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Model Testing: Subordinate Emotional Response to Supervisor Evaluation and Cultural Difference

This research extends previous research and further tests a 2X2 emotional response model. Earlier findings are reported at ABAS meetings. At the 2000 ABAS meeting those attending the presentation of the previous research suggested that the study be continued and extended by increasing the sample size; this has been done. This research contains a total of N=292 subjects contrasted to N=163 subjects reported previously. The sample includes subjects from 37 nations. The variable *Culture* is assumed to be represented by differences in nationality, and also by assigning the subjects into 6 regional cultural groups, i.e., Europe, Africa, Asia, India area, North America, South American. Various statistical tests are utilized and the findings partly support the 2X2 matrix model. The findings do not support that culture, i.e., subject's nationality, is an important variable influencing the subjects' responses. Suggestions are made for revision and improvement of the model and for future research.

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Model Testing: Subordinate Emotional Response to Supervisor Evaluation and Cultural Difference

Abstract: This research extends previous research and further tests an emotional response model. Earlier findings are reported at ABAS meetings. At the 2000 ABAS meeting those attending the presentation of the previous research suggested that the study be continued and extended by increasing the sample size; this has been done. This research contains a total of N=292 subjects contrasted to N=163 subjects reported previously. The sample includes subjects from 37 nations. The variable *Culture* is assumed to be represented by differences in nationality, and also by assigning the subjects into 6 regional cultural groups, i.e., Europe, Africa, Asia, India area, North America, South American. Various statistical tests are utilized and the findings partly support the 2X2 matrix model. The findings do not support that culture, i.e., subject's nationality, is an important variable influencing the subjects' responses. Suggestions are made for revision and improvement of the model and for future research.

Introduction: Enhancing our knowledge and use of employee evaluation is important. Effective evaluation and interaction among the members of an organization is very important to an organization's success. Only with capable, willing, and cooperative, members can any organization successfully execute its strategy.

The conceptual basis for this research has been developed and elaborated in earlier papers by the present writers (Summers & Summers 1999, 2000), (Summers, Covington & Summers 1997). Because these sources might not be conveniently available to the reader we again include much of the previous elaboration in this paper. We take from our earlier work cited above, without necessarily making further recognition of these sources, without the use of quotation marks when taking from these sources, and without the further reference notation of these sources. The writers trust this departure from academic practice will be accepted by the reader, that it will save the interested reader much time in referring to our earlier papers, and that it will altogether make a more effective communication. We would not take such liberties except with our own work.

This present research further tests a 2X2 model (Figure 1), some readers may prefer the word *construct*, that asserts a subordinate's emotional responses to a supervisor's evaluation. That evaluation might be either approval or disapproval of a subordinate's work performance.

The subordinate's emotional responses might be influenced by the subordinate's cultural experience. This research is designed to compare the subject's emotional response scores to the subject's national origin. National origin is utilized as a surrogate of one's culture.

The subordinate's emotional response to the supervisor's approval or disapproval might also be influenced by the overall or general relationship the subject has with the supervisor. The subordinate's perceived relationship with the supervisor is measured as an *extent of satisfaction* with supervisor score.

Emotional Response. Thompson and VanHouten (1970) assert that people are frequently evaluating us and that these evaluations do have consequences for our emotions. That is, some of the feelings that we experience are a result of others' evaluation of us.

Thompson and VanHouten assert that one can face two kinds of information that influence one's self-concept: 1. Information that influences one's belief about one's performance, such as direct feedback from the task itself; and 2. The feedback received from others, such as a supervisor's evaluation of one's task performance (Summers and Summers 1999). The writers believe that almost every person, and if not every person, reading this paper has experienced an emotional response to a superior's evaluation. That emotional response might have been pleasant or unpleasant, e.g., anger, joy, disappointment, satisfaction, or perhaps ambivalence.

Assuming that a person has some emotional response when being evaluated, especially if that evaluation has meaningful consequences, the question then is not whether we have an emotional response to evaluation, but what is the implication? How can such knowledge be useful. Can the emotional response be determined and measured? What are the implications and applications for management theory, practice, and research?

Culture. Whether a person is a superior, a peer, or a subordinate in the organization, a person is both being evaluated and is making evaluations. The evaluator and the person being evaluated might have each formed his self-concepts, his ways of adapting and responding, and his communication methods in different cultures.

