### AN ABSTRACT OF THE THESIS OF

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Bower (1981) modified the associative network theory of memory (Collins & Quillian, 1968) to include emotions as specific nodes or memory units associatively linked with autonomic, behavioral, and semantic information stored in long-term memory. A prediction derived from this modification is the mood-congruity hypothesis, which proposes that stimulus material which is affect congruent to an individual's current mood state would be perceived faster and recalled better than material affect incongruent. Gerrig and Bower (1982, p. 197) indicate "emotional arousal should prime or activate perceptual categories and words related to that (current) emotion." Priming a mood state, therefore, would yield faster latencies for recognizing mood congruent stimuli. The mood congruity hypothesis for recall has been demonstrated by several researchers

(e.g. Bower, Gilligan, & Monteiro, 1981; Weaver, McNeill, Van Dillen, & Arganbright, 1988a). However, support for the mood congruity hypothesis for faster perception is mixed. Further, Clark and Teasdale (1985) indicated women recalled more material congruent to their mood state than men. Bower, Monteiro, and Gilligan (1978), however, reported an increased mood-congruity recall effect for men. In the present study, 48 undergraduate volunteers experienced an induced happy or sad mood state and then appraised 36 happy, sad, and neutral stimulus sentences as being happy or sad or as describing events that are common or uncommon. Gender, mood, and appraisal were the between-subjects independent variables, with sentence affect being the within-subjects independent variable. The dependent variable was the latency to appraise the stimulus sentences in seconds. Mood induction was successful. The analysis of variance for the latency scores revealed significance for the appraisal and sentence affect main effects, and the appraisal x sentence affect interaction. Happy and sad subjects appraised happy and sad sentences faster when making happy/sad relative to common/uncommon sentence appraisals. The lack of a mood x sentence appraisal interaction did not support the mood congruity hypothesis. A reevaluation of Bower's (1981) modification of the associative network theory of memory seems warranted. This conclusion is elaborated in the discussion section.

# THE MOOD-CONGRUITY HYPOTHESIS: AN EXAMINATION OF ENCODING MOOD, GENDER, AND APPRAISAL LATENCY

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#### CHAPTER I

#### INTRODUCTION

Bower (1981) has proposed that an emotion is represented as a specific node or memory unit in an associative network theory of memory. Semantically and behaviorally related information, such as past emotional experiences, appropriate autonomic responses (e.g., changes in heart rate, pulse, temperature), expressive behaviors such as laughing or crying, situational criteria for evoking the emotion, and verbal labels indicative of the specific emotion, are associatively linked to the emotion node.

Experiencing an emotion involves activating its corresponding node in semantic memory through the processing of verbal, visual, and/or situational information. This activation spreads (Anderson, 1983) through associative links to surrounding nodes thereby increasing the salience of memories associated with that emotion (Bower, 1981), perpetuating the emotion, and influencing subsequent cognitive processes (Bower & Cohen, 1982).

One implication of this theory of memory is that mood-congruent, relative to mood-incongruent, information stored in long-term memory is more salient when the emotion node is activated. Relative to recall, this salient information should increase the elaboration of mood congruent input at encoding by increasing the number of interconnections between the input and activated information stored in long-term memory (Bower, 1981). This elaboration should increase the available retrieval routes and thus improve recall (Anderson, 1983). This greater recall for mood-congruent, relative to mood-incongruent, material is called the mood-congruity effect (Bower, 1981) and is attributed solely to the elaboration that occurs at encoding, as the retrieval mood is assumed to be neutral and thus not effective as a cue (Bower, Gilligan, & Monteiro, 1981). Supportive evidence for the mood-congruity effect for recall comes from Bower, Gilligan, and Monteiro (1981), Weaver (1986), and Weaver, McNeill, Van Dillen, and Arganbright (1988a).

Beside facilitating the elaboration of mood congruent information, "emotional arousal should prime or activate perceptual categories and words related to that emotion" (Gerrig & Bower, 1982, p. 197). Priming usually involves presenting subjects with two semantically related stimuli and then asking them to recognize the second stimulus as rapidly as possible. Processing the first stimulus activates the corresponding node and spreads activation (i.e., primes) throughout the network. The memory node representing the second stimulus is in turn activated. Subjects will then respond more rapidly to the second

stimulus if its node is already activated. Bower's (1981) modification of the network structure of memory to include emotions as separate nodes suggests that mood state should prime any material associatively linked to the emotion node. Thus, the priming function of the mood state should produce faster latencies to recognize mood-congruent stimulus material (Bower, 1983), thus producing a mood-congruity effect for latency.

