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Intrinsic and Extrinsic Motivational Factors and Type A Behavior

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ABSTRACT

In this study motivational factors were examined to determine if subjects were more intrinsically or extrinsically motivated. In addition, Type A behavior pattern was assessed to determine if a link exists between motivation and Type A behavior. A total of 176 students from a small midwestern university participated in this research. Intrinsic motivation was manipulated by using one of two movies, one interesting and one boring. Extrinsic motivation was measured by manipulating the number of extra credit points given for participation. Participants were assigned to one of four conditions: High intrinsic/low extrinsic, high intrinsic/high extrinsic, low intrinsic/low extrinsic, and low intrinsic/high extrinsic. Type A and Type B behavior were assessed using the results of the student version of Jenkins Activity Scale (JAS). Neither intrinsic nor extrinsic motivation were found to influence participants behavior. However, Type A individuals were more motivated to show-up for the movie than Type B individuals.

Motivating factors are either intrinsic, meaning they come from within, or extrinsic, meaning they are external. According to Herzberg (1987), intrinsic motivation includes: achievement, recognition for achievement, the work itself, responsibility, and growth or advancement. Factors that are extrinsically motivating are: company policy and administration, supervision, interpersonal relationships, working conditions, salary, status, and security. Both Herzberg (1987) and Knoop (1994) concluded that when intrinsic motivation factors are present employees experience satisfaction. On the other hand, when extrinsic motivating factors are not present employees will be dissatisfied. Both intrinsic and extrinsic motivation are important and may serve as having a motivating effect in the workplace.

Many researchers have examined the relationship between intrinsic and extrinsic rewards and their effect on motivation. Mawhinney (1990) found that individuals who were offered extrinsic rewards to complete a task were likely to experience a decrease in intrinsic motivation. However, individuals who are highly
intrinsically motivated by a task are least likely to experience a decrease in intrinsic motivation when offered extrinsic rewards (Mawhinney, 1990). In other words, extrinsic rewards may decrease intrinsic motivation in individuals unless they are highly intrinsically motivated. Keaveney (1995) examined the effects of intrinsic and extrinsic motivational orientations with respect to retail buyer performance and found that intrinsically motivated buyers were less likely to make buying errors. In addition, buyers that were intrinsically motivated had more positive relations with vendors and sales personnel and were more likely to use diverse sources of information. Buyers that are intrinsically motivated appear to be more productive.

As a way to increase productivity, many employers offer extrinsic incentives to motivate employees such as awards for perfect attendance, bonuses for increased productivity, compensation pay based on performance and ability, and certificates for suggestions that are used by management. However, the effects of a reward based plan to motivate employees has been found to be temporary and does not create a lasting commitment (Kohn, 1993; Herzberg, 1987). According to Kohn (1993), rewards only motivate people to get more rewards. Extrinsic incentives can have the negative effect of discouraging risk taking and inhibiting creativity since employees take the easiest road to the reward. A reward such as a plaque may imply that work is over (Marbach, 1993), which could lead to decreased productivity. In fact, motivation has declined as a result of employees receiving guaranteed rewards (Grant, 1982).

So if extrinsic rewards do not have a lasting effect on motivation, what can an employer do? According to Kohn (1993), managers use extrinsic rewards in place of what employees really need: feedback, support, and fair treatment (intrinsic motivators). Harackievics and Larson (1986) found that positive feedback (an intrinsic motivator) provided by supervisors actually increased the performance of employees. Similarly, Johnson, Pieper, Turban, and Ng (1996) and Pelletier and Vallerand (1996) determined that managers might be able to increase employee’s intrinsic motivation by providing support and using positive feedback about performance. Sheldon and Elliot (1998) found that individuals are most effective when they are doing something they enjoy or reflects their value system. Based on the literature reviewed, feedback, support, and value-added work are factors that lead to intrinsic motivation.

A link between motivation and Type A behavior pattern has been proposed. Type A behavior patterns are defined as an intense striving for achievement, aggressiveness, time urgency, competitiveness, impatience, over commitment, and hostility (Smith & Brehm, 1981). The Type B behavior patterns are characterized as calm and leisurely (Burger, 1990). Although Type B individuals do not have the same driven, compulsive style of a Type A personality these individuals may work hard from time to time. Type B's are not quite as competitive or inclined to become angry as their Type A counterparts.

