# USING THE "DELIGHTED/TERRIBLE" SCALE TO MEASURE FEELINGS ABOUT INCOME

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Among social scientists and policy makers there is an on-going interest in the measurement and analysis of "poverty." On the one hand, these analysts look to the traditional economic indicators of poverty, based upon both absolute and more relative definitions. An absolute definition of poverty might include such things as a minimum dollar amount, serving as a standard for meeting basic needs. Relative definitions of poverty look at household income and/or expenditures in comparison to other comparable households. On the other hand, beyond these two basic approaches to the definition of poverty, there has been a renewed interest in Europe and the United States in the subjective definition of poverty. That is to say, some researchers are interested in including the self-reports of individuals concerning their feelings of success or failure in balancing their income and expenditures as part of the definition of poverty (Garner & de Vos, 1995, p. 118).

As early as 1881, economists recognized that the utility gained from any given commodity was not always independent of the consumption of other goods (Meeks, 1984, p. 47). For example, the value of butter may be dependent upon one's ownership of bread. Likewise, the value of a right shoe may be dependent upon one's ownership of the matching left shoe. In the same vein, the absolute value of one's income may, in fact, be tempered by the amount of one's non-discretionary expenditures (e.g., food, shelter, clothing), one's optimism about economic conditions and expectations for the future, and/or by the particular configuration of commodities that one already owns.

Clearly it would be difficult, if not impossible to plot the utility function depicting the value of each individual's income based upon his or her unique circumstances. The alternative approach is to ask respondents themselves to look inward and make a subjective judgment about the contribution made by their income to the attainment and maintenance of their basic needs and beyond.

During the past twenty years, several survey questions have been used to measure respondents' feelings about their quality of life in general and their income and expenses in particular. The "Delighted/ Terrible" (D/T) scale, developed and tested by Frank Andrews and Stephen Withey during the 1970s at the University of Michigan has been one of the more popular approaches to collecting subjective quality of life data. From the beginning, the D/T scale was intended to be an improvement upon the previous methods of measuring affective evaluations. Many national surveys at the time were using 3-category "happiness" scales or "Completely Satisfied" to "Completely Dissatisfied" scales, but researchers reported distributions that were terribly skewed with as many as two-thirds of their respondents giving positive responses (Campbell, Converse, and Rodgers, 1976). Consequently, there needed to be a scale that would disaggregate this bunching of responses around the positive pole, allowing a greater discrimination of feelings.

Earlier psychological research by George Miller (1956) had found that the maximum number of distinctions that most people can make during judgment tasks is seven. In response to this research, Andrews and Withey designed the D/T scale to have the maximum number of response options (Andrews and Withey, 1976, pp. 19-20).

The D/T scale was also different from many other scales of the time in that every point on the scale with labeled. Prior to this, it was not uncommon for survey scales to label the two end categories, leaving the points between them open for the respondent to define. Thus, the D/T scale was designed to be an improvement over previous measures, yielding more valid and more discriminating information.

When the D/T scale is used today to assess feelings about income, it often reads: *Which of the following categories best describes how you feel about your family income? Do you feel delighted, pleased, mostly satisfied, mixed, mostly dissatisfied, unhappy, or terrible?* In some cases it may also include three off-scale response choices: *Neutral (neither satisfied nor dissatisfied), I never thought about it,* and *Does not apply to me.*

At various times, this type of D/T income question has been included by the Bureau of the Census in the Survey of Income and Program Participation (SIPP), by Statistics Canada in the Income Satisfaction (IS) Survey, and in various national surveys from the University of Michigan. However, before this and other subjective income questions could be considered for integration into federal data collection, it was recommended by the Office of Management and Budget (OMB) that additional laboratory and field testing be conducted.

In an effort to meet OMB recommendations, the Bureau of Labor Statistics (BLS) and the Bureau of the Census jointly funded cognitive testing of several subjective questions. A preliminary round of qualitative testing was designed and pretested in the BLS cognitive lab. Researchers from the BLS and University of Michigan Survey Research Center collected data from five areas across the country between May and September, 1996.