Peoples' beliefs about preferred or desirable goals, norms, reality, and their beliefs about causation are not necessarily the same across different cultures. Further, when people are working in an organization that has an unfamiliar culture it seems likely that they will try to adapt to the unfamiliar culture using learning and interpersonal skills that were acquired, and might be applicable in, a very different culture.

Culture as a Variable.

The word [culture] has been derived metaphorically from the idea of cultivation, i.e., the process of tilling and developing land. When we talk about culture we are typically referring to the pattern of development reflected in a society's system of knowledge, ideology, values, laws, and day-to-day ritual. The word culture is also frequently used to refer to the degree of refinement evident in such system of belief and practice.... When talking about society as a culture we are thus using an old agricultural metaphor to guide our attention to very specific aspects of social development. And it is a metaphor that has considerable relevance for our understanding of organizations. (Morgan 1986: 112)

From our culture we learn how to adapt and respond to others, including how we adapt to our supervisor. Hofstede's (1985) work pertaining to culture suggests that the supervisor-subordinate relationship is influenced by national differences among four dimensions, 1) *power distance*, 2) *uncertainty avoidance*, 3) *individualism*, and 4) *masculinity*. Hofstede also lists nations that can be grouped by these dimensions. This research compares the subjects' emotional response scores and their *culture* as it is defined by their national origin. No attempt is made however, to consider culture as an organizationally specific construct such as it is considered by Hofstede, Neuijen, Ohayv, & Sanders (1990).

For this paper culture is assumed to be synonymous with national origin. For this research the word *culture* is used consistent with Morgan's first definition, i.e., a system of knowledge, ideology, values, laws, and day-to-day ritual. Accepting this definition, the writers assert that the way a person perceives a situation, at least in part, is a result of that person's inculcation into or adaptation to the world, i.e., one's understanding of a situation results in part from that which one has learned from one's cultural experiences.

It is reasonable to hypothesize that one's culture will influence one's response to a supervisor's praise or criticism. This is not to conclude however, that only a culture variable influences one's response to a supervisor's praise and criticism. There are undoubtedly numerous intervening variables that influence the emotional response to a supervisor's evaluation.

For this research the subjects are asked to list their national origin. The subject's national origin is designated as the *cultural* variable.

The Emotional Response Model

In their discussion of personality in everyday affairs, Thompson and VanHouten (1970) provide the context and the framework for the model that is adapted to the subordinate's emotional response to an evaluation situation (Summers, Covington, & Summers, 1997) (Figure 1.). The assertion in the model is that one's emotional response to another's approval or disapproval is influenced by one's self-perception of the situation. That is, our emotional response, and the intensity of that response, to our supervisor's evaluation of us is in part determined by our own perception of our work performance.

The Summers et al model (Figure 1) is limited to one's self-perception, and the approval or disapproval of one's supervisor, i.e., to the subordinate-supervisor dyad. The model depicts the emotional response to a supervisor's evaluation. The model asserts that the supervisor's evaluation of the subordinate's performance might be either *favorable* or *unfavorable*, and that the subordinate's perception of his performance might be either *favorable* or *unfavorable*.

The Supervisor/Subordinate Interaction. The model predicts that if the subordinate's and the supervisor's perceptions of the subordinate's work performance are the same:

1) and each have *favorable* perceptions, the subordinate's emotional response will range from *satisfaction* to *euphoria*, (quadrant A of the model);

2) and each have *unfavorable* perceptions, the subordinate's emotional response will range from *embarrassment* to *shame*, (quadrant D of the model).

The model predicts that if the subordinate's and the supervisor's perceptions of the subordinate's work performance are not the same:

1) and the subordinate's perception is *favorable* and the supervisor's is *unfavorable*, the subordinate's emotional response will range from *frustration* to *anger* (quadrant C of the model);

2) and the subordinate's perception is *unfavorable* and the supervisor's is *favorable*, the subordinate will experience an emotional response of *ambiguity* (quadrant B of the model).

The present research tests the model (Figure 1), and whether cultural differences influence the subject's responses. Specifically, do the subjects report experiencing the feelings which are asserted by the model, and do those feelings (emotional responses) vary among subjects of different national origins?