Although elaboration's role in the mood-congruity hypothesis has been demonstrated for recall (Bower, Gilligan, Monteiro, 1981; Weaver, 1986; Weaver, McNeill, Van Dillen, & Arganbright, 1988a, 1988b), the evidence for a priming effect of mood (i.e., faster latency for mood-congruent information) has been equivocal. Early research (Postman & Brown, 1952) indicated lower tachistoscopic thresholds for success-related words following success activities. The same result was reported for failure-related words following a failure experience. Lloyd and Lishman (1975) reported significantly faster retrieval latencies for depressed subjects recalling depressed personal memories. The effect of depressed mood state on the accessibility of pleasant and unpleasant personal memories was examined by Teasdale and Fogarty (1979). Subjects were required to associate either pleasant or unpleasant memories with stimulus words. Decreased latencies were obtained for depressed subjects recalling sad

past experiences. In a similar paradigm (Teasdale, Taylor, & Fogarty, 1980), the mood-congruity hypothesis was again supported by decreased latencies for retrieving mood-congruent personal memories of happy and sad induced subjects.

Clark, Teasdale, Broadbent, and Martin (1983), however, reported no differences in latency regarding lexical decisions of mood-congruent or mood-incongruent words. Gerrig and Bower (1982) reported that recognition thresholds for mood-congruent words, relative to neutral or incongruent words were not lower, as predicted by the mood-congruity hypothesis. However, they suggested that word recognition, as an overlearned, automatic process, may not be a task that reveals mood's influence on retrieval speed. Rather, tasks that directly involve the affective properties of the verbal stimuli may be necessary to differentially influence latency. A different task, for example, that measures retrieval latency while involving the affective component of the stimulus may be necessary to determine mood's effect on retrieval.

In sum, the evidence suggests that retrieval of personal memories demonstrates mood-congruent latencies, whereas other tasks, such as lexical decision and word recognition, do not. The procedure and type of stimuli used in these latter tasks have been criticized. Lexical decision and word recognition may not utilize the affective

component of the stimuli (Gerrig & Bower, 1982). These tasks used words as stimuli, which appear to be generally resistant to any mood-congruity effect (Bower et al., 1981). Thus, demonstrating mood-congruent latency may require using a semantic orienting task (Craik & Tulving, 1975) that involves making affective appraisals of emotionally toned sentences and then comparing the response latencies (Gerrig & Bower, 1982) for mood-congruent and -incongruent sentences. According to the mood-congruity hypothesis, recognizing a stimulus as happy or sad should take less time if the subject is experiencing a congruent mood state which is priming associatively linked information stored in long-term memory.

Gender may also be a factor in investigating the mood-congruity hypothesis for recall. Clark and Teasdale (1985) provided data indicating that women recalled more material congruent to their mood state, whereas men recalled the same number of pleasant and unpleasant idea units regardless of mood state. This result contradicts Bower et al. (1978) who reported that men demonstrated a slightly greater mood-congruity recall effect than women. Ellis, Thomas, and Rodriguez (1984) failed to obtain any significant gender differences, but indicated that males may be more sensitive to induced sadness than females. In addition, Isen, Clark, Shalker, and Karp (1978), Laird (1984), and Hettena and Ballif (1981) failed to report

gender differences in recall.

In light of the aforementioned studies, further research examining the effects of mood, gender, and sentence affect on latency appears warranted. Hence, the present study was designed to address the following research question: Will happy and sad women and men differ in their latency to appraise happy, sad, and neutral sentences?

#### CHAPTER II

#### METHOD

### <u>Subjects</u>

Forty-eight (24 women and 24 men) volunteer Introductory Psychology students at Emporia State University served as subjects. Participants received extra credit in accordance with their instructors' guidelines.

