DOCUMENT RESUME

ED 350 307 TM 018 975

AUTHOR Hagen, Anastasia S.; And Others
TITLE Motivational and Cognitive Factors Affecting Involvement in Goal Pursuit: A Reconfirmation and Extension of Research.
PUB DATE Apr 92
NOTE 21p.; Paper presented at the Annual Meeting of the American Educational Research Association (San Francisco, CA, April 20-24, 1992).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS *Affective Objectives; Cognitive Objectives; Comprehension; *Educational Objectives; *Goal Orientation; Higher Education; *Learning Processes; Rating Scales; Student Interests; *Student Motivation; Study Skills; *Undergraduate Students
IDENTIFIERS Concentration; Final Examinations; *Involvement in Learning

ABSTRACT

This study, fourth in a series examining factors related to involvement in academic tasks, considers the ways in which cognitive, affective, and motivational variables associated with involvement change over various phases of completing an actual academic task (studying for a final examination). The phases of studying were: (1) just about to begin studying; (2) in the midst of studying; and (3) just finished studying. Subjects were 60 undergraduates in a public speaking course. Students completed a five-page questionnaire while they were studying for a final examination. They then completed a modified version of the Nowlis-Green Mood Adjective Check List. The phase of studying was a significant within-subject factor for both cognitive/motivational and affective variables. As in previous studies there was an increasing trend from phase 1 to phase 2 for interest, concentration, involvement, and understanding; and there was a decreasing trend for wishing to be elsewhere, anger, playfulness, pressure, and skepticism. These trends were consistent with a pattern of increasing involvement that precludes other affective and cognitive events, both negative and positive. One table and two figures illustrate the discussion. (Author/SLD)

# Motivational and Cognitive Factors Affecting Involvement in Goal Pursuit: A Reconfirmation and Extension of Research





Anastasia S. Hagen
Department of Educational Psychology
University of Texas, Austin

JoyLynn H. Reed
Department of Communication
St. Edward's University

Frank W. Wicker
Diane L. Schallert
James A. Wiehe
Department of Educational Psychology
University of Texas, Austin

Paper presented in a symposium on "Emerging trends in college students' self-regulatory motivation: Do we know? Where do we go?" at the annual meeting of the American Educational Research Association, San Francisco, April 1992. Correspondence should be addressed to Anastasia S. Hagen, Dept. of Educational Psychology, EDB 504, University of Texas, Austin, TX 78712.

## Abstract

The present study is the fourth in a series of studies examining factors related to involvement in academic tasks. The purpose of this study was to examine the ways in which cognitive, affective, and motivational variables associated with involvement change over various phases of completing an actual academic task (studying for a final exam). The phases of studying were: 1) when just about to begin studying, 2) when in the midst of studying, and 3) when just finished studying. Phase of studying was a significant within-subject factor for both the cognitive/motivational and affective variables. As in our previous studies, there was also an increasing trend from phase 1 to 2 for interest, concentration, involvement, and understanding, and a decreasing trend for wishing they were elsewhere, anger, playfulness, pressure, and skepticism. These trends were consistent with a pattern of increasing involvement that precludes other affective and cognitive events, both negative and positive.

## Introduction

This paper is a report of the latest study in a series of studies of factors relating to involvement in academic tasks. We began with the proposal that the psychological process of being immersed, or involved, in what one is studying has an important relationship to study outcome. Among other reasons, goals and affect that either promote or hinder involvement may influence a student's orientation toward studying (for example, the decision to comprehend vs. memorize), feelings about the usefulness of studying, motivation while studying, and cognitive processes invoked during studying. Several theorists have described involvement as a state in which a person becomes so engrossed or absorbed in a task that he/she loses track of time, becomes oblivious of everything around him/her, and experiences positive affect after completing the task (Csikszentmihalyi, 1975, Csikszentmihalyi & Nakamura, 1989, Larson, Ham, & Rafaelli, 1989, Reed & Schallert, 1989, Young & Schallert, 1988, 1991, Tannen, 1985). Although descriptive research has helped us understand the involvement process, much remains to be done to explore its antecedents, concomitants, and effects. Since students often perceive academic tasks as relatively uninvolving, we feel it would be especially useful to gain a greater understanding of the process of becoming immersed in academic discourse tasks.