Relationship With Supervisor. It seems reasonable to expect that the subordinate's present relationship with the supervisor will influence the emotion the subordinate experiences from either the supervisor's praise or criticism. The value one places on the supervisor's opinion, the amount one trusts the supervisor, one's opinion of the supervisor's ability to accurately assess one's task performance, and one's belief regarding the supervisor's knowledge of the task one performs, each might influence one's emotional response to being evaluated. For this research the variable, *Your present relationship with your supervisor*, has been selected as the variable to measure the supervisor-subordinate relationship.

Hypotheses. The hypotheses to be tested are:

Hypothesis 1. When the supervisor's perception of the subordinate's performance is *favorable*, and subordinate's self-perception is *favorable*, the subordinate will report a feeling ranging between *satisfaction* and *euphoric*.

Hypothesis 2. When the supervisor's perception of the subordinate's performance is *favorable*, and the subordinate's self-perception is *unfavorable*, the subordinate will experience a feeling of *ambiguity*.

Hypothesis 3. When the supervisor's perception of the subordinate's performance is *unfavorable*, and the subordinate's self-perception is *favorable*, the subordinate will experience a feeling between *frustration* and *anger*.

Hypothesis 4. When the supervisor's perception of the subordinate's performance is *unfavorable*, and the subordinate's self-perception is *unfavorable*, the subordinate will experience a feeling ranging between *embarrassment* and *shame*.

The Emotional Response Data Collection Sheet

The Data Collection Sheet Version 2, (Exhibit 1), is designed to obtain data to test the model (Figure 1) and the above hypotheses. In addition the subject is asked to indicate, 1) the extent to which the present relationship with the supervisor is perceived as satisfactory, and 2) the subject's national origin. With the first questionnaire the researchers developed and initially used in one earlier study there was a problem with some of the subjects scoring more than one scale in each hypothetical situation used in the questionnaire. The questionnaire was revised to make clearer that only one scale per situation is to be selected. For the continuation of that first study, and for samples in the more recent data collections that problem has been largely, but not entirely, eliminated. None of the questionnaires where more than one scale is scored per situation are used in the data reported.

The Sample

Data from three samples are used for the analysis: 1. the data from the sample reported by Summers and Summers (1999), N = 74; 2. the data reported by Summers & Summers (2000), N = 92, and 3. the data from a third sample now reported in this study N = 126. These three samples total 292 subjects and data collection sheets available for analysis.

For all samples, colleagues in various countries were mailed Data Collection Sheets (Exhibit 1) and requested to obtain data from their contacts such as students that have work experience. Students in one of the researcher's classes also were requested to complete the data sheets. The researchers know of no reason that this sampling method prejudices the results.

In the previously reported samples 166 data collection sheets were satisfactorily completed and used in the analysis. The third sample adds 126 completed data collection sheets. The 166 subjects represent 21 national origins of which 6 contain 7 or more subjects. The total of 292 subjects report 26 national origins of which 8 contain 7 or more subjects (Table 1, Table 1A).

Analysis of the Findings

The analyses of the data include both descriptive and inferential statistics. For easier reference the quadrants of the model (Figure 1) are labeled as quadrants A – D.

- A. favorable – favorable (upper left) Quadrant A
- B. favorable - unfavorable (upper right) Quadrant B
- C. unfavorable – favorable (lower left) Quadrant C
- D. unfavorable - unfavorable (lower right) Quadrant D

Hypotheses tested. The conclusions regarding the four hypotheses are drawn from inspection of the frequency of which a scale is scored, i.e., percentage of the times a scale is selected compared to the percentage the scale is not selected (Table 2).

Hypothesis 1. When the supervisor's perception of the subordinate's performance is *favorable*, and subordinate's self-perception is *favorable*, the subordinate will report a feeling ranging between *satisfaction* and *euphoric*.

Quadrant A in the model is represented by Item 3., Situation 1 of the data collection sheets. The expectation is that the scale, *satisfaction-euphoric* will be selected. The data strongly support the model. Hypothesis 1 is supported.

Hypothesis 2. When the supervisor's perception of the subordinate's performance is *favorable*, and the subordinate's self-perception is *unfavorable*, the subordinate will experience a feeling of *ambiguity*.

