

Title **Poster - Frequencies of a Multiple Mention Question**

Author Leslie A. Christensen
Market Research Analyst Sr.
Market Planning & Research
The Goodyear Tire & Rubber Company

Abstract The poster will demonstrate with SAS® code and output how a *market researcher* can handle the problem of calculating *percentages of a particular mention on a multiple mention question*. These frequencies will be based on the number of respondents in the survey as opposed to the number of responses.

The poster will supply code for a macro that can be %INCLUDED into the user's programs and the creation of a global macro variable that eliminates the need for the user to hard code values into his program.

Poster - Frequencies of a Multiple Mention Question

Business Situation

In a market research survey you have asked a respondent the following question. This type of question is referred to as a *multiple mention*.

Q5. What type of vehicle do you own? (check all that apply)

- ☐ car
- ☐ mini van
- ☐ pick up truck
- ☐ sport utility
- ☐ other.

Business Problem

A market researcher will want percentages of the responses on the multiple mention question based on the number of people in the survey, as opposed to the number of responses.

What percentage of people own a mini van?

Programming

Problem The SAS® code required to answer the business problem is four fold.

1. Find the number of respondents in the study.
2. Take an array of five variables for one observation and transpose it into a new data set with one variable and five observations.
3. Find the frequency of a particular value, e.g. 2=mini van, in the new dataset.
4. Divide this frequency by the number of respondents in the original dataset.

Programming

Solution The following pieces of code are used to solve the problem. The macro REALFREQ can be stored separately and %INCLUDED into any SAS program that requires handling a multiple mention question.

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Poster - Frequencies of a Multiple Mention Question

Programming

Solution

- continued

REALFREQ macro

```
/*MACRO REALFREQ                                     */
/*OBTAIN THE FREQUENCY OF A MULTIPLE MENTION WITH    */
/*THE DEMONINATOR OF THE PERCENT BEING THE NUMBER OF RESPONDENTS */
/*AND NOT THE NUMBER OF MENTIONS                      */
/*PASS TO THE MACRO:                                  */
/*  DATASET NAME                                       */
/*  VARIABLE NAME OF THE FIRST MENTION - as an array variable */
/*  VARIABLE NAME OF THE LAST MENTION - as an array variable */
/*  THE N TO USE FOR THE DEMONINATOR                  */
/*  FORMAT NAME FOR THE VARIABLE                      */
/*  TITLE FOR THE PRINTED OUTPUT                      */
```

```
%MACRO REALFREQ(dataset,ELEM1,ELEMn,N,fmt,titl);
```

```
DATA start;
```

```
SET &DATASET;
```

```
ARRAY elem (i) &elem1-&elemn;
```

```
DO OVER elem;
```

```
  mention=elem;
```

```
  OUTPUT;
```

```
END;
```

```
PROC FREQ DATA=start;
```

```
TABLE mention/OUT=one NOPRINT;
```

```
DATA next;
```

```
SET one;
```

```
DROP percent;
```

```
FORMAT mention &fmt;
```

```
mentperc=(COUNT/&N)*100;
```

```
PROC PRINT;
```

```
VAR mention mentperc count;
```

```
TITLE1 "&titl";
```

```
%MEND REALFREQ;
```

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Poster - Frequencies of a Multiple Mention Question

Programming

Solution

continued

Main program

```
*****
* MWSUG95A
* Example of handling a multiple mention question for the
* MidWest SAS User Group 1995 Conference
* LA Christensen 07/14/95
*****
%INCLUDE TSO(MWSUG95m);          *include macro;
RUN;
%INCLUDE TSO(MWSUG95f);          *include format;
RUN;
%GLOBAL NRESP;                  *set up global macro var;
OPTIONS SYMBOLGEN MACROGEN;      *expand log for macro;
DATA cars;                       *read in data for question;
    INPUT car1 - car5;
CARDS;
1....
1 2...
3 5...
1 3...
4....
1 3 4..
4....
2....
1....
1....
;
RUN;
DATA cars;
    SET cars END=EOF;
    IF EOF THEN CALL SYMPUT('NRESP',_N_); *note no. respondents;
RUN;
PROC PRINT;                      *check raw data;
    VAR car1 - car5;
    TITLE1 'What Type of Vehicle Do You Own?';
RUN;
%REALFREQ(cars,car1,car5,&NRESP,carf.,Vehicle Ownership);*run macro;
RUN;
```

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Poster - Frequencies of a Multiple Mention Question

Programming

Solution Format for response variable

continued

```
*****;
* MWSUG95F
* FORMATS FOR EXAMPLE OF MULTIPLE MENTION HANDLING ;
* LA CHRISTENSEN 07/14/95 ;
*****;
PROC FORMAT ;
  VALUE CARF 1='CAR'
           2='MINI VAN'
           3='PICK UP'
           4='SPORT UTILITY'
           5='OTHER';
RUN;
```

Business

Solution

After running the above program, you will see the following output.

What Type of Vehicle Do You Own?					
OBS	CAR1	CAR2	CAR3	CAR4	CAR5
1	1	.	.	.	.
2	1	2	.	.	.
3	3	5	.	.	.
4	1	3	.	.	.
5	4	.	.	.	.
6	1	3	4	.	.
7	4	.	.	.	.
8	2	.	.	.	.
9	1	.	.	.	.
10	1	.	.	.	.

OBS	Vehicle Ownership MENTION	MENTPERC	COUNT
1	.	350	35
2	CAR	60	6
3	MINI VAN	20	2 ■ 20% of those surveyed
4	PICK UP	30	3 own a mini van
5	SPORT UTILITY	30	3
6	OTHER	10	1

Thus, the answer to the business question of what percentage of people own a mini van is 20%.

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