In this paper, we will briefly elaborate our notion of discourse involvement and then present our study. This study is the fourth in an on-going research program aimed at investigating cognitive, affective, and

motivational variables over various phases of completing academic tasks. We began this line of our research by asking students to imagine themselves studying for an exam. Our goal was to determine whether involvement, goal characteristics, affective, and cognitive variables changed over phases. The phases students imagined were: 1) sitting in class and hearing that a test has just been announced; 2) just sitting down to begin studying; 3) deep in the midst of studying; 4) just finishing studying; 5) taking the test; and 6) getting the test back. Results of this first study (Wicker, Brown, Hagen, Boring, & Wiehe, 1991), indicated that phase was a significant factor for involvement and so other affective and cognitive variables. In our second study (Reed & Schallert, 1991), we used a writing assignment to examine whether general trends from Study 1 would be replicated in a different type of academic task as well as in an actual classroom setting. As in Study 1, students' ratings of cognition, affect, and motivation were significantly different over several phases of working on their papers.

At this point, we had three purposes in elaborating our idea of involvement: 1) To reconcile discrepancies that may have arisen because of differences in the studying and writing tasks used in the first two studies, 2) To expand our knowledge about the waxing and waning of involvement over the pursuit of academic goals, and 3) To examine the cognitive and motivational correlates of involvement. In Study 3, (Reed, Wicker, Schallert, Hagen, & Wiehe, 1991) students completed a questionnaire about their phases of studying at the beginning of class as they were about to take an exam. In this study, the phases were 1) just deciding to study,

2) just sitting down to study, 3) just beginning to study, 4) in the midst of studying, 5) just finishing studying. Again, we found that cognition, affect, and motivation significantly changed over phases. Also, we found monotonic trends for variables such as concentration and involvement increasing from phase one (deciding to study) to phase 4 (in the midst of studying) and decreasing for fatigue, pressure, anxiety, skepticism, surgency, and wishing to be elsewhere. Furthermore, we found strong positive correlations among indices of involvement, interest, concentration, and understanding and negative correlations of involvement with measures such as thinking about one's goal, fatigue, and wishing to be elsewhere. These trends were consistent with a pattern of continuously increasing involvement which precludes other affective and cognitive events, both negative (anxiety) and positive (surgency).

One limitation of Study 3 was that students were retrospectively answering questions just before an exam, when they may be very anxious and not wholly concentrating on the questionnaire. Also, there were several beginning phases (just deciding to study, just sitting down to study, just beginning to study) which may have confused students. Finally, we did not explore some important motivational variables such as self efficacy, effort, and value of studying, which are central to the question of why some students choose to become involved in academic tasks, while others do not. It was these limitations that led us to Study 4.

Involvement in Academic Discourse Tasks

Our conceptualization of academic discourse involvement arises from a synthesis of literature in several fields. The term "involvement" has been used in many different ways without always being operationalized or otherwise specified. Also, involvement is mentioned by many writers, but has yet to be systematically defined and researched. We are considering involvement in academic discourse tasks since, in the realm of everyday situations which could seem more or less involving, such tasks may be considered at the lower end of the involvement continuum. In other words, we suppose that most people would consider reading a novel more involving than reading a textbook. In academic tasks, we also assume experiences of involvement would be more varied than in tasks involving reading fiction, for example. In addition, students spend much of their time engaged in academic discourse and thus provide realistic situations for our research. Finally, perhaps discovering a bit about becoming involved in academic discourse tasks could eventually inform teachers and curriculum development specialists in their jobs of helping students learn and become enthusiastic in the classroom.

In the speech communication literature, involvement has been explored and defined as an interpersonal phenomenon. Specifically, involvement is typified by either attentiveness in face-to-face interactions (Cegala, 1981) or the importance of a stimulus to oneself (Sherif & Sherif, 1967). This means that people may be considered "involved" in a conversation if they are attentive or they view the issue as very important or salient.

Thus, researchers in this field view involvement as situationally influenced and based on cognitive and motivational variables such as attention and assessment of salience.