Quadrant B in the model is represented by Item 3, Situation 2 of the data collection sheet. The expectation is that the scale, *slightly ambiguous-very ambiguous* will be selected. That expectation is not supported by the data. Hypothesis 2 is not supported.

Hypothesis 3. When the supervisor's perception of the subordinate's performance is *unfavorable*, and the subordinate's self-perception is *favorable*, the subordinate will experience a feeling ranging between *frustration* and *anger*.

Quadrant C in the model is represented by Item 2, Situation 1 of the data collection sheet. The expectation is that the scale, *frustration-anger* will be selected. That expectation is strongly supported by the data. Hypothesis 3 is supported.

Hypothesis 4. When the supervisor's perception of the subordinate's performance is *unfavorable*, and the subordinate's self-perception is *unfavorable*, the subordinate will experience a feeling ranging between *embarrassment* and *shame*.

Quadrant D in the model is represented by Item 2, Situation 2 of the data collection sheet. The expectation is that the scale, *embarrassment – shame* will be selected. That expectation is supported. Hypothesis 4 is supported.

Randomness of Responses. The subjects were asked to select one of the four scale responses in each of the situations the questionnaire presents. The data are tested for the possibility that the subjects simply marked the scales at random. The total number of subjects divided by four ($N / 4$) is the probable (theoretical) frequency if the scales were selected and scored randomly.

The data were analyzed using Chi-square to determine whether the subjects' scores are statistically different than one might expect if those scores are the result of chance, i.e., simply randomly marked by the subjects. If the scores are random and by chance the expected frequency of each of the four scales being selected is $292 / 4 = 73$. The number of times the scales are selected (f) are tested against the theoretical frequency of 73 (F).

In each of the four situations presented in the questionnaire the Chi-square values are significant at the .005 level (Table 3). The conclusion is that the subjects did not score the questionnaire randomly and the writers' conclusions are that the subjects did complete the questionnaire items by clearly discriminating between both the scale items and the situations presented in the questionnaire. This conclusion is further supported, or at least strongly inferred, by other findings.

Factor Analysis. Factor analysis was used to address to whether the model contains four different factors, i.e., the four possible emotional responses to the different situations? The Factor Scores do support that there are four factors. A forced four-factor, rotated matrix, is presented in Table 4. The four scales that are the theoretically expected responses in the model are strongly identified in the Figure 4 factor scores. These scores clearly indicate that the model has merit.

Intensity of Scale Scores. The words that anchor the scales are chosen to range in intensity. The subjects' can mark a scale with an intensity value ranging from 1 as the least intense to 5 as the most intense, i.e., the numbers on the scales are anchored to words intended to express a range of intensity. The scales have the potential to rate the intensity to which an emotional response is perceived and reported. Examining the means and the

standard deviations of the intensity scores (Table 5), does not necessarily support the use of the range of intensity with the instrument.

These data do not seem to either reveal, or negate, a degree of intensity score which contributes to the notion that the model is correct. The range of scores do however, seem to the researchers to argue that the range on intensity words have merit for the use of the model. And, argue for continuing the model as it has been adapted from the work of Thompson and VanHouten (1970).

Nationality Groups. Recall that national origin is used as a surrogate for culture. The data were analyzed using discriminate analysis to determine whether the subjects' responses to the scales in the questionnaire will correctly classify the subjects by nationality. Inspection of Table 6 reveals that there is some confidence in concluding that the scores will group among nationalities. The accuracy of the discriminate classification however, varies from good to poor.

A conclusion might be that some people from some nations are much more similar in their response than are others. That is, some subjects from one are nation more consistent in their responses than are people from other nations. This not a remarkable conclusion.

Regional Groups. Because some of the Nationality Groups have small N's, in Table 7 the subjects are grouped into 5 regional categories. As compared to the National Groupings, the percent of subjects correctly grouped into the Regional Groups increase substantially.

Cultural Conclusions. The tentative conclusion from the present data is that nationality and regional groups of people have some tendency to respond in the same way to the situations and the scales presented in the questionnaire. This is not a remarkable conclusion, as one might expect about such a finding from any group of subjects. A reasonable, and useful, conclusion might be that people generally respond emotionally about the same to the situations presented in the questionnaire and as those situations are depicted in the model.