### <u>Desiqn</u>

A 2 (gender: women or men) x 2 (mood: happy or sad) x 2 (appraisal: affective or nonaffective) x 3 (sentence affect: happy, sad, and neutral) mixed factorial design was employed in this experiment. Gender, mood, and appraisal were between-subjects independent variables, while sentence affect was the within-subjects independent variable. The dependent variable was appraisal latency, measured in seconds, from stimulus onset (i.e., appearance of stimulus sentences on the computer monitor) to subject's appraisal. Subjects were blocked on gender and randomly assigned to one of the following four conditions: happy/affective appraisal, happy/nonaffective appraisal, sad/affective appraisal, sad/nonaffective appraisal.

### <u>Materials</u>

<u>Consent form and demographic questionnaire.</u> The consent form (see Appendix A) described the intent of the

study and its possible mood alteration and was signed by all participants prior to their participation. The demographic questionnaire (see Appendix A) requested information regarding subjects' age, residence, course (and immediate intensity) of study.

<u>Mood measures.</u> Preinduction mood was assessed with a seven-point Likert type scale ranging from very happy (1) to very sad (7) (see Appendix A, item 7). Post-induction mood assessment employed a modified version of the Wessman and Ricks (1966) Elation-Depression scale (see Appendix B) which contained 11 statements varying in affect intensity from very sad (1) to very happy (11). Both measures were typed on sheets of white, 8 1/2 in. x 11 in. typing paper. <u>Mood induction</u>

The mood induction technique (Cook & Weaver, 1986) combined facial feedback (Laird, 1984) with music (Clark, 1983) and suggestibility (Bower et al., 1981). Depending upon their randomly preassigned mood condition, subjects were instructed to smile or frown while they listened to two minutes each of music and a story, both of which were congruent in affect with their facial expression.

Maintenance of a facial expression tends to activate the specific emotion congruent with the expressive behavior (Laird, 1984). The two minutes of mood appropriate instrumental music were either "Coppelia" written by Leo DeLibes and performed by the Orchestre du Theatre National de l'Opera on the Angel label, recorded at regular speed for the happy mood, or "Russia Under the Mongolian Yoke" from Alexander Nevsky written by Sergei Prodofieff played by the Reiner/Chicago symphony on the RCA label, recorded at half speed, for the sad mood.

Finally, happy or sad stories (See Appendix C), each narrated by an actor or actress congruent in gender with the subject, were presented (Bower et al., 1981). Each affect-laden passage consisted of approximately 250 words in which a main character congruent in gender with the subject recalled past events that were congruent with the induced mood. The story facilitated mood induction through identification with the gender-congruent character of the passage, which produced "self-generated, personal and affect-related memories which, when retrieved, may also activate the specific emotion" (Cook & Weaver, 1986, p. 5).

The experimenter and participant used Wollensak 3M headphones attached to a Texas Instrument cassette tape recorder. Both the music and biographical sketch were prerecorded on TDK cassette tapes. A pencil was provided for each subject. A Commodore 128 microcomputer with a Thomsen amber monitor (positioned at subject's eye-level) presented the stimuli. A selection of 36 stimulus sentences (12 happy, 12 sad, and 12 neutral) were used (see Appendix D). All sentences were written in the active voice, were 8 to 9 words, and were composed of 1 subject, verb, object, and prepositional phrase.

Sentences were normed from the same population base as the subjects. Previous to experimentation, students from the same population base were asked to write down as many happy and sad events as they could remember. These events were then presented in sentence form to another group of subjects and asked to rate each sentence from very happy (1) to very sad (7). The 36 sentences selected were those rated to be the happiest, saddest and most neutral.

The sentences appeared in the center of the monitor for all trials. Two neutral sentences were presented first for practice. The "V" and the "M" keys on the computer keyboard were labeled as either happy or sad, or common or uncommon dependent upon the subject's randomly preassigned condition. The designation was counterbalanced across subjects to eliminate any effect of handedness.