Of the researchers who have pursued the notion of involvement from a theoretical point of view, four have made especially important contributions. Although each used a different label, all noted similar aspects of the cognitive state of immersion. Koch's (1956) "state B" was characterized by effortlessness, positive affect, absence of metacognition, and a singular focus of attention. Montessori's (1966) description of children involved in tasks noted that immersion means doing something for its own sake and enjoying it. Csikszentmihalyi (1975) presented the notion of "flow," that arises from two antecedent conditions: 1) complete focusing of attention, and 2) an unambiguous, clear, and coherent task. Finally, Eckblad (1981) closely aligned her notion of "intrinsic motivation" with Csikszentmihalyi's concept of "flow" and Koch's "state B." To summarize the points that these researchers have made, we have synthesized their observations as features of the state of immersion, or involvement:

1) Attention is wholly focused on one task
2) The task is of moderately high difficulty
3) There is no awareness of self
4) Positive affect is reported afterward
5) The task is clear, coherent, and very comprehensible

Tannen (1985) presented an intriguing discussion of involvement in reading, writing, and conversation based on relevant notions from discourse theories. Her ideas of involvement centered around cognitive happenings of production and comprehension and used the concept of information as the vehicle for involvement. Specifically, she proposed that involvement is not a matter of whether discourse occurs face-to-face but is a function of whether the communication is centered around the message or centered around the rhetorical act and whether the communication is one-way or two-way. Communication that is focused on the message with a two-way response is most involving, Tannen noted. Based on these theoretical descriptions of involvement, we propose the following conceptualization of involvement in academic discourse tasks:

1) Attention is wholly concentrated on the task
2) Involvement is followed by positive affective responses
3) When involved in a task, time becomes irrelevant
4) Involvement may include but is not the same as interest
5) Involvement is influenced by current goals
6) Involvement is influenced by task difficulty
7) Involvement assumes deep comprehension

While these postulates may help describe the state of involvement, they fail to elaborate on involvement as a process. A main purpose of this research is to help achieve such an elaboration. Essentially, the question

we're asking is whether involvement in an academic discourse task--one that entails reading, writing, listening, or speaking--seems related to a students' level of understanding and concentration as well as to affective/motivational states such as anxiety, fatigue, or interest.

## Method

Subjects. Sixty undergraduate students enrolled in two sections of a basic public speaking course participated in this study. All students in these classes volunteered to complete the questionnaire in exchange for extra credit points that were added to their final grade.

Procedure. The students completed a 5-page questionnaire while they were studying for a final exam. They were asked to complete the first page before beginning one study session and then to set the questionnaire aside until completing that study period. Immediately after they finished the study session, the instructions asked them to complete pages 2 to 5. They were assured that responses would remain confidential. After the semester was over, their grades were recorded and matched with their questionnaire responses.

The questionnaire asked for ratings of cognitive, motivational, and affective states during each of three phases of their study session: 1) when just about to begin studying, 2) when in the midst of studying, and 3) when

just finished studying. Scales accompanying each phase began with items on seven-point scales asking about interest, concentration, involvement, the extent to which the student wished to be somewhere else, and amount of time spent thinking about his/her study goal.

The next scale was the Nowlis-Green Mood Adjective Check List (1970) modified by the use of a seven-point numerical scale rather than the original four-point letter scale. Subjects indicated their moods on the MACL by rating the extent to which each of 33 adjectives applied to them. After completing the MACL, a final scale for each phase assessing how well the student felt he/she understood the material at that point was included. The last two pages of the questionnaire asked about the importance of achieving the academic goal set for the exam, self-efficacy for achieving this goal, and length of time spent studying for the exam.

## Results

Pearson product-moment correlations were computed among all measures, both within and across study phases. Table 1 shows significant correlations ($p < .05$) for averages of these measures across phases. Strong positive correlations among indices of involvement, interest, effort, and concentration and negative correlations of involvement with wishing to be elsewhere, anger, and pressure corroborate the findings in our previous studies that involvement is a multifaceted cognitive/motivational/affective

variable. Interestingly, grade was negatively correlated with four variables: anger, skepticism, anxiety, and conflict. This might be explained by the idea that negative feelings take cognitive capacity away from concentration on the task at hand. Self-efficacy was positively correlated with understanding and valuing studying and negatively related to anger, pressure, anxiety, and skepticism. This suggests that students with higher self-efficacy experienced less negative affective reactions to studying. However, what we do not know is whether their higher self-efficacy was for studying in general, learning this particular material, or both.

