



Predicting intergroup attitudes from locus of control : the mediating role of information processing
by Joann Lynn Moore

A thesis submitted in partial fulfillment of the requirements for the degree of Master of Science in
Applied Psychology

Montana State University

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Abstract:

Locus of control refers to the perceived source of control of outcomes in one's life, ranging from internal (control by the person) to external (control outside of the person) (Rotter, 1966). Previous research has suggested a relationship between locus of control and intergroup attitudes, (Duckitt, 1984; Gore & Rotter, 1963; Powell & Gable, 1973) as well as between locus of control and mode of information processing (Lefcourt, 1973; Seeman & Evans, 1962). The present study explores the role of information processing mode as a mediator of the relationship between locus of control and intergroup attitudes in the context of the September 11th attacks. One hundred ninety one Psychology students at Montana State University completed several questionnaires measuring locus of control, mode of information processing, ethnocentrism, and patriotism. A series of regressions were conducted to test for mediation. One of the mediation models was significant such that generalized locus of control predicted constructive patriotism and the relationship was completely mediated by mode of information processing. Generalized locus of control did not predict blind patriotism or ethnocentrism. Situation-specific locus of control predicted blind patriotism, but did not predict mode of information processing, constructive patriotism, or ethnocentrism. Results suggest that there are some circumstances under which mode of information processing mediates the relationship between locus of control and intergroup attitudes and other circumstances under which other factors may operate.

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A thesis submitted in partial fulfillment
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MONTANA STATE UNIVERSITY
Bozeman, Montana

April 2003

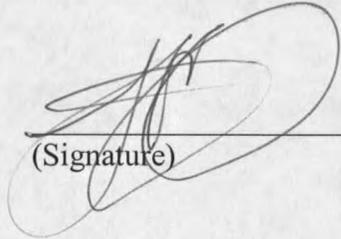
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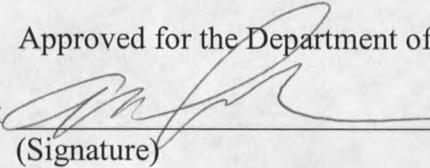


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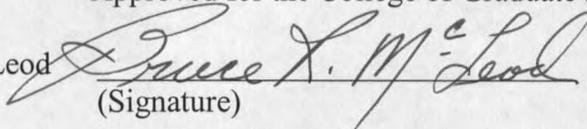


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ABSTRACT

Locus of control refers to the perceived source of control of outcomes in one's life, ranging from internal (control by the person) to external (control outside of the person) (Rotter, 1966). Previous research has suggested a relationship between locus of control and intergroup attitudes, (Duckitt, 1984; Gore & Rotter, 1963; Powell & Gable, 1973) as well as between locus of control and mode of information processing (Lefcourt, 1973; Seeman & Evans, 1962). The present study explores the role of information processing mode as a mediator of the relationship between locus of control and intergroup attitudes in the context of the September 11th attacks. One hundred ninety one Psychology students at Montana State University completed several questionnaires measuring locus of control, mode of information processing, ethnocentrism, and patriotism. A series of regressions were conducted to test for mediation. One of the mediation models was significant such that generalized locus of control predicted constructive patriotism and the relationship was completely mediated by mode of information processing. Generalized locus of control did not predict blind patriotism or ethnocentrism. Situation-specific locus of control predicted blind patriotism, but did not predict mode of information processing, constructive patriotism, or ethnocentrism. Results suggest that there are some circumstances under which mode of information processing mediates the relationship between locus of control and intergroup attitudes and other circumstances under which other factors may operate.

INTRODUCTION

On March 5, 2002, USA Today reported the results of a poll finding that 41 percent of Americans viewed Muslim nations unfavorably (Benedetto, 2002). Though the scientific merit of this study is not clear, it does indicate that six months after the September 11th attacks, negative sentiment still existed in the U. S. towards nations similar to those held responsible for the attacks. The present study will explore possible predictors of two kinds of intergroup attitudes shown by Americans in the aftermath of September 11th, specifically ethnocentrism and patriotism. Locus of control and mode of information processing (heuristic versus systematic) will be explored as predictors of intergroup attitudes (ethnocentrism and patriotism).

Locus of Control and Information ProcessingLocus of control

Locus of control refers to how persons perceive the source of control over outcomes in their lives, whether the control resides within the person or outside of the person. Persons with a more internal locus of control believe that their own actions are the primary determinants of outcomes in their lives, whereas persons with a more external locus of control see their lives as being controlled by forces outside of themselves, such as luck, God, or chance (Wiggins, Wiggins, & Vander Zanden, 1994).