### Procedure

The experimenter was a 24-year-old female. Individually run subjects first read and signed a consent form, completed a demographic questionnaire, and premood assessment scale. The experimenter explained the functions of the equipment and gave the following instructions. Subjects were told they would be given a pair of headphones through which they would hear first some music and then a story. They were instructed to listen very carefully and to maintain a smile or frown (depending on their randomly preassigned mood condition) for the duration of the audio The appropriate facial response was experience. demonstrated by the subject for the experimenter to Subjects were then told that upon completion of critique. the music and story, they were to press the space bar on the computer keyboard to initiate the display of the sentences on the computer monitor. The subjects were then instructed to read each sentence very carefully and, depending upon their appraisal condition, make either a happy/sad or a common/uncommon appraisal by depressing the so-designated computer key. Subjects were told to rest their left forefinger on the "V" key and their right forefinger on the "M" key and then indicate their appraisal by pressing the appropriate key. The keys were labeled as happy or sad or common or uncommon in a counterbalanced manner to control for handedness. Subjects were informed to respond to the sentences as rapidly as possible. The experimenter further indicated that as soon as the appraisal was made, there would be a blank screen for one second and then the next sentence would appear.

After answering all questions, the study began with the mood induction followed by the completion of the post-induction mood assessment. Then subjects depressed the space bar and responded to the stimulus sentences. After all sentences had been appraised subjects were thanked and debriefed. During debriefing, subjects were asked if their

mood was neutral to happy. Only one subject indicated a prolonged sad mood. After listening to the happy music and story, this (female) subject indicated a neutral to happy mood.

#### CHAPTER III

### RESULTS

The research question asked whether happy and sad women and men would differ in their latency to appraise happy, sad, and neutral sentences. Mood induced happy or sad women and men made happy/sad (affective) or common/uncommon (nonaffective) appraisals of happy, sad, and neutral sentences. Pre- and postmoods were assessed and latency to appraise stimulus sentences was measured.

The pre- and postmood assessment scores were analyzed separately with a 2 (gender: male or female) x 2 (mood: happy or sad) x 2 (appraisal: affective or nonaffective) between subjects analysis of variance. The latencies were analyzed with a 2 (gender: male or female) x 2 (mood: happy or sad) x 2 (appraisal: affective or nonaffective) x 3 (sentence affect: happy, sad, and neutral) mixed factor design with gender, mood and appraisal as between-subjects and sentence affect as within subjects independent variables. Latencies were first converted to logarithms before analysis in order to normalize the distribution. Because the mood x sentence affect interaction had not been obtained by Gerrig and Bower (1982) and Clark et al., (1983), the sentence affect main effect and all interactions were further analyzed using the liberal Duncan's multiple range test (Ott, 1988) set at the .05 level. The results of the analyses of variance performed on the pre- and postmood scores and latencies are presented in Tables 1, 3 and 5, respectively, with means and standard deviations presented in Tables 2, 4 and 6, respectively.

### Mood Assessment

Analysis of variance for the premood assessment scores (see Table 1) revealed statistical significance for the gender x mood interaction,  $\underline{F}(1, 40) = 7.49$ ,  $\underline{p} < .01$ , and the gender x appraisal interaction,  $\underline{F}(1,40) = 6.25$ ,  $\underline{p} < .05$ . For the gender x mood interaction, women to-be-induced happy ( $\underline{M} = 5.42$ ) were sadder than the to-be-induced sad women ( $\underline{M} = 3.92$ ) and happy ( $\underline{M} = 4.42$ ) and sad ( $\underline{M} = 4.83$ ) men. The gender x appraisal interaction indicated that men randomly assigned to the nonaffective condition were sadder ( $\underline{M} = 5.17$ ) than their female counterparts in the nonaffective condition ( $\underline{M} = 4.33$ ) or the men ( $\underline{M} = 4.08$ ) and women ( $\underline{M} = 5.0$ ) in the affective condition; the latter three means did not differ.

The postmood assessment scores analysis of variance (see Table 3) revealed statistical significance only for the mood main effect, <u>F</u> (1,40) = 126.66, <u>p</u> < .001. Happy subjects (<u>M</u> = 7.88) scored higher than sad subjects (<u>M</u> = 4.92).