Researchers have found that Type A individuals are more likely to perform than their Type B counterpart. Racicot, Day, and Lord (1991) found that Type A individuals outperformed Type B individuals when it comes to accepting and completing difficult goals. In addition, Type A people had a higher expectancy of
success than did Type B people. Davis, Grover, Sadowski, Tramill, and Kleinhammer-Tramill (1986) determined that Type A individuals scored significantly higher on achievement motivation than did Type B individuals. Similarly, Das and Mathur (1992) found that individuals with high need achievement have significantly higher Type A behavior patterns than those with low need achievement. Lawler, Armstead, and Patton (1991) demonstrated that Type A individuals are more extrinsically motivated than Type B individuals. In essence, researchers indicate that Type A individuals have a greater expectation for success and achievement.

Research on intrinsic and extrinsic motivation is inconclusive; however, it suggests that performance is likely to be higher when intrinsic factors are present. Since the findings are not clear, more research is needed to determine what factors motivate individuals. In this study motivational factors will be examined to determine if subjects are more intrinsically or extrinsically motivated. It is hypothesized that individuals are motivated more by intrinsic than extrinsic factors. Individuals with Type A behavior patterns are generally seen as high performers. Again the research has not been conclusive as to what factors are more motivating to individuals with Type A behavior pattern. It is also hypothesized that Type A individuals will be more extrinsically motivated than Type B individuals. Type A behavior pattern is predominately studied in research. Much of the research focuses on Type A individuals’ high drive for achievement. Few studies have been devoted to whether their drive is from intrinsic or extrinsic motivating factors.

**METHOD**

**Participants**

A total of 176 undergraduate students attending a small midwestern university were recruited from a variety of introductory and advanced level courses to participate in this study. The participants worked an average of 21 hours per week and were composed of 33% freshmen, 21% sophomore, 29.5% junior, 13.5% senior, and 3.0% graduate students. Fifty-seven percent of the participants were female with a mean age of 26 years (range 18 to 48) and 43% were male with a mean age of 24 years (range 18 to 57). The participants were predominately European American (88%), 1% were African American, and the remaining 11% were Native American, Hispanic, Multi-Ethnic, and other. Seventy-two percent of the participants were single, 18% were married, 9% were divorced, and the remaining 1% were in other relationships.

**Design and Procedure**

Participants from nine classrooms were assigned to one of four conditions (See Figure 1). The first condition was high intrinsic and low extrinsic motivation. The second condition was high intrinsic and high extrinsic motivation. The third condition was low intrinsic and low extrinsic motivation. The fourth condition was low intrinsic and high extrinsic motivation. All participants in a class were in the same condition. Intrinsic motivation was manipulated by asking the participants to view one of two films: (1) a film entitled “Abnormal Sexual Behavior” which we hoped would sound interesting or (2) a film entitled “The Most Efficient Way to Clean Your Apartment” which we intended to sound boring. A sample of eight undergraduate students enrolled in a senior psychology course (ages 25 – 46) determined that film (1) would be interesting to view and film (2) would be boring to view. Extrinsic motivation was manipulated by informing the participants that they would receive either 1 extra credit point or 5 extra credit points for their participation in the study. Participants were informed that the study pertained to movies and lifestyles. They were also informed that there would be three parts to the study which would occur on different days. On the first day, participants completed a background questionnaire consisting of questions about gender, age, class standing, hours worked, family income, ethnic background, marital status, and types of movies they enjoy. At the same time participants were told what movie they were to see and then given an opportunity to sign up for the film. On the second day, participants came to a different classroom to view the movie. Participants were told that there were technical difficulties with the video equipment and they would not be able to view...
the film. They were asked to sign a sheet and record their ID number to show that they were present and could receive the extra credit points. They were reminded that they would be given a follow-up questionnaire when the researchers returned to their class. On the third day, back in the original classroom, participants completed two questionnaires, a follow-up questionnaire and the student version Jenkins Activity Scale (JAS). The student JAS is a personality assessment which measures Type A or B behavior pattern. The student JAS is a 21 item questionnaire weighing Type A responses with a score of one and Type B responses with a score of zero. The decision to use the student JAS was based on the following: (1) the questionnaire was considered an objective way to measure Type A or B behavior pattern and (2) the questionnaire was considered easy to administer to large groups.