---

Insert Table 1 here

---

MANOVA, ANOVAs, and Student-Newman Keuls post-hoc comparisons were used to describe patterns of change in variables over phases of studying. Phase of study was a significant within-subject factor in the MANOVA ($p < .01$) for the cognitive/motivational variables. The results of separate ANOVAs revealed significant differences across phases for all of these variables except thinking about the goal: interest, $F(2,181) = 5.37$, $p < .01$, concentration, $F(2,181) = 8.93$, $p < .001$, involvement,

$F(2,181) = 29.42$, $p < .001$, wishing they were elsewhere, $F(2, 181) = 10.66$, $p < .001$, and understanding, $F(2,181) = 35.81$, $p < .001$. Phase of studying was also a significant within-subject factor in the MANOVA ($p < .01$) for the affective variables. Separate ANOVAs revealed significant differences across phase for all of the affective variables except anxiety: anger, $F(2,181) = 7.59$, $p < .001$, surgency, $F(2,181) = 6.61$, $p < .01$, fatigue, $F(2,181) = 3.55$, $p < .05$, pressure, $F(2, 181) = 14.47$, $p < .001$, concentration, $F(2,181) = 17.38$, $p < .001$, and skepticism, $F(2,181) = 10.14$, $p < .001$.

One interesting outcome, as in our other studies, was that measures increased from phase 1 to 2 for interest, concentration, involvement, and understanding, and decreased for wishing they were elsewhere, anger, surgency, pressure, and skepticism (refer to Figure 1 and Figure 2). These trends were consistent with a pattern of increasing involvement that precludes other affective and cognitive events, both negative and positive.

---

Insert Figure 1 here

---

---

Insert Figure 2 here

---

A forward selection regression analysis was significant ($p < .01$) and pointed to concentration (R-squared = .62) as the major predictor of involvement. Interest (residual R-squared = .03) and understanding (residual R-squared = .02) were also significant independent predictors of involvement, although they accounted for a much smaller proportion of the variance. This corroborates our model of involvement as being comprised of the cognitive/motivational states of concentration and understanding and supports a difference between involvement and interest.

## Discussion

We have attempted to shed light on involvement as a viable variable in academic discourse tasks: one that waxes and wanes over phases of the task (Tannen, 1985). In fact, it seems that involvement does increase during early phases of the studying process. Furthermore, involvement is related in meaningful ways to other cognitive, motivational, and affective variables. Another interesting idea is that involvement does seem to preempt affect and competing cognitions. That is, when one is involved, attention seems to be focused wholly on the task thus leaving little attentional capacity for the consideration of moods or other contents.

One purpose of this study was to address the methodological issue of whether or not we can find valid, reliable relationships from retrospective, self-report data. By making the study less retrospective we hoped to find

that the patterns were not just a result of methodological bias. Indeed, these results showed relationships among variables as strongly as our previous studies. So we are optimistic that these findings are real rather than only subjects' retrospective theories about our purposes.

Our original propositions about involvement seem to have been supported, once again, by this study. It tends to occur when comprehension is high; it tends to preclude extraneous cognitions (for example, monitoring time); it is related to a task's personal salience; it is different from (but may be influenced by) interest; and it can coincide with positive affective responses. However, these findings do not tell us much about how to induce involvement or whether or not involvement is related to performance outcomes (grades or improvement). Essentially, what we have accomplished is an elaborated, exploratory description of involvement as a cognitive, motivational, and affective construct that is not just a dichotomous, all-or-none variable, but incorporates and is a dynamic meaningful pattern of relationships including cognition, affect, and motivation. What remains to be done is to search more exhaustively for relationships between involvement and performance, to find more reliable and valid measures of involvement, to investigate methods for increasing involvement, and to more systematically study the benefits of being involved in academic discourse tasks.

## References

Cegala, D. J. (1981). Interaction involvement: A cognitive dimension of communicative competence. Communication Education, 30, 109-121.