### <u>Table 1</u>

### Gender x Mood x Appraisal Analysis of Variance

# Premood Assessment Scores

SOURCE OF VARIATION	DF	SS	MS	F
Gender (G)	1	. 02	. 02	.01
Mood (M)	1	3.52	3.52	2.39
Appraisal (A)	1	. 52	. 52	.35
G x M	1	11.02	11.02	7.49**
GxA	1	9.18	9.18	6.25*
M x A	1	.18	.18	.13
G x M x A	1	1.68	1.68	1.15
Error	40	58.83	. 68	

\*p < .05

\*\*p < .01

### <u>Table 2</u>

### Means and Standard Deviations

# Premood Assessment Scores\*

	Mo			
	Нарру	Sad	Total	
Women				
Affective	5 50	4, 50	5,00	
	(1 38)	(1.38)	(1.38)	
Nonaffective	5.33	3.33	4.33	
	(1.03)	(.82)	(.93)	
Total	5.42	3.92	4.67	
	(1.21)	(1.10)	(1.16)	
Men	. ,			
Affective	4.00	4.20	4.10	
	(1.26)	(1.72)	(1.49)	
Nonaffective	4.83	5.50	5.17	
	(.98)	(.84)	( .91)	
Total	4.42	4.85	4.64	
	(1.12)	(1.28)	(1.20)	
Overall	4.92	4.39	4.66	
	(1.17)	(1.19)	(1.18)	

\*Range of scores is 1 very happy to 7 very sad.

### <u>Table 3</u>

### Gender x Mood x Appraisal Analysis of Variance

Postmood Assessment Scores

SOURCE OF VARIATION	DF	SS	MS	F
Gender (G)	1	1.02	1.02	1.23
Mood (M)	1	105.02	105.02	126.66*
Appraisal (A)	1	2.52	2.52	3.04
G×M	1	1.02	1.02	1.23
G x A	1	2.52	2.52	3.04
M x A	1	.18	. 18	.23
G х M х A	1	. 20	. 20	.03
Error	40	33.16	.83	

\*p < .001

# <u>Table 4</u>

### Means and Standard Deviations

### Postmood Assessment Scores\*

	Мос		
	Нарру	Sad	Total
Women			
Affective	8.67	5.33	7.00
	( .52)	(1.21)	(.87)
Nonaffective	7.67	4.50	6.09
	( .52)	(1.05)	(.79)
Total	8.17	4.92	6.55
	( .52)	(1.13)	(.83)
Men			
Affective	7.67	4.83	6.25
	( .82)	(1.47)	(1.15)
Nonaffective	7.50	5.00	6.25
	( .55)	( .63)	( .59)
Total	7.59	4.92	6.25
	( .69)	(1.05)	( .87)
Overall	7.88	4.92	6.40
	( .61)	(1.09)	(.85)

\*Range of scores is 1 very sad to 11 very happy.

### Latency

The research question asked whether happy and sad males and females would differ in their latencies to affectively or nonaffectively appraise happy, sad, and neutral sentences. The analysis of variance (see Table 5) revealed significant main effects for appraisal,  $\underline{F}(1, 40) = 7.05$ ,  $\underline{p} < .05$ , and sentence affect,  $\underline{F}(2, 80) = 7.75$ ,  $\underline{p} < .001$ . Making common-uncommon appraisals ( $\underline{M} = 2.53$ ) took longer than happy-sad appraisals ( $\underline{M} = 2.00$ ). Neutral sentences ( $\underline{M} = 2.40$ ) took longer to appraise than happy ( $\underline{M} = 2.19$ ) and sad ( $\underline{M} = 2.21$ ) sentences, which did not statistically differ.

The appraisal x sentence affect interaction was also significant,  $\underline{F}(2, 80) = 17.75$ ,  $\underline{p} < .001$ . Affectively appraised happy ( $\underline{M} = 1.88$ ) and sad ( $\underline{M} = 1.78$ ) sentences took significantly less time than all other appraisals (affective-neutral,  $\underline{M} = 2.33$ ; nonaffective-happy,  $\underline{M} = 2.50$ ; nonaffective-sad, 2.62; nonaffective-neutral,  $\underline{M} = 2.47$ ).

In summary, mood was the only significant effect for the postmood assessment, indicating that the induction of happy and sad moods was successful. Latency analyses revealed that affectively relative to nonaffectively appraising happy and sad sentences occurred faster. Further, interactions involving mood and sentence affect, indicative of a priming effect of mood, were not obtained.