While there appears to be some tendency for the data to group by nationality, and more so by regional groupings, it might be that over very large samples, which include a considerable number of nationality groups, there is little remarkable variation in scores. It might also be true that nationality is not a good surrogate for culture. One reasonable conclusion however, might be that *people are people* and many react to their supervisors in similar ways.

Relationship with Supervisor. This variable is not addressed in this study.

Summary, Conclusions, Recapitulation, Extensions, and Discussion

The data supports a conclusion that the model has value for research, for the practice of management, and for learning about the subordinate-supervisor interaction as regards the emotions that are being elicited within the subordinate. The findings support the assertion that the theoretical model is correct and that it has useful applications to understand and explain the emotions elicited in the supervisor/subordinate dyadic interaction.

Different scale anchor words might need to be developed to further test the model. The deletion of the notion of scales might prove to be useful, e.g., one word, rather than a scale be used to assess an emotional response. Further testing of the model with attention to words, or a qualitative design, might be very useful.

The extent to which a subordinate may actually reveal his emotional response to the supervisor is quite another set of considerations. Many organizational and cultural variables constrain or facilitate whether one reveals one's emotions. It will be useful to examine these variables.

As stated above, however not tested in this present research, the opinions one holds pertaining to the supervisor's ability and knowledge might be more specifically tested in future research. The value one places on the supervisor's opinion, the amount one trusts the supervisor, one's opinion of the supervisor's ability to accurately assess one's task performance, and one's belief regarding the supervisor's knowledge of the task one performs, each might influence one's emotional response to being evaluated. Each of these might be specifically assessed in future research.

The surrogate of culture used in this study may be an inadequate measure of culture. Testing other variables of culture, and looking for cultural differences, needs to be continued until more confident conclusions can be made.

The importance of understanding cultural differences will almost certainly increase as more people work in different cultural settings, and as more people with very different cultural backgrounds work together. It seems reasonable that into the foreseeable future understanding and adapting to cultural difference in the work place will be important.

It seems reasonable that the compatibility between the subordinate's and the supervisor's cultural experience is important. In this research no data are collected pertaining to the supervisor's cultural experience. For future research this variable might be tested.

Notes:

This paper and the discussion draw from, and build upon, the writers' previous work (Summers and Summers 1999, 2000) (Summers, Covington & Summers 1997). The writers' earlier work is not cited in each instance where it would be applicable. Parts of this discussion and paper are quotes, or near quotes, of our earlier work. These are not in each instance acknowledged beyond this notice to the reader.

Selected References

Hofstede, G. 1985. The interaction between national and organizational value systems. *Journal of Management Studies*, 22:4 July 347-356.

Hofstede, G., Neuijen, B., Ohayv, D.D., & Sanders G. 1990. Measuring organizational cultures: A qualitative and quantitative study across twenty cases. *Administrative Science Quarterly*, 35:June 286-316.

Morgan, G. 1986. *Images of organization*, Beverly Hills, CA: Sage Publications, Ltd.

Summers, B.I., Covington, Jr., W.G., & Summers, S.L. 1997. The supervisor-subordinate dyad: The discipline interview episode. *Managing in a Global Economy VII, Europe Towards the 21st century: Convergence and divergence*, Proceedings 7th Int'l Conf., Eastern Academy of Management-Int'l. Dublin. 518-521.

Summers, B.I. & Summers, S.L. 2000. Model Development: Emotional response to supervisor's evaluation
Proceedings, Academy of Business & Administrative Sciences, 2000 International Conference. Prague.
(electronic proceedings www.sba.muohio.edu/abas/)

Summers, B.I., & Summers, S.L. 1999. Research model: Emotional and cultural differences in response to supervisor evaluation, ***Proceedings, Academy of Business & Administrative Sciences***, 1999 International Conference. Barcelona. 65. (electronic proceedings www.sba.muohio.edu/abas/)

Thompson, J.D., & VanHouten, D.R. 1970. ***The behavioral sciences: An interpretation***, Reading, MA: Addison-Wesley.

Figure 1

		SUBORDINATE'S SELF-PERCEPTION	
		Favorable	Unfavorable
SUPERVISOR'S COMMUNICATED	PERCEPTION OF SUBORDINATE		
	Favorable	Quadrant A satisfaction to euphoric	Quadrant B ambiguity
Unfavorable	Quadrant C frustration to anger	Quadrant D embarrassment to shame	

adapted by Summers, B.I. from Thompson, J.D. & VanHouten, D.R. 1970. *The behavioral sciences: An interpretation*. softbound ed. Addison-Wesley Publishing Company, pp. 183-185.