Csikszentmihalyi, M. (1975). Beyond boredom and anxiety. San Francisco: Jossey-Bass.

Csikszentmihalyi, M., & Nakamura, J. (1989). The dynamics of intrinsic motivation: A study of adolescents. In C. Ames & R. Ames (Eds.), Research on motivation in education: Vol. 3. Goals and cognitions (pp. 45-71). San Diego, CA: Academic Press.

Eckblad, G. (1981). Scheme theory. New York: Academic Press.

Koch, S. (1956). Behavior as "intrinsically" regulated: Work notes towards a pre-theory of phenomena called "motivational." In M. R. Jones (Ed.), Nebraska symposium on motivation (pp. 42-86). Lincoln, NE: University of Nebraska Press.

Larson, R., Ham, M., & Rafaelli, R. (1989). The nurturance of motivated attention in the daily experience of children and adolescents. In M. Maehr and C. Ames (Eds.), Advances in motivation and achievement: Motivation enhancing environments, Vol. 6. (pp. 45-80). Greenwich, CT: JAI Press.

Montessori, M. (1966). The secret of childhood. Notre Dame, IN: Fides Publishers.

Nowliss, V. (1970). Mood: Behavior and experience. In M. B. Arnold (Ed.), Feelings and emotions (pp. 171-207). New York: Academic Press.

Reed, J. L., & Schallert, D. L. (1991). The nature of discourse involvement, a cognitive-motivational construct in academic discourse tasks. Manuscript submitted for publication.

Reed, J. L., Wicker, F. W., Schallert, D. L., Hagen, A. S., & Wiehe, J. A. (1991). Motivational and cognitive factors affecting involvement in studying for an exam. Paper presented at the annual meeting of the American Educational Research Association, Chicago, April 1991.

Reed, J. L. & Schallert, D. L. (1989). Discourse involvement: An investigation of a cognitive motivational construct. Paper presented at the National Reading Conference, Austin TX, December, 1989.

Sherif, M. & Sherif, C. (1967). The social judgment-involvement approach to attitude. In C. Sherif and M. Sherif (Eds.), Attitude, ego-involvement and change (pp. 105-139). New York: John Wiley and Sons.

Tannen, D. (1985). Relative focus on involvement in oral and written discourse. In D. Olson, N. Torance, & A. Hildyard (Eds.), Literacy, language, and learning (pp. 124-147). London: Cambridge University Press.

Wicker, F. W., Brown, G., Hagen, A. S., Boring, W., & Wiehe, J. A. (1991). Student expectations about affective correlates of academic goal setting. Journal of Experimental Education, 59, 235-247.

Young, E. L. & Schallert, D. L. (1989). The intentional nature of a writer's response to social constraints. Paper presented at the annual meeting of the American Educational Research Association, San Francisco, March, 1989.

