the items within a set.
However, as noted by Thompson (1981), the first two of these response formats limit the amount of response variance across subjects. In addition, the Q-sort is not always an appropriate technique as it is cumbersome and time-consuming, and requires that the researcher administer the items personally (Daniel, 1989). In lieu of these more popularly-used formats, Thompson (1981) recommends the "unnumbered graphic scale." As illustrated in Figure 1, this scale consists of an unnumbered, horizontal line drawn between two bipolar responses. Using this format, respondents are asked to place a vertical line on the scale at the point which best conveys their assessment of the importance of the item.

Insert Figure 1 About Here

As has been shown in previous studies (Carr, 1989; Daniel, 1989; Thompson, 1981), this response format is superior to the numeric Likert format as it allows the researcher to divide the unnumbered line into more increments than is typically feasible using the numeric format. By generating more response variance, the scores yield more highly reliable items. In fact, as illustrated by Carr (1989) and Daniel (1989), respondents' ratings of items may even be converted to ranks. For instance, with a set of n items, a respondent's item with the leftmost mark would receive a rank of "1," the item with the mark next closest to the left end of the scale would receive a rank of "2," and so forth, until assessing the respondent's rightmost mark, which would receive a rank of "n."

Even though the idea of converting markings to ranks was extremely applicable to the present study, this scoring method was rejected as it is very difficult to distinguish among the placement of markings on the
unnumbered line when there is a fairly large number of items (Daniel, 1989). Instead, for the purposes of the present study, a transparent overlay was developed which divided the unnumbered line into 15 equal segments. Items were scored by placing the overlay over the line and marking the number nearest the respondent's marking.

Step 4: Establish a hierarchy of issues.

Analyses of the importance ratings were run using the entire sample (n = 113), the faculty cohort (n = 52), and the business practitioner cohort (n = 61). At least two ways of analyzing these ratings are possible. First, the measurement scale could somewhat arbitrarily be divided into various segments indicating the strength of the respondents' mean ratings for each item. For instance, the 15-point scale used in the present study could be divided into "low" (1 - 5), "medium" (6 - 10), and "high" (11 - 15) ratings. This method is problematic, particularly in cases in which a relatively even distribution of ratings across all possible levels does not exist. In the present study, for instance, hardly any responses were indicated in the "low" (1 - 5) range.

A second, and more promising, method of analyzing the ratings is to determine mean ratings for each item and then to rank order the items by these mean ratings. This method was chosen for use in the present study as it allows the items to be relatively compared against each other rather than against some arbitrarily determined standard. Additionally, this method allows for ratings of items with one subsample cohort to be compared against the ratings of another cohort. Consequently, the mean rating for each of the 52 items was calculated, and then the items were ranked ordered by magnitude of their mean ratings.
Findings

Usable data were returned by 113 (30%) of the respondents, including 52 respondents (29.9%) in the business faculty cohort and 61 respondents (30.0%) in the business practitioner cohort. The business faculty cohort had a mean length of teaching experience of 14.25 years, and included individuals from 10 different teaching areas within business. The business practitioner cohort included respondents from at least 10 different business types. Considering this diversity, it was felt that this group of judges was a representative sample of business faculty and practitioners.

Mean ratings for each item were calculated and items were then rank ordered by the magnitude of the mean ratings. The 20 items receiving the highest ratings across the entire sample are presented in Table 1, along with their respective ranks. As a point of comparison, the ratings and ranks for these items across the two subsample cohorts are also given. Similarly, the 10 items receiving the lowest ratings across the entire sample and the two subgroups are presented in Table 2. While substantive interpretation of these item groupings is provided elsewhere (DuFrene, Elliott-Howard, & Daniel, 1990), the purpose of the present analyses was to determine the merits of the measurement strategy.

INSERT TABLES 1 AND 2 ABOUT HERE

Discussion

The data indicate that there is a high degree of consistency across the two subsample cohorts as to which items are the most and least important ethical issues among the 52 presented. Fourteen of the 20 items receiving the
highest ratings when rated across the entire sample were also included in the top 20 issues across both cohorts of the sample. The 10 lowest rated items were also consistently rated low across both subsample cohorts.