Julian Rotter's social learning theory considered locus of control to be a learned personality characteristic. According to Rotter, one's generalized locus of control orientation is formed early in life, based on the connection a person makes (or fails to

make) between their own behavior and the resulting outcomes. In behaviorist theories of psychology, these connections are known as behavior-reinforcement expectancies (Rotter, 1966). Rotter regarded locus of control as a generalized attribution style. That is, some individuals have a tendency towards a generalized internal locus of control, crediting themselves for successes and blaming themselves for failures, whereas others have a tendency towards a generalized external locus of control, in which external factors are responsible for both their successes and their failures.

Other research has suggested that locus of control can also be context dependent. It has been demonstrated that people tend to have a self-serving bias, in which we accept credit for our successes, but blame external factors for our failures (Miller & Ross, 1975). Folkman (1984) also considered locus of control to be both a generalized belief and a belief regarding specific situational events. Phares (1957) manipulated controllability in an ambiguous task. Half of the participants were informed that successful completion of the task was due to luck and half were informed that successful completion of the task was due to skill. Expectancies were measured by having participants bet on the probability that they would be correct on the next trial. Phares found that participants in the skill condition lowered their bets after failure and raised their bets after success, and participants in the chance condition did not change their bets according to their performance, presumably because they did not perceive a connection between their performance and their outcomes. This demonstrates one way in which perceived locus of control can be context dependent. The present study will examine both generalized and situation-specific locus of control.

Information Processing

A relationship between locus of control and information processing has been suggested, but little research has been conducted on the topic. Lefcourt (1992) found that locus of control appears to be related to what he called "cognitive alertness," in which persons with a more internal locus of control seem to be more attentive to their environments than persons with a more external locus of control. Lefcourt suggested that those tending towards an internal locus of control attend to relevant information in their environments because they believe that they can affect change, whereas those tending towards an external locus of control perceive themselves as helpless to control their outcomes and do not engage in the seeking out of relevant information.

Lefcourt, Gronnerud, and McDonald (1973) had participants perform a free association task, which as it progressed became increasingly full of sexual double entendres. Persons who were more internal caught on to the study's hidden meaning quickly, but persons who were more external performed as "automaton respondents" (p. 163). That is, those tending toward an external locus of control seemed to answer automatically, with little thought as to the alternative meanings of the words, whereas those tending toward an internal locus of control appeared to carefully process the meanings of the words and were able to discern the true meaning of the study much more quickly than those with a more external locus of control. Similarly, a study by Seeman and Evans (1962) found that tuberculosis patients identified as having a more internal locus of control were significantly more knowledgeable about their disease than those identified as having a more external locus of control, as determined by scores on a test of

knowledge about tuberculosis and ratings made by hospital staff.

The findings of these studies suggest that there are differences in what types of information processing strategies people are most likely to use based on their generalized locus of control orientation. The information processing strategies used by persons tending toward an internal versus external locus of control seem to differ in how much information seeking the person engages in and how generally attentive the person is in their environment.

The model of information processing of interest in the present study is based on differences in how much time and effort people allocate to information when making a decision. The systematic versus heuristic model of information processing (Chaiken, 1980) suggests that systematic information processing occurs when persons carefully examine all facets of an argument to make a well-informed decision. This type of information processing is similar to central route processing, in Petty and Cacioppo's Elaboration Likelihood Model (ELM) (Eagly & Chaiken, 1993; Petty & Cacioppo, 1984). Heuristic information processing can likewise be compared to peripheral route processing in the ELM. Heuristic processing occurs when a person relies on heuristics or mental shortcuts to make a decision. Heuristic processing requires a great deal less time and cognitive effort than systematic processing, but can also lead to bias. When a person uses heuristic processing, they are more likely to rely on cues such as attractiveness of the speaker or simple decision rules such as "experts can be trusted," whereas persons using systematic processing are more likely to focus on argument quality to form their decision (Chaiken, 1980; Eagly & Chaiken, 1993).

Based on the research cited above, one hypothesis of the present study is that

persons with a more internal locus of control will tend to engage in more systematic information processing, and persons with a more external locus of control will tend to engage in more heuristic information processing.

Hypothesis 1. Locus of control will predict mode of information processing, such that those with a more internal locus of control will be tend to engage in more systematic processing, and those with a more external locus of control will tend to engage in more heuristic processing.