## Methods

When considering the D/T income question, the fundamental research questions were: (1) How do respondents interpret the categories used in the D/T scale and how are they using them to assess their income and expenses? and (2) When using the D/T scale to evaluate income, how are respondents affected by the context in which the question is asked? More precisely, are evaluations of income using the D/T scale altered by a prior evaluation of expenses?

To address these questions, a two-pronged strategy of qualitative testing was designed that included 48 cognitive interviews and 9 focus groups (n=77). Data collection was conducted by the Bureau of Labor Statistics and the University of Michigan Survey Research Center between May and September, 1996.

As with any research method, the successful application of qualitative methodologies requires that as many differing viewpoints as possible be gathered so that a full range of ideas and opinions may be observed. In order to extend the breadth of views expressed, our study was designed to include (a) three types of family composition and (b) three levels of income, spread across five national locations.

Since we surmised that family spending patterns impinge upon one's attitude toward income, we decided it was necessary to include three types of family composition, reflecting some of the major divisions in expenditure patterns. In order to capture these major differences in spending patterns, we screened participants and categorized their family composition as:

1. Single adults with no children under 18 years-of-age in the home ("single");

2. One or more adults (either single or sharing expenses with another adult) with children under 18 years-of-age in the home ("children"); and

3. Two or more adults sharing expenses, but with no children under 18 years-of-age ("other").

Level of income was defined as low, medium, or high and was determined separately for each geographic area in which testing was conducted. The result was a three-by-three design matrix with a total of nine cells. At least five interviews and one focus group were conducted in each cell. In some cells, we were able to collect additional interviews as a check for possible interviewer effects. Five sites were selected to provide national coverage, as well as some urban/ rural differentiation. These sites included: Miami, Florida; Los Angeles, California; Detroit, Michigan; Keyser, West Virginia; Baltimore, Maryland. Table 1 shows the number of interviews and focus groups conducted at each site.

Testing of the D/T scale described in this paper was imbedded within a larger study examining several survey questions used to measure respondents' evaluative assessments of their income and expenses. For the portion of the study directed specifically at the D/T income question, we asked cognitive interview respondents to use the scale to evaluate their income and a series of expenditures (e.g., feeding their families, eating out in restaurants, buying clothes, providing health care, transportation, school tuition when applicable, and housing). "Satisfaction" assessments of this type run the risk of being affected by any preceding questions that make specific information salient, thereby creating temporary standards of comparison that alter ones' judgments, causing later responses to be higher or lower by contrast. For this reason, half of the participants were asked to assess their total family income *prior* to the series of expenditure assessments; the other half of the participants were asked to evaluate their total family incomes *after* the evaluation of several expenses. Afterwards interview participants were asked to discuss the D/T scale and to describe the meaning of the various categories, especially when applied to income. We also asked participants in the focus groups to define and describe the meanings of the response options in the D/T scale as applied to income.

## Results

Looking at the responses of all interview and focus group participants (n=125), a few interesting patterns did begin to appear regarding the ways respondents used the response options. Table 2 also presents the frequency distributions for the two groups of interview respondents (n=48) who received the split sample test, those who received the income question prior to the series of expenses and those who received the income question after the series of expenses.

First of all, one should note the rarity of endorsements of either extreme pole. With only one person reporting feeling DELIGHTED with income and two persons reporting that they felt TERRIBLE, questions immediately arose as to why more study participants were not reporting these feelings in regard to their income. Apart from the fact that extreme positions are generally less likely to be endorsed, there seemed to be some hesitancy on the part of respondents to consider DELIGHTED and TERRIBLE as appropriate terms to apply to income.

When Andrews and Withey tested the D/T scale in the 1970s, they also discovered that the scale is far from perfect in its distribution, especially in it's capacity to discriminate between respondents on the positive pole (1976, pp. 210-212). Using the D/T scale to assess four aspects of life (life-as-a-whole, housing, work, oneself), they found that less than 1/5 of respondents who expressed a high degree of satisfaction with these elements went on to describe themselves as "delighted" (pp. 227-228). Their final conclusion, however, was that the difficulty was not with the DELIGHTED category itself, but with the two immediately lower categories (PLEASED and MOSTLY SATISFIED) which create large clustering of responses (p. 212).