The model is most recently published in:
Summers, B.I., Covington, W.G. Jr., & Summers, S.L., 1997. The supervisor-subordinate dyad: The discipline interview episode. *Proceedings of the Seventh International Conference, Eastern Academy of Management International, Dublin, Ireland. Managing in a Global Economy VII Europe Towards the 21st Century: Convergence and Divergence*, p. 519.

see also Proceedings, Academy of Business Administrative Sciences, 1999 International conference. Barcelona. (www.sba.muohio.edu/abas/) & Proceedings, Academy of Business Administration, 2000 International conference. Prague, Czech Republic, (same web site).

Table 1. Frequency: Subjects' National Origin (n = 292)

Nation	N		
Bangladesh	3	Malaysia	1
Bolivia	1	Mexico	19 (contains coding error)
Brazil	17	The Netherlands	12
Canada	4	Nigeria	3
Cameroon	1	Pakistan	4
China	3	Poland	57
Costa Rica	1	South Africa	7
Dominica	1	Taiwan	7
Germany	2	Uganda	1
India	2	United Kingdom	2
Ireland	26	USA	110
Italy	1	Missing	3 coding errors
Japan	1		
Kenya	2	Total	292
Libya	1		

Table 1 A. Regional Grouping - Assumed Cultural Groups

Americas # 38

Brazil, Bolivia, Dominica, Costa Rica

Europe, UK, Ireland #39

Ireland, United Kingdom, Germany, Poland, The Netherlands, Italy

North America #40

United States, Canada

Africa #41

Cameroon, Nigeria, Kenya, Libya, South Africa, Uganda

Asia #42

China, Taiwan, Malaysia

Indian Subcontinent #43

India, Pakistan, Bangladesh

Table 2. Frequency Analysis N = 292

Hypothesis 3: Hypothesis 3 is supported

Item 2.

Situation 1. Unfavorable feedback from Supervisor, one's self-perception is favorable (model quadrant C).
The expected emotional response is *frustration – anger*.

Scale Anchor Words	Percent Selected	Frequency
satisfaction to euphoric	7.53	22
frustration to anger	66.78	195
slightly to very ambiguous	9.59	28
embarrassment to shame	15.41	45

Hypothesis 4: Hypothesis 4 is not strongly supported.

Situation 2. Unfavorable feedback from Supervisor, one's self-perception is unfavorable (model quadrant D).
The expected emotional response is *embarrassment – shame*

Scale Anchor Words	Percent Selected	Frequency
satisfaction to euphoric	13.36	39
frustration to anger	25.34	74
slightly to very ambiguous	9.93	29
embarrassment to shame	50.68	148

Hypothesis 1: Hypothesis 1 is strongly supported.

Item 3.

Situation 1. Favorable feedback from Supervisor, one's self-perception is favorable (model quadrant A).
The expected emotional response is *satisfaction – euphoric*

Scale Anchor Words	Percent Selected	Frequency
satisfaction to euphoric	94.86	277
frustration to anger	1.71	5
slightly to very ambiguous	2.05	6
embarrassment to shame	.003	1

Hypothesis 2: Hypothesis 2 is not supported.

Situation 2. Favorable feedback from Supervisor, one's self-perception is unfavorable (model quadrant B).
The expected emotional response is *ambiguous*

Scale Anchor Words	Percent Selected	Frequency
satisfaction to euphoric	36.98	108
frustration to anger	18.15	53
slightly to very ambiguous	26.03	76
embarrassment to shame	18.15	53

Note: Item order as in Questionnaire. Percent sum <100 because of missing cases.

Table 3. Chi square test N = 292 df = 3

Item 2.