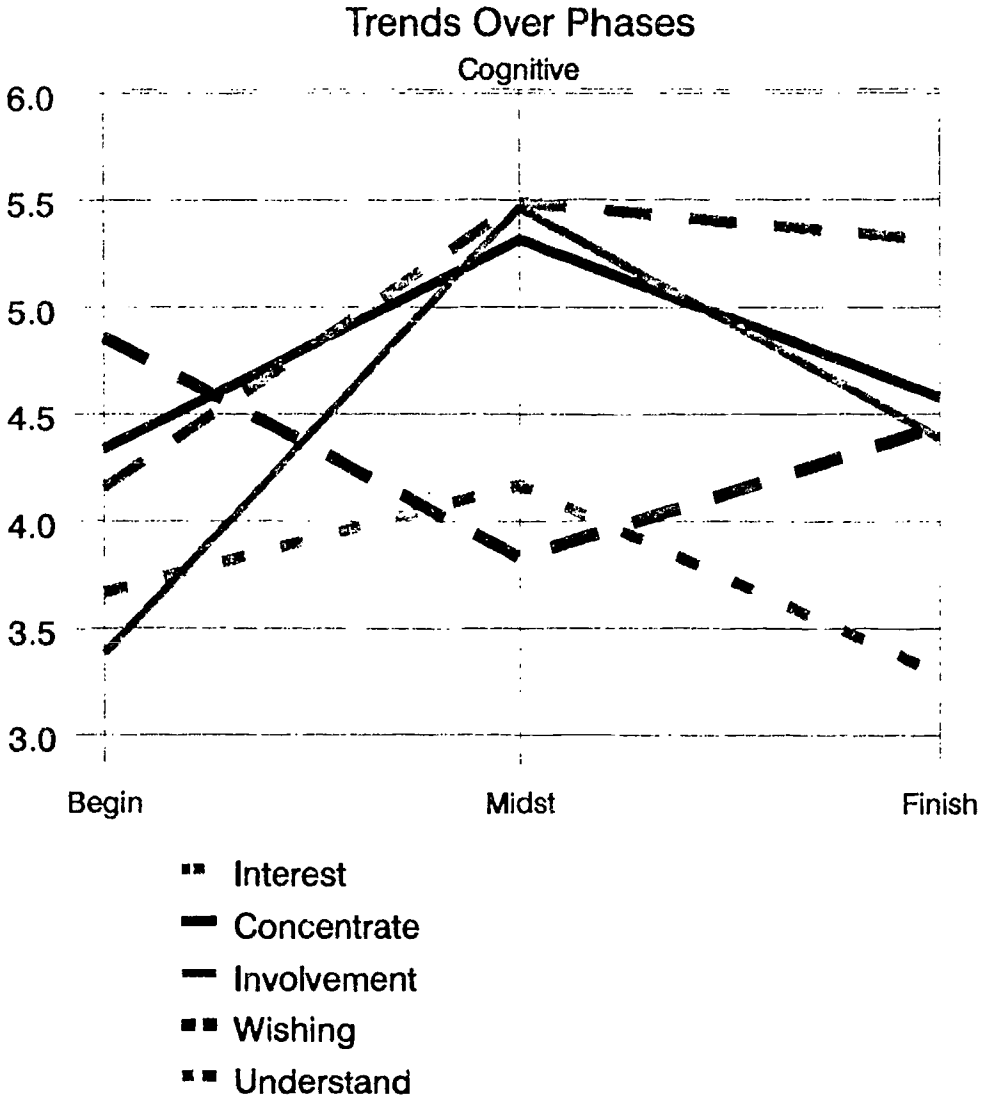
Table 1. Selected Correlations for Measures Averaged Across Phases ($p < .05$)

| | Int. | Conc. | Inv. | Wish | Und. | Value |
|---|---|---|---|---|---|---|
| Interest | | | | | | |
| Concentration | .55 | | | | | |
| Involvement | .58 | .79 | | | | |
| Wish Elsewhere | -.32 | -.31 | -.38 | | | |
| Understand | | .36 | .37 | | | |
| Value | .26 | .35 | .36 | | .37 | |

| | Val. | S. E. | Eff. | Conf. | Und. | Prior | Intend | Grade |
|---|---|---|---|---|---|---|---|---|
| Value | | | | | | | | |
| Self-efficacy | .34 | | | | | | | |
| Effort | 55 | | | | | | | |
| Conflict | | | | | | | | |
| Understanding | | .30 | .24 | | | | | |
| Prior Study | .27 | | .29 | | | | | |
| Intend Study | .24 | | .24 | | | | | |
| Grade | | | -.34 | -.34 | | | | |