Likewise, when tested by Statistics Canada, researchers found that very few respondents described themselves as being DELIGHTED with their income. The preponderance of families (over 70%) fell in the middle (MOSTLY SATISFIED, MIXED, and MOSTLY DISSATISFIED); only about 1% of families reported being DELIGHTED (Morissette and Poulin, 1991, pp. 10-11).

By asking all respondents to describe what they thought "being DELIGHTED with income" was like, we gathered our first indication of the reason for this retraction from the extremity. Their descriptions of DELIGHTED included:

- You feel euphoric
- You feel ecstatic
- You feel exuberant
- You feel excited, overjoyed
- You feel overwhelmed
- You feel surprised, caught off guard
- You feel thrilled
- Things are terrific
- Things are incredible
- Things are a lot better than they should be
- Things are better than expected
- Things are "off the chart"
- Things are perfect
- You are smiling and happy
- You have a heightened, elevated feeling
- You have no worries at all
- You have an absolute abundance
- You experience something serendipitous, unexpected
- Your emotions and senses are involved

From these descriptions, we find three major characteristics emerging:

1. DELIGHTED is a reaction to an abundance.

2. DELIGHTED is a reaction to something unexpected or unplanned.

3. DELIGHTED is a highly emotional reaction which could probably not be maintained for long periods of time.

Repeatedly, respondents gave the example of winning the lottery as the quintessential occasion when feeling DELIGHTED would be the appropriate response. And again, the reason was because winning the lottery contains the elements of sudden, unexpected, and overwhelming wealth. There is a difficulty, however, in applying this term to income because income is generally not a surprise. In most cases the worker knows what his or her salary will be from one pay-period to another. Likewise, we are not surprised when we receive our pay. We know when pay-day will come and plan accordingly. Finally, most of us are not overwhelmed with a sense that we have received more than we deserve or that we have received something for nothing. Consequently, given these definitions of DELIGHTED, it seems unlikely that someone would be willing to use that term to express feelings about income.

Respondents also pointed out an additional problem about using the term DELIGHTED. Given that one may be genuinely overwhelmed by an incredible abundance of income, how long might one be expected to maintain this emotionally-charged state? Is it not more likely that one would feel fleeting moments of DELIGHT when first encountering stupendous wealth, but as time passes, the excitable emotional churning would settle back into the more tranquil experience of calmly being PLEASED? An even more likely scenario is that with stupendous wealth would come stupendous expenditures, so that the end result might be that one is not even PLEASED with the extraordinary income.

On the other extreme, respondents reported difficulty endorsing TERRIBLE to describe income. That term seemed to indicate something so overwhelmingly disastrous that only those with no income at all might qualify to use the term. Examples of our respondents descriptions of TERRIBLE included:

- You feel trapped
- You feel extremely unhappy
- You are on the verge of committing suicide
- You have no control, no way out
- You have completely lost the power to make positive things happen
- You don't even want to think about it
- You hate it and are miserable
- You have no bright spots at all
- You have no income at all
- It is totally intolerable
- Itis something you can't really deal with
- It is UNHAPPY times 10
- It is catastrophic, disastrous
- It is outrageous
- It is like punishment

Given these overwhelming descriptions of gloom and dire straits, it is difficult to imagine that respondents would report feeling TERRIBLE about having an income, no matter how low and inadequate. It seems much more likely that this is the response that would be given to report one's feelings about an entire nexus of complex problems, such as lack of income plus overwhelming debt plus insufficient food and shelter plus relationship problems plus health problems etc. Only in this way do you begin to approach the depths of despair and demoralization referred to as TERRIBLE by these respondents.