Situation 1. Unfavorable feedback from Supervisor, one's self-perception is favorable (Quadrant C).
The expected emotional response is *frustration – anger*

SCALE ANCHOR WORDS	F	f	d ² / F
satisfaction to euphoric	73	22	35.63
frustration to anger	"	195	203.89
slightly to very ambiguous	"	28	27.74
embarrassment to shame	"	45	10.74
CHI SQUARE =			278.0

Situation 2. Unfavorable feedback from Supervisor, one's self-perception is unfavorable (Quadrant D).
The expected emotional response is *embarrassment – shame*

SCALE ANCHOR WORDS	F	f	d ² / F
satisfaction to euphoric	73	39	15.84
frustration to anger	"	74	.01
slightly to very ambiguous	"	29	26.52
embarrassment to shame	"	148	77.05
CHI SQUARE =			119.42

Item 3.

Situation 1. Favorable feedback from Supervisor and one's self-perception is also favorable (Quadrant A).
The expected emotional response is *satisfaction – euphoric*

SCALE ANCHOR WORDS	F	f	d ² / F
satisfaction to euphoric	73	277	570.08
frustration to anger	"	5	63.34
slightly to very ambiguous	"	6	61.45
embarrassment to shame	"	1	71.01
CHI SQUARE =			765.88

Situation 2. Favorable feedback from Supervisor and one's self-perception is unfavorable (Quadrant B).
The expected emotional response is *ambiguous*

SCALE ANCHOR WORDS	F	f	d ² / F
satisfaction to euphoric	73	108	16.78
frustration to anger	"	53	5.48
slightly to very ambiguous	"	76	.01
embarrassment to shame	"	53	5.48
CHI SQUARE =			27.75

Where F = theoretical frequency, i.e, N/4, f = subjects' response. All of the Chi square values are significant at the < .005 level (3 df 12.8381 = .005) The f columns total 2 or 3 less than the N=292 because of missing values which might be from data processing error or that a subject did not mark any scale in a particular situation. From whatever cause, the value is omitted, it does not materially effect the Chi-square computation.

Table 4. Factor Scores Model Testing

Factor Analysis of the 4 Scales

N = 292. Question: are the four scales distinct factors? Results of analysis based on the model's expected responses entered as forced 4 factor solution.

Results Rotated Factor Matrix

Scale Items	Factor Number			
	1	2	3	4
2B	.98739	.0441	.1512	-.0158
2H	.0461	.9751	.06401	.2072
3A	.1558	.06399	.9780	.1228
3H	-.0169	.2109	.1256	.96924

Table 5. Intensity Of Scale Responses

How intense were the responses to the scales: 1 - 5 scale, 1 = most intense

Scale Item	Mean	Std.Dev.	N	Support for Model
2B	2.69	1.21	195	supported
2H	2.91	1.3	148	weak support
3A	2.36	1.35	277	very strong support
3G	2.8	1.05	76	not supported

Note:

Questionnaire response 2B is frustration to anger
Questionnaire response 2H is embarrassment to shame
Questionnaire response 3A is satisfaction to euphoric
Questionnaire response 3G is slightly ambiguous to very ambiguous

Table 6. Culture: Nationality Groups

Percentage Predicted by Discriminant Analysis

Predicted Nationality Group Membership. Results from Predicted Classification.
Percent Assigned by Statistical Prediction. N = 292

Group number = country code, Code number 6 contains coding errors (missing values and Mexico)

N	Nationality Code	Percent Predicted (Assigned to) Group Membership									
		5	6	18	19	22	24	28	29	31	36
4	5 Pakistan	75									
12	6 Mexico		10.5								
7	18 Taiwan			85.7							
17	19 Brazil				41.2						
26	22 Ireland					26.9					
4	24 Canada						25				
56	28 Poland							19.6			
110	29 USA								4.5		
7	31 South Africa									0	14.3
12	36 Netherlands										8.3

Total of Nationality Groups correctly classified 21.18 percent

Table 7. Discriminate Analysis

Regional Groupings

Percent Predicted (Assigned to) Regional Group Membership

N	Group #	38	39	40	41	42	43
18	38	72.2	5.6	16.7	0.	5.6	0.
99	39	10.1	46.5	19.2	7.1	11.1	6.1
114	40	15.8	21.1	32.5	6.1	18.4	6.1
15	41	0.	26.7	6.7	40.	26.7	0.
12	42	8.3	16.7	16.7	8.3	33.3	16.7
9	43	11.1	22.2	11.1	0.	11.1	44.4

Total percent of Regional Cultural grouped cases correctly predicted 41.2

Americas # 38

Brazil, Bolivia, Dominica, Costa Rica

Europe, UK, Ireland #39

Ireland, United Kingdom, Germany, Poland, The Netherlands, Italy

North America #40

United States, Canada

Africa #41

Cameroon, Nigeria, Kenya, Libya, South Africa, Uganda

Asia #42

China, Taiwan, Malaysia

Indian Subcontinent #43

India, Pakistan, Bangladesh

Exhibit 1

page 1

Revised Data Collection Sheet Version 2

The purpose of this research is to learn about the emotions that are felt when we receive either praise or criticism from our supervisor. This research can help us learn whether our relationship with our supervisor influences those feelings, and also to learn whether our culture influences those feelings.