Participants were told that even though technical difficulties occurred, that it would still be useful to the research if they filled out questionnaires. Participants were also told that even if they did not sign-up for or attend the film that this information would be useful. After participants finished the questionnaires they were debriefed about the true nature of the study.

The effectiveness of the film manipulation to influence participant’s intrinsic motivation was measured on the follow-up questionnaire with the participant’s rating of their interest in the film, interest in learning about research, and interest in helping other students. The validity of the extra credit points to influence the participant’s extrinsic motivation was measured using the participant’s rating of the fairness of the extra credit points on the follow-up questionnaire. For each of these questions participants responded using a Likert scale ranging from 1 to 7. Low scores indicated that participants strongly agreed with the statements.

The student JAS was scored using a standardized procedure (Glass, 1977). With this procedure, participants who scored eight or above on JAS are classified as extreme Type A. A comparison group of extreme Type B participants was created by selecting the individuals with the lowest scores (one or less). Participants who scored between 2 to 7 from analysis on Type A and Type B behavior were excluded.

### RESULTS

The test of the main hypothesis (i.e. whether participants were influenced more by intrinsic or extrinsic motivation) was based on whether the participant signed-up for and attended the film portion of the study. If the participant signed-up and attended the film portion based on the amount of extra credit points offered then the participant was more motivated by the extrinsic reward. If the participant signed-up and attended based on the type of film then the participant was more motivated by the intrinsic reward.

Two-by-two Chi-Square analyses with participant sign-up and attendance were calculated for type of film (boring/interesting) and extra credit points offered (1/5). No significant results were found. Neither intrinsic (type of film) nor extrinsic (extra credit point) motivation influenced whether participants signed-up for or attended the films.

The validity of the intrinsic and extrinsic manipulations was assessed using the participants’ ratings on the follow-up questionnaire. On this questionnaire participants rated their interest in the film, learning about research, helping other students, and the fairness of extra credit points. Separate t-test analyses were used with the intrinsic (boring/interesting film) and extrinsic (1 or 5 extra credit points) motivation manipulations as the independent variables. No significant differences were found. Therefore, the manipulations (type of film and extra credit points) may not have created intrinsic or extrinsic motivation (see figure).
The next set of analyses investigated the relationship between the participants' participation in the research (whether participants signed-up and attended) and whether they were classified as Type A or B behavior pattern on the student JAS. Two by two Chi-Square analyses based on student JAS classifications (Type A/Type B) and the participant's sign-up or attendance response were calculated. Type A participants were more likely to show up for the film than Type B participants, \( \chi^2(1, N = 27) = 13.60, p < .01 \). There was no significant difference found for sign-up response.

T-test analysis were used to determine if Type A and Type B individuals differed on hours of employment. Type A participants demonstrated a non-significant tendency to work a greater number of hours (\( M = 25 \) hours) than Type B participants (\( M = 14 \) hours), \( t(25) = 2.05, p < .10 \).

Chi Square analyses were used to determine whether other factors such as age (18-21 and 22-57, and gender) were related to participants' motivation to participate. The sample was split between younger participants ages 18-21 and older participants ages 22-57. Results indicated that older participants were more likely to show up for the film, \( \chi^2(1, N = 170) = 5.67, p < .05 \). In fact, four participants in the older age group showed up for the film even though they did not sign-up. No gender effect was found.

**DISCUSSION**

The intent of this research was to demonstrate that participants were more intrinsically than extrinsically motivated and to establish a link between Type A behavior pattern and type of motivation. Past research concluded that individuals are motivated more by intrinsic factors than extrinsic factors (Knoop, 1994; Khojasten, 1993). However, in this research no changes in behavior were found due to the motivation manipulation. This may be due to the sample size.