Apart from these possible difficulties with the extreme poles of the scale, many respondents reported liking the response options and feeling comfortable with the words as fair conveyors of their feelings. There was also a fair amount of consensus about some of the broad interpretations of the words. In general, respondents reported these definitions:

| | |
|---|---|
| PLEASED: | Comfortable, |
| MOSTLY SATISFIED: | Comfortable or pleased most of the time, |
| MIXED: | Comfortable or pleased at some times and not comfortable or not pleased at other times, |
| MOSTLY DISSATISFIED: | Not comfortable or not pleased most of the time, |
| UNHAPPY: | Not comfortable or pleased at all. |

Interestingly enough, given that many respondents reported liking the response options in the D/T scale and did show some consistency in the ways they interpreted the terms, a fair portion of respondents also found some of the terms to be redundant and unnecessary. In particular, people reported overlap between the terms PLEASED and MOSTLY SATISFIED; UNHAPPY and MOSTLY DISSATISFIED; MOSTLY SATISFIED and MIXED; MOSTLY DISSATISFIED and MIXED. There were a few additional observations that the response categories were (1) vague, (2) difficult to interpret, (3) incorrect in their order, or (4) unbalanced in their intensity. While these comments were not nearly as widespread as the more positive reactions to the scale, when coupled with the perceived redundancies, they magnify in intensity and lend credence to the suspicion that the scale, as it stands now, requires refinement before it can be properly used to assess feelings about income.

As for the original hypothesis that using the D/T scale to evaluate feelings about income would be vulnerable to change due to the influence of preceding evaluations of expenditures, it is difficult to draw any conclusions from a small, non-representative sample. However, the hint of possible differences may be seen when the response options are aggregated into three categories:

Positive =Delighted, Pleased
Mixed =Mostly Satisfied, Mixed, Mostly Dissatisfied
Negative = Unhappy, Terrible.

In both conditions of our split sample test, the majority of the responses clustered in the center among the mixed responses. Of course further research would be required before we could draw any firm conclusions.

**Conclusions**

Placing the results from our cognitive testing of the D/T income question alongside the test results from Statistics Canada and the original work from Andrews and Withey, it seems reasonable to suggest that the traditional 7-point D/T scale may need additional refinement if it is to be used for the subjective assessment of income. Morissette and Poulin (1991) concluded that some of the "poverty lines" constructed from the D/T income questions did not seem plausible (p.4). Andrews and Withey (1976) found that, in general, respondents tended to crowd their responses into the positive categories, especially when evaluating aspects of their personal or private world (p. 279-281). We found that respondents hesitated to apply the two extreme categories to their feelings about income, found some of the categories vague and redundant, and may be influenced in their assessment of income by the questions that immediately precede it. This suggests that further refinements to the D/T income question should be pursued.

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**Table 1 Design Matrix**

| | Singles | Children | Other |
|---|---|---|---|
| *Low Income:* | | | |
| Miami, FL | 5 interviews<br>1 focus group | 2 interviews | |
| Los Angeles, CA | | 5 interviews<br>1 focus group | 5 interviews<br>1 focus group |
| *Medium Income:* | | | |
| Los Angeles, CA | 6 interviews<br>1 focus group | 1 interview | 1 interview |
| Keyser, WV | | 4 interviews<br>1 focus group | |
| Detroit, MI | | | 5 interviews<br>1 focus group |
| Miami, FL | | | 1 interview |
| *High Income:* | | | |
| Detroit, MI | 5 interviews<br>1 focus group | 5 interviews<br>1 focus group | |
| Baltimore, MD | | | 5 interviews<br>1 focus group |
| Miami, FL | | | 2 interviews |

**Table 2 Frequency Distribution**

| | Income BEFORE Expenses | Income AFTER Expenses | Totals |
|---|---|---|---|
| Delighted | 0 | 1 | 1 |
| Pleased | 5 | 6 | 11 |
| *subtotals for positive responses* | *(5)* | *(7)* | *(12)* |
| Mostly Satisfied | 4 | 4 | 8 |
| Mixed | 8 | 5 | 13 |
| Mostly Dissatisfied | 1 | 3 | 4 |
| *subtotals for mixed responses* | *(13)* | *(12)* | *(25)* |
| Unhappy | 5 | 4 | 9 |
| Terrible | 1 | 1 | 2 |
| *subtotals for negative responses* | *(6)* | *(5)* | *(11)* |