Thomas (1989) suggests that when selecting judges for rating the importance of ethical issues within a particular setting, one must be careful to select a fully representative group of persons who are well acquainted with the ethical issues within the given setting. The present sample fulfilled these conditions well as it included business faculty across a wide array of disciplines within business at two different universities as well as business practitioners from a variety of business types in two different communities. Considering the wide diversity of the persons who served as judges during this process, the relative cohesiveness of opinion regarding the importance of the 52 selected issues is noteworthy. The present analyses serve well to illustrate the viability of the Thomas framework for ethical issues rating.

Several practical issues related to the design, preparation, and scoring of the Ethical Issues Rating Scale that merit further discussion emerged from this data collection and analysis experience. Some brief comments relative to these issues follow.

Design of the Survey Instrument

The average time required to complete a survey instrument is always of concern to the researcher. A pilot test of the instrument used in this study indicated that an average time of ten minutes was required for responding to the profile questions and the fifty-two ethical items. The authors' perception is that the ability to respond by simply marking the unnumbered line requires less time-consuming consideration than would making a choice
between numbers on a Likert-type scale. This feature makes the choice of the unnumbered graphic scale over a segmented one attractive when a large number of items are involved.

Another observation relates to faculty respondents' lack of familiarity with the unnumbered graphic scale as reflected in oral and written comments to the authors by faculty participants in both the pilot study and faculty sample groups. The authors speculate that the discomfort of some faculty with the technique may well have affected response rate of the faculty cohort. Some additional information might be provided to faculty regarding the use of this scale for the purposes of this study. The use of the unnumbered scale did not seem to have any impact on the business cohort.

Preparation of the Instrument

The authors suggest two possible refinements in the instrument preparation that would aid in scoring and analysis of unnumbered graphic scale items. First, the instrument and the scale used in this study were printed in black ink; most of the responses were also marked in black. It was noted that those marked in another color were considerably easier to score. Since control of the respondent's choice of ink is not practical, the researcher may want to consider printing the scale in a color other than black so as to provide needed visual contrast which would aid in scoring.

Secondly, a suggestion is offered for improving the transparent overlay used for scoring the unnumbered responses. Instead of using a scale for measuring one response at a time, having transparent scales made for each page of the instrument would avoid the need to move and relocate the scale for each response. This becomes especially important when measuring many responses,
such as in the present study in which over 5,000 item responses were scored. To insure consistency in type font and spacing, the full page scales should be prepared at the same time as the instrument. Quality control in printing is necessary for the matching of the scale and the printed instrument, thus ensuring the validity of scoring procedures.

**Scoring of the Instrument**

Although a sample response (see Figure 1) was included with the instrument to show respondents how to mark responses, some respondents placed their marks above the continuum rather than allowing the marks to cross the line. Recognizing that there will probably be some incorrectly marked instruments, deciding how those instruments will be scored is necessary before recording of responses is begun. For instance, in the present study, responses that were marked in such a way that they did not cross the printed line were scored as if the bottom end of the mark touched the line (rather than extending the line to the point of intersection based on the natural slant of the respondent's mark).

To facilitate recording of responses by a right-handed person, each page of the instrument should be arranged so that space for recording the score is afforded on the right rather than the left side of the page. The converse is true for a left-handed scorer.

A final suggestion is to avoid altogether the recording of response values on the instrument by using, instead, a voice recording of response scores using dictation equipment. The voice recording would be played back to enter data for computer analysis. Dictation equipment would allow the recording to be started and stopped as necessary.
Summary

The purpose of the present study was to illustrate a procedure for developing instrumentation for the measurement of ethical orientation of persons in the field of business. The viability of a framework proposed by Thomas (1989) is illustrated. A number of salient issues related to the process of data collection and analysis within this framework are also discussed.