### <u>Table 5</u>

# Gender x Mood x Appraisal x Sentence Affect Analysis of Variance

### <u>Latency</u>

SOURCE OF VARIATION	DF	SS	MS	F
Between Subjects				
Gender (G)	1	.16	.16	2.50
Mood (M)	1	.16	.16	2.55
Appraisal (A)	1	.44	.44	7.05*
G x M	1	.04	.04	.66
G x A	1	.00	.00	.03
M x A	1	.04	. 04	. 58
G x M x A	1	.02	.02	. 24
Error	40	2.48	. 06	
Within Subjects				
Sentence Affect (S)	2	. 06	.03	7.75**
GxS	2	.00	. 00	1.00
M x S	2	.00	.00	1.00
G×M×S	2	.00	. 00	.75
A x S	2	.14	.07	17.75**
G x A x S	2	.00	.00	1.00
МхАхЅ	2	.00	.00	.00
G х M х A	2	.02	.00	2.00
Error	80	.31	.00	

\*p < .05

\*\*p < .001

# <u>Table 6</u>

# Means and Standard Deviations for Appraisal Latency In Seconds

Women	Se Нарру	entence A Sad	ffect Neutral	Total
Happy Mood				
Affective Appraisal	1.66	1.51	2.24	1.80
	(1.32)	(1.38)	(1.51)	(1.40)
Nonaffective Appraisal	2.51	2.57	2.57	2.55
	(1.26)	(1.32)	(1.32)	(1.30)
Total	2.09	2.04	2.41	2.17
	(1.29)	(1.35)	(1.42)	(1.35)
<b>Sad Mood</b>	2.34	2.51	2.82	2.56
Affective Appraisal	(1.62)	(1.70)	(1.74)	(1.70)
Nonaffective Appraisal	2.75	2.95	2.88	2.86
	(1.17)	(1.17)	(1.23)	(1.19)
Total	2.54	2.73	2.85	2.71
	(1.40)	(1.43)	(1.49)	(1.45)
Overall	2.32	2.39	2.63	2.44
	(1.35)	(1.39)	(1.46)	(1.40)
Men				
Happy Mood	1.70	1.51	1.95	1.72
Affective Appraisal	(1.32)	(1.29)	(1.32)	(1.31)
Nonaffective Appraisal	2.34	2.34	2.19	2.29
	(1.55)	(1.58)	(1.48)	(1.54)
Total	2.02	1.93	2.07	2.01
	(1.44)	(1.44)	(1.40)	(1.43)
Sad Mood				
Affective Appraisal	1.82	1.58	2.29	1.90
	(1.23)	(1.20)	(1.35)	(1.26)
Nonaffective Appraisal	2.40	2.63	2.24	2.42
	(1.51)	(1.45)	(1.62)	(1.53)
Total	2.10	2.11	2.26	2.16
	(1.38)	(1.32)	(1.48)	(1.39)
Overall	2.06	2.02	2.17	2.09
	(1.41)	(1.38)	(1.44)	(1.41)

#### CHAPTER IV

### DISCUSSION

The associative network theory of memory (Collins & Quillian, 1969) attempts to account for the encoding, storage and retrieval of information in long-term memory. Bower (1981) modified this theory to include emotion as a node. A prediction derived from this modification is the mood-congruity hypothesis (Bower, 1981), which proposes that stimulus material affectively congruent to one's mood state will be better recalled than incongruent material. Information associatively linked to an emotion node will be activated whenever the individual is experiencing the particular mood state and will provide a context for elaborating affectively congruent stimulus information.

Another prediction is that the stimulus material affectively congruent relative to incongruent to one's present mood state will be recognized faster because it has been primed and thus is more perceptually salient than incongruent material. Past research has not been supportive (e.g. Clark et al., 1983; Gerrig & Bower, 1982).

The present study was a third attempt to obtain support for the mood congruity hypothesis for recognizing emotional material. However, the methodology of this study was more sensitive to the priming nature of mood by requiring happy and sad subjects to appraise happy and sad sentences as happy or sad. In contrast, earlier studies did not intentionally require the subjects to attend to the emotional content of the stimuli. In spite of the more sensitive methodology, no significant mood x sentence affect or mood x appraisal x sentence affect interactions were obtained. Not surprisingly, happy-sad appraisals of happy and sad sentences occurred faster than common-uncommon appraisals.