The present research used a 2 x 2 design to manipulate intrinsic and extrinsic motivating factors. The factors used were interesting or boring film and 1 or 5 extra credit points. Results indicated no significant relationship existed between points offered for extra credit and whether participants signed-up or showed-up for the film portion of the study.

The results may be due in part to the validity of the intrinsic and extrinsic motivators. Based on the results from the follow-up questionnaire, the film that was intended to sound boring was not perceived by the participants as less interesting than the film intended to sound interesting. Likewise, the participants in the five point condition did not perceive the extra credit points as more fair than the subjects in the one point condition. These results may be due to inadequate control over the students' perceived value of the extra credit points. Since the grading method and assignment load varies from one professor to another, the students' needs vary thus altering the overall value of the extra credit points offered.

Other research indicated a link between motivation and Type A behavior (Davis et al., 1986; Lawler et al., 1991). More specifically, Lawler et al. (1991) demonstrated that Type A individuals are more extrinsically motivated than Type B individuals. In the present study, a significant link was found between Type A behavior pattern and motivation. However, this study was unable to determine the type of motivation (intrinsic/extrinsic) since there was not a significant difference in the intrinsic/extrinsic manipulation. Participants with Type A behavior pattern showed up for the film, whereas Type B participants did not show up for the film even if they had signed-up. Again, this study was unable to determine if Type A participants were more intrinsically or extrinsically motivated due to inadequate sample size. In addition, Type A individuals showed up for the film, and also reported working more hours per week than Type B individuals. Although this finding is considered typical of Type A pattern behavior, in the present study the difference in working hours failed to attain statistical significance.

The final set of analyses discovered that older participants were more motivated to show up for the film than younger individuals. As discussed in the results section, four subjects in the older age group showed up for the film even though they did not sign-up. The explanation for this relationship cannot be determined.
However, one can speculate that older participants may have different values than younger participants in regards to keeping appointments.

In reviewing the research at hand, the manipulation may not have influenced intrinsic/extrinsic motivation. The connotation of a film being fun could have biased the participants' perception of the film title. Therefore, changes need to be made in future research by offering a boring/interesting task rather than a film. By offering a task, the participants' hands-on participation could reinforce the participants' perception of the task as being boring or interesting. Also, the amount of extra credit points offered could be manipulated to a greater extreme, such as a zero point condition and a fifteen point condition. However it may be difficult to find professors who will agree to such extremes. Due to differences in grading methods among professors, they may be more agreeable to giving a percentage of the total amount of points offered in the course requirements.

Another possible reason that participants did not perceive one film as more interesting could have been related to receiving an extrinsic reward. Mawhinney (1990) reported that individuals that received an extrinsic reward for a task were less likely to be intrinsically motivated. So merely receiving any points, no matter how large or small the amount, could have affected the perception of the participants. Again, this could be tested by having a zero point condition along with a high point condition.

Future research may also include a better way to assess the validity of the intrinsic and extrinsic manipulations. Since the participants' ratings on the follow-up questionnaire did not produce any significant difference, the assessments may have been invalid. The findings may be due to the manipulation not creating intrinsic or extrinsic motivation.

The findings of this study may be generalized to employment situations in that Type A individuals may also be more likely to work longer hours and participate in special projects such as a task force or long range planning. However, this study is not able to speculate on the quality of work Type A individuals will perform.

Other areas for research may include the clinical population. According to Arnsten (1990), the most important factor in keeping clients in therapy is to instill a sense of purpose in the client. The purpose will then intrinsically motivate the client to continue. Pelletier, L.G., Tuson, K.M., and Haddad, N.K. (1997) determined that intrinsically motivated clients had “stronger intentions of continuing therapy”. Therefore, in generalizing the results of this study to the clinical population, one can infer that Type A individuals would be more likely than Type B individuals to show up for counseling appointments. Type A's may be more responsible in taking their medication as well. By screening for Type A behavior patterns, a case worker may determine which client requires close monitoring and which does not.

In conclusion, even though this study was not able to determine a significant difference between intrinsic and extrinsic motivating factors, a significant link was established between Type A pattern behavior and motivation. These results are significant when considering the implications they may have on maintaining a motivated workforce.
REFERENCES