The issues determined important through this rating process may serve confidently as the basis for developing content valid episodes for inclusion in an eventual ethical episodes test instrument. Obviously, numerous decisions remain to be made concerning what information to include in each episode, what questions respondents should answer about each item, and how many episodes to include. Creation of such an instrument is the next logical phase of this research. Possible applications for such an instrument would include administration to groups of business students and faculty, as well as business personnel and job applicants.
References


### Table 1
Mean Ratings and Ranks for 20 Highest Rated Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Full (^2)</th>
<th>Faculty (^3)</th>
<th>Business (^4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>13.018(1)</td>
<td>12.942(2)</td>
<td>13.082(3)</td>
</tr>
<tr>
<td>51</td>
<td>13.009(2)</td>
<td>13.157(1)</td>
<td>12.885(5)</td>
</tr>
<tr>
<td>8</td>
<td>12.973(3)</td>
<td>12.706(5.5)</td>
<td>13.197(2)</td>
</tr>
<tr>
<td>32</td>
<td>12.876(4)</td>
<td>12.385(10)</td>
<td>13.295(1)</td>
</tr>
<tr>
<td>41</td>
<td>12.823(5)</td>
<td>12.808(4)</td>
<td>12.852(6)</td>
</tr>
<tr>
<td>12</td>
<td>12.625(6)</td>
<td>12.588(7)</td>
<td>12.656(9)</td>
</tr>
<tr>
<td>29</td>
<td>12.580(7)</td>
<td>12.863(3)</td>
<td>12.344(11)</td>
</tr>
<tr>
<td>10</td>
<td>12.531(8)</td>
<td>12.173(12)</td>
<td>12.836(7.5)</td>
</tr>
<tr>
<td>1</td>
<td>12.487(9)</td>
<td>12.077(14)</td>
<td>12.836(7.5)</td>
</tr>
<tr>
<td>25</td>
<td>12.389(10)</td>
<td>12.404(8)</td>
<td>10.377(36)</td>
</tr>
<tr>
<td>46</td>
<td>12.286(11)</td>
<td>12.706(5.5)</td>
<td>11.394(16)</td>
</tr>
<tr>
<td>22</td>
<td>12.115(12)</td>
<td>11.788(16)</td>
<td>12.393(10)</td>
</tr>
<tr>
<td>9</td>
<td>11.965(13)</td>
<td>11.904(15)</td>
<td>12.016(14)</td>
</tr>
<tr>
<td>47</td>
<td>11.955(14)</td>
<td>12.157(13)</td>
<td>11.787(19)</td>
</tr>
<tr>
<td>19</td>
<td>11.814(15)</td>
<td>10.462(31)</td>
<td>12.967(4)</td>
</tr>
<tr>
<td>13</td>
<td>11.741(16.5)</td>
<td>11.510(18)</td>
<td>11.934(16)</td>
</tr>
<tr>
<td>37</td>
<td>11.741(16.5)</td>
<td>12.314(9)</td>
<td>11.262(25.5)</td>
</tr>
<tr>
<td>34</td>
<td>11.705(18)</td>
<td>12.235(11)</td>
<td>11.262(25.5)</td>
</tr>
<tr>
<td>50</td>
<td>11.688(19)</td>
<td>11.392(23)</td>
<td>11.934(16)</td>
</tr>
<tr>
<td>6</td>
<td>11.550(20)</td>
<td>10.327(35)</td>
<td>11.656(21)</td>
</tr>
</tbody>
</table>

\(^1\)The complete text of the items is presented in Appendix A.  
\(^2\)Ratings and rank order of items for the full sample (n = 113).  
\(^3\)Ratings and rank order of items for faculty cohort (n = 52).  
\(^4\)Ratings and rank order of items for business practitioner cohort (n = 61).

### Table 2
Mean Ratings and Ranks for 10 Lowest Rated Items

<table>
<thead>
<tr>
<th>Item</th>
<th>Full (^2)</th>
<th>Faculty (^3)</th>
<th>Business (^4)</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>9.482(43)</td>
<td>9.308(45)</td>
<td>9.410(44)</td>
</tr>
<tr>
<td>45</td>
<td>9.333(44)</td>
<td>8.154(51)</td>
<td>10.373(37)</td>
</tr>
<tr>
<td>11</td>
<td>9.161(45)</td>
<td>8.529(50)</td>
<td>9.689(42)</td>
</tr>
<tr>
<td>14</td>
<td>9.147(46)</td>
<td>9.469(43)</td>
<td>8.883(47)</td>
</tr>
<tr>
<td>40</td>
<td>9.107(47)</td>
<td>9.269(46)</td>
<td>8.967(46)</td>
</tr>
<tr>
<td>7</td>
<td>8.768(48)</td>
<td>10.500(30)</td>
<td>7.257(50)</td>
</tr>
<tr>
<td>27</td>
<td>8.495(49)</td>
<td>8.647(48)</td>
<td>8.367(48)</td>
</tr>
<tr>
<td>3</td>
<td>7.894(50)</td>
<td>8.558(49)</td>
<td>7.328(49)</td>
</tr>
<tr>
<td>28</td>
<td>7.860(51)</td>
<td>9.980(39)</td>
<td>6.914(51)</td>
</tr>
<tr>
<td>4</td>
<td>6.255(52)</td>
<td>7.420(52)</td>
<td>5.238(52)</td>
</tr>
</tbody>
</table>