A re-examination of relevant studies suggests an explanation for the results of the present study. Decreased latencies are consistently obtained for mood congruent retrieval of personal experiences (Lloyd & Lishman, 1975; Teasdale & Fogarty, 1979; Teasdale et al., 1980). However, mood-congruent performance for other tasks such as lexical decisions (Clark et al., 1983) and word recognition (Gerrig & Bower, 1982) is no better than the mood-incongruent performance. Personal experiences are stored in episodic memory (Tulving, 1985). In contrast, performance on lexical decision and word recognition tasks rely on general knowledge or semantic memory. In the present study, subjects were responding to the happiness or sadness of events, in effect performing a semantic orienting task. It appears that mood state may effect retrieval from episodic memory but not semantic memory. The results thus support

Tulving's (1985) assertion that episodic and semantic memory are dissociated. In contrast the lack of evidence for a mood congruity latency effect warrants reevaluation of Bower's (1981) modification to include emotion as a node in semantic memory.

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APPENDIX A

### Consent Form and Demographic Questionnaire

Please read the following statement and if you are in agreement with all of the criteria, sign your name at the bottom of the paragraph where indicated.

I \_\_\_\_\_\_agree to participate in a study to be conducted by Amy N. McNeill at Emporia State University. The purpose of this study is to investigate the processing of sentences. I understand that my mood may be temporarily affected. I also understand that my data are confidential and any use of them will protect my anonymity. I realize that I may withdraw from the study at any time.

Having fully read and understood the above statement, I hereby consent and agree to participate in this experiment.

Signature of Participant

Complete the following:

1. Put an "x" at the appropriate point on the scale that corresponds to how your day has been so far:

very bad\_:\_\_:\_\_:\_\_:\_\_very good

2. Age:\_\_\_\_

- Place of residence: home \_\_\_\_ residence hall \_\_\_\_ apartment \_\_\_\_\_ greek housing \_\_\_\_
- 4. Major:\_\_\_\_
- 5. The number of classes you have today:\_\_\_\_
- 6. The number of exams you have today:\_\_\_\_
- 7. Put an "x" at the appropriate point on the scale that corresponds to how you currently feel:

very happy\_\_:\_\_:\_\_:\_\_:\_\_very sad

APPENDIX B

### The Wessman-Ricks (1966) Elation-Depression Scale

Please read all the following statements, then circle the number that corresponds to how you feel now.

- 1. Utter sadness and gloom. Completely down. All is black and leaden.
- Tremendously sad. Feeling terrible, miserable, "just awful."
- 3. Sad and feeling very low. Definitely "blue."
- 4. Spirits low and somewhat "blue."
- 5. Feeling a bit low. Just so-so.
- 6. Feeling neutral.
- 7. Feeling pretty good. "O.K."
- 8. Feeling very food and cheerful.
- 9. Happy and in high spirits.
- 10. Very happy and in very high spirits. Tremendous delight and buoyancy.
- 11. Complete happiness. Rapturous joy and soaring ecstasy.

APPENDIX C

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#### Narratives for the Happy and Sad Mood Stories

### Happy Mood Story

This is a brief summary of Bob/Beth Jones' life story as recalled at age 20 during two interviews:

Bob/Beth initially recalled some happy experiences at the age of four. He/She recalled the uttermost happiness of playing with his/her family at home. He/she recalled the glee and fascination when he/she rode piggyback on his/her father's back, seeing the broad smile glistening on his/her mother's face as he/she watched, and the joyous, exuberant laugh of his/her brother's voice in the background. He/she also recalled the giggles of his/her sibling as they lay awake at night telling lighthearted jokes, the happiness of his/her grandmother's face at one of his/her festive birthday parties, and the delight and joy present at holiday family gatherings.

Bob/Beth arrived relatively animated for the second interview, and reported of his/her early teenage years. He/She recalled a jubilant backpacking outing in the mountains during the fall season, a fun-filled beer party with his/her close friends from school, the elation in hearing his/her first rock and roll record album, and the exhilarating high he/she felt in going to his/her first rock concert.