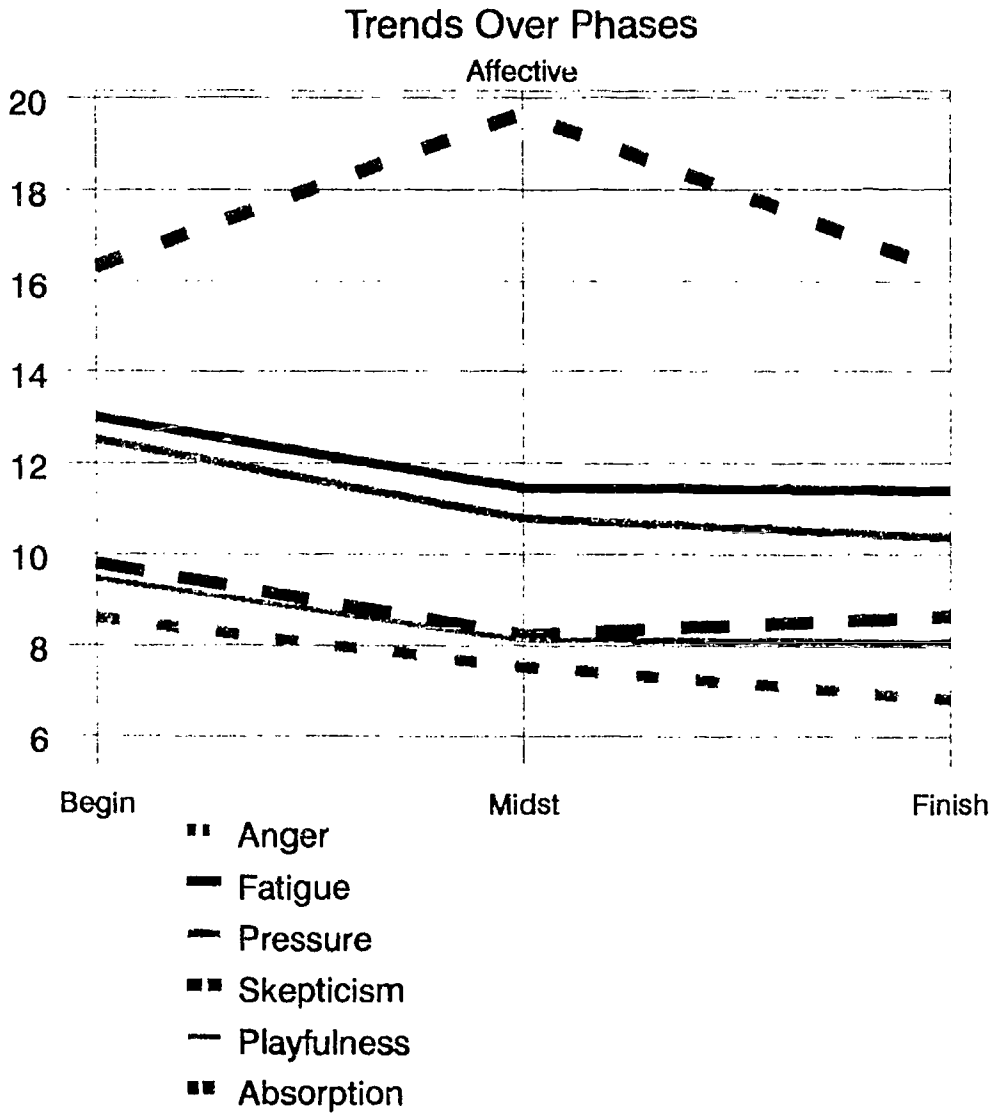
| | Ang. | Fatg. | Pres. | Anx. | Skep. | S.E. | Inv. | Grade |
|---|---|---|---|---|---|---|---|---|
| Anger | | | | | | | | |
| Fatigue | .39 | | | | | | | |
| Pressure | .68 | .38 | | | | | | |
| Anxiety | .55 | .39 | .57 | | | | | |
| Skepticism | .68 | .46 | .60 | .66 | | | | |
| Self-efficacy | -.42 | | -.36 | -.34 | -.40 | | | |
| Involvement | -.21 | | -.18 | | | | | |
| Grade | -.29 | | | -.21 | -.22 | | | |

Figure 1




| | Interest | Concentrate | Involvement | Wishing | Understand |
|---|---|---|---|---|---|
| Begin | 3.66 | 4.33 | 3.75 | 4.85 | 4.15 |
| Midst | 4.16 | 5.31 | 5.46 | 3.82 | 5.48 |
| Finish | 3.28 | 4.57 | 4.38 | 4.44 | 5.30 |

Figure 2




| | Anger | Fatigue | Pressure | Skepticism | Playfulness | Absorption |
|---|---|---|---|---|---|---|
| Begin | 8.52 | 12.92 | 12.43 | 9.72 | 9.38 | 16.25 |
| Midst | 7.46 | 11.38 | 10.72 | 8.16 | 8.05 | 19.59 |
| Finish | 6.74 | 11.33 | 10.30 | 8.56 | 8.02 | 16.10 |