\(^1\)The complete text of the items is presented in Appendix A.  
\(^2\)Ratings and rank order of items for the full sample (n = 113).  
\(^3\)Ratings and rank order of items for faculty cohort (n = 52).  
\(^4\)Ratings and rank order of items for business practitioner cohort (n = 61).
Figure 1
Example of Unnumbered Graphic Scale Response Format

Human genetic engineering

Unimportant ------------------------------- Extremely Important

(This response indicates that the respondent feels that human genetic engineering is an important issue for the business community.)

Appendix A
Full Text of Items on the Issues Rating Scale

1. Disposal of solid waste.
2. Generation of nuclear energy.
3. Protection of specified groups by equal employment laws.
4. Rights of employees to include funded childcare, parental leave, elder care leave.
5. Equal pay for comparable jobs—comparable worth.
6. Balance of management's responsibility to both the business organization and to its stockholders.
7. Use in foreign countries of advertising and promotional techniques that are illegal in the home country.
8. Theft by employees of company property.
10. Protection of natural resources.
11. Government imposed trade sanctions against foreign countries.
12. Acceptance of bribes or gifts by employees.
13. Concern for industrial activities that contribute to acid rain.
14. Short-term exploitation of local talent by an international interest for long-term company benefits.
15. Disregard of home country trade sanctions in the sale of goods, services, and technology to foreign countries.
16. Possible reverse discriminatory effects of employment quotas.
17. Gathering by businesses of excessive information about clients, customers, or employees.
18. Depletion of the ozone layer.
19. Drug and disease testing for employment purposes.
22. Disclosure by employees of corporate information or trade secrets.
23. Use of electronic devices such as hidden microphones and cameras to monitor employee activity on the job.
24. Export of products that do not meet home country safety and/or quality standards.
25. Communication to the public of sensitive information, such as bomb threats made to airlines, possible product contamination, possible health risks resulting from product consumption.

26. Communication by business to the media of true and complete information.

27. Use of low-paid foreign labor.

28. Genetic testing for employment purposes.

29. Removal or withholding of a product from the market due to potential health or safety risks.

30. Failproof quality of products and services provided by business.

31. Restrictions on legal actions against businesses by damaged or dissatisfied consumers.

32. Obligation of employees to give full efforts to job—fair day's work for fair day's pay.

33. "Creative use" of the legal system by businesses; for example, filing bankruptcy.

34. Use of computers for illegal purposes, i.e. sabotage, unauthorized access, etc.

35. Disposal of hazardous waste.

36. Use of hormones to enhance food production.

37. Use of insider business information for personal profit.

38. Effects of mergers on stockholders, employees, and the public.

39. Effects of organized labor activities on the worker, the business organization, and the public.

40. Operational standards of an international business that are lower in a foreign country than standards required in home country.

41. Pollution of air and water.

42. Fair and complete media coverage of business issues.

43. Use of electronic tracking techniques to monitor computer use by employees (examples: files that were accessed, usage time, number of keystrokes typed, etc.).

44. Influence by businesses on the content of television programs which they sponsor.

45. Use of genetic engineering to increase agricultural crop yield or improve animal production.

46. Filing of overstated or false insurance claims by businesses or their customers.

47. Employee abuse of company benefits, privileges, facilities, etc.

48. Making available to the market products or services that have the potential to save lives or reduce suffering but which will likely be unprofitable from a business standpoint.

49. Rate setting, rate increases and cancellation of coverage by insurance companies.

50. Use of investment capital from unknown or questionable sources—laundering.

51. Honesty in the advertising and labeling of products and services.

52. The issue of company loyalty versus public responsibility—whistle blowing.