Other memories quickly flashed through his/her awareness: the delight of meeting an old friend, the jubilation of witnessing a last-second victory in an exciting football game, and the hilarious performance he saw of a stage comedian in a night club. Bob/Beth experienced himself/herself as a passive but involved observer to these fleeting incidents. However, as the story ended, he/she knew a shift inside of him/her had occurred. Because of the overwhelming cheerfulness of his/her story, Bob/Beth felt extremely happy as he/she concluded the interviews.

### Sad Mood Story

This is a brief summary of Bob/Beth Jones' life story as recalled at age 20 during two interviews:

Bob/Beth initially recalled some sad experiences at the age of four. He/she recalled the overwhelming sadness when his/her dog was run over by a car, his/her grief at his/her grandfather's death, and the despair of watching a hard-earned quarter seep through the grating of the sewer. Going back to his/her early years at grammar school, he/she recalled the dejection of being cut from his/her soccer

team, and the glumness encountered upon resignedly realizing the inevitability of a return visit to the dreaded dentist. Additionally recalled was the dismal and cheerless memory of staying inside on a gloomy, rainy day, and his/her crestfallen stature upon receiving news of his/her sister's auto accident.

Bob/Beth arrived somewhat depressed for the second interview, and reported of his/her early teenage years. He/She recalled the despondency experienced in hearing rumors of he break-up of the Beatles, the despair of not obtaining tickets to a Rolling Stones concert, and the sadness in discovering a warp in a newly-purchased double album.

The thoughts continued at a quick and natural rate: the flunking on an important final exam; the grief in his/her best friend's voice when he/she informed Bob/Beth of his/her rejection by college admission committees; the remorsefulness after losing his/her allowance; and the overwhelming sorrow in hearing his/her mother had developed cancer. Bob/Beth experienced himself/herself as a passive but involved observer to these fleeting incidents. However, as the story ended, he/she knew a shift inside of him/her had occurred. Because of the overwhelming misery in his/her story, Bob/Beth felt extremely sad as he/she concluded the interviews. APPENDIX D

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### The Stimulus Sentences

#### **Happy Sentences**

The runner completed the race in first place. The committee welcomed the stranger with a reception. The student received a letter form the family. The employee bought a car with the raise. The team won a trophy for its performance. The parents saw their first child in the nursery. The company rewarded the staff with a big raise. The senior achieved an excellent grade on the test. The applicant found a job with excellent benefits. The campers spent a beautiful day on the riverbank. The worker enjoyed the relaxation during vacation. The organization honored its retirees at the banquet.

#### Sad Sentences

The individual ignored a friend with a problem. The foreigner felt homesick for family. The fire destroyed the stove in the kitchen. The surgeon mourned the loss of the patient. The addict stole money from a friend. The accident injured the pedestrians on the sidewalk. The trainer abused the animals in the circus. The robber injured bystanders in the market. The hiker broke a leg before the trip. The vandals shattered the windows with rocks. The gardener lost the ring in the field. The crowd trampled a spectator after the concert.

### Neutral Sentences

The reader lit the lamp beside the table. The renter occupied a room in the building. The tenant washed clothes in the basement. The professor wrote the sentence on the board. The clerk ate breakfast in the cafeteria. The building had an awning over the entrance. The building had an awning over the entrance. The student checked the book from the library. The musician entered the bus with an instrument. The voters elect leaders in November. The writer read the articles in the magazine. The caretaker watered the lawn for one hour. The salesperson combed the hair with the brush.

# Neutral Sentences For Practice

The athlete wore sneakers with white laces. The person read the newspaper in the library. All Graduate Students Who Submit a Thesis or Research Problem/Project as Partial Fulfillment of The Requirements for an Advanced Degree

FROM: Emporia State University Graduate School

TO:

I,  $\underline{McMcMci}$ , hereby submit this thesis/report to Emporia State University as partial fulfillment of the requirements for an advanced degree. I agree that the Library of the University may make it available for use in accordance with its regulations governing materials of this type. I further agree that quoting, photocopying, or other reproduction of this document is allowed for nonprofit nature. No copying which involves potential financial gain will be allowed without written permission of the author.

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Date Det 1, 1992

The Mood Congruity Hypothesis: An Examination of <u>Encoding Mood</u>, <u>Gender</u>, and <u>Appraisal</u> <u>Jatency</u> Title of Thesis/Research Project

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