Your answers are anonymous. The numbers from the questionnaires will be recorded, then the questionnaires will be destroyed. The data will be grouped and will not identify a specific participant.

Your first reaction to the item is likely the most accurate, please complete the items without delay and hesitation.

Thank you.

B. Irvin Summers, Ph.D. and Sharon L. Summers, Ph.D.

Item 1. Your present relationship with your supervisor. Please check () on the scale below the way you now feel about your work relationship with your supervisor.

Satisfactory Unsatisfactory
1-----2-----3-----4-----5

(Please continue on page 2)

Nov. 1998

Item 2. Negative feedback from your supervisor.

Please recall your emotions (how you felt) when your supervisor told you that your work is **unsatisfactory**. The disapproval might have been communicated to you verbally or in writing. If you cannot recall a specific incident, please indicate the feelings you believe that you experience during such a negative feedback experience.

Please consider these two situations:

Situation 1. Your work is important to you. You believe that your work performance **is good**, but, your supervisor tells you that your work performance is **not good**. What is your emotional response? Please select the only one Emotional Response Scale below that you believe best indicates your emotions, and on that one scale place a check () that indicates the intensity of that emotion.

Emotional Response Scales
Select only one

satisfaction 1-----2-----3-----4-----5 euphoric

frustration 1-----2-----3-----4-----5 anger

slightly 1-----2-----3-----4-----5 very
ambiguous ambiguous

embarrassment 1-----2-----3-----4-----5 shame

Situation 2. Your work is important to you. You believe that your work performance **is not good**, and your supervisor tells you that your work performance **is not good**. What is your emotional response? Please select only the one Emotional Response Scale below that you believe best indicates your emotions, and on that one scale place a check () that indicates the intensity of that emotion.

Emotional Response Scales
Select only one

satisfaction 1-----2-----3-----4-----5 euphoric

frustration 1-----2-----3-----4-----5 anger

slightly 1-----2-----3-----4-----5 very
ambiguous ambiguous

embarrassment 1-----2-----3-----4-----5 shame

(Please continue on page 3)

Item 3. Positive feedback from your supervisor

Please recall your emotions (how you felt) during a incident when your supervisor told you that your work is **satisfactory**. The approval might have been communicated to you verbally or in writing. If you cannot recall a specific incident, please indicate the feelings you believe that you experience during such a positive feedback experience.

Please consider these two situations.

Situation 1. Your work is important to you. You believe that your work performance **is good**, and your supervisor tells you that your work performance **is good**. What is your emotional response? Please select only the one Emotional Response Scale that you believe best indicates your emotions, and on that one scale place a check () that indicates the intensity of that emotion.

Emotional Response Scales
Select only one

satisfaction 1-----2-----3-----4-----5 euphoric

frustration 1-----2-----3-----4-----5 anger

slightly ambiguous 1-----2-----3-----4-----5 very ambiguous

embarrassment 1-----2-----3-----4-----5 shame

Situation 2. Your work is important to you. You believe that your work performance **is not good**, but your supervisor tells you that your work performance **is good**. What is your emotional response? Please select only the one Emotional Response Scale below that you think best indicates your emotional response, and on that one scale place a check () that indicates the intensity of that emotion.

Emotional Response Scales

satisfaction 1-----2-----3-----4-----5 euphoric

frustration 1-----2-----3-----4-----5 anger

slightly ambiguous 1-----2-----3-----4-----5 very ambiguous

embarrassment 1-----2-----3-----4-----5 shame

Item 4. Cultural variable. Please write-in the country where you believe the emotional responses you indicated above were formed. Most likely, but not necessarily, this is the country where you spent your early years.

Country? _____

Thank you very much