Locus of Control and Intergroup Attitudes

Attitudes Toward the Out-Group

Previous studies have also established a relationship between locus of control and intergroup attitudes, or attitudes held by people regarding groups they belong to (in-groups) and regarding groups they do not belong to (out-groups). For example, Powell and Gable (1973) found a relationship between locus of control and self-righteous attitudes toward others such that persons with a more internal locus of control were less likely to show self-righteous or hypocritical attitudes towards others than those with a more external locus of control. Additionally, Duckitt (1984) demonstrated that locus of control predicted prejudice, or negative attitudes towards out-groups based on negative traits assumed to be displayed by all members of the group. In other words, those with a more external locus of control reported being more threatened by and less tolerant of persons who are different from them, whereas those with a more internal locus of control

reported being less threatened and more tolerant of persons who are different from them. The authors of these studies proposed that the relationship between locus of control and intergroup attitudes can be explained via an ego-defensive function. Because individuals with a more external locus of control do not have a sense of mastery over their environment (i.e. feel helpless in their environment), they have low self-esteem and feelings of insecurity as compared to those with a more internal locus of control. Consequently, those with a more external locus of control may stereotype or base their attitudes toward the out-group on a set of fixed overgeneralizations regarding the group in order to reduce their negative self-affect, which makes them more prejudiced than people with a more internal locus of control (Powell & Gable, 1973).

Hypothesis 2. Locus of control will predict attitudes toward out-groups such that persons with a more internal locus of control will be more tolerant of out-groups, and persons with a more external locus of control will be less tolerant of out-groups.

Attitudes Toward the In-Group

Gore and Rotter (1963) found that persons tending towards an internal locus of control were more likely to commit themselves to social action such as the Civil Rights Movement than persons tending toward an external locus of control. This suggests a relationship between locus of control and in-group attitudes. Persons with a more internal locus of control appear to believe that they can affect change in their environments, including change within groups to which they belong, whereas persons with a more external locus of control do not believe that they can affect change in their

environments. Thus, the present study proposes that these differences in perceived control will be related to how persons view their in-groups.

It is predicted that because they believe that they can change their group, persons with a more internal locus of control will be more likely to criticize their group, with the goal of changing it for the better. Persons with a more external locus of control, however, because they do not believe that they can affect change within their group, will be more likely to accept things the way they are and will unquestioningly accept the group for what it is rather than trying to improve it.

Hypothesis 3. Locus of control will predict attitudes toward in-groups such that persons with a more internal locus of control will be more likely to criticize their group with the goal of changing it for the better, whereas persons with a more external locus of control will be less likely to criticize their group.

The Present Study

The present study proposes an alternative explanation for the relationship between locus of control and intergroup attitudes to that proposed by previous research (Duckitt, 1984; Powell & Gable, 1973). It is expected that persons with a more external locus of control should have more negative out-group attitudes than those with a more internal locus of control because they tend to process information more heuristically whereas persons with a more internal locus of control tend to process information more systematically.

Persons with a more internal locus of control appear to allot greater attention to

relevant information in their environments than persons with a more external locus of control (Lefcourt, 1992; Lefcourt, Gronnerud, & McDonald, 1973; Seeman & Evans, 1962). That is, persons who believe that they can make an impact on their environment should be more likely to search for ways in which to do so, whereas persons who believe that their actions will have no impact on their environment should not be motivated to attend to relevant information. Consequently, it is hypothesized that mode of information processing (systematic versus heuristic) will mediate the relationship between locus of control and intergroup attitudes.

Hypothesis 4

Mode of information processing will mediate the relationship between locus of control and intergroup attitudes such that persons with a more internal locus of control will be more tolerant of out-groups and more likely to criticize their in-group because they tend to rely on more systematic information processing strategies, whereas persons with a more external locus of control will be less tolerant of out-groups and less likely to criticize their in-group because they tend to rely on more heuristic information processing strategies.

The two intergroup attitudes of interest in this study are ethnocentrism and patriotism. Ethnocentrism reflects how persons regard the out-group. It is an organized system of beliefs based on the distinction between one's own group and other groups, and involves both an affective and a cognitive component. Ethnocentrism involves negative stereotypes toward the out-group, and the belief that one's own group is superior and

dominant, and that other groups are inferior and submissive (Levinson, 1949).

Patriotism reflects how persons regard their own group (the in-group). Patriotism is characterized by thoughts and feelings of attachment and positive identification with one's country. Schatz, Staub, and Lavine (1999) made the distinction between blind and constructive patriotism. Both types of patriotism involve positive affect towards one's country, but blind patriotism is "a rigid and inflexible attachment to country characterized by unquestioning positive evaluation, staunch allegiance, and intolerance of criticism," whereas constructive patriotism is an attachment to country that involves criticism of the country with the goal of changing it for the better (p. 153).

This study proposes that the mechanism underlying the relationship between locus of control and intergroup attitudes is the difference in generalized information processing tendencies between persons tending towards an internal versus external locus of control. In this model, persons with a more internal locus of control actively seek out information that is relevant to their current situations, so they will have been more likely to use more systematic information processing strategies to make judgments about the September 11th attacks. Persons with a more internal locus of control should be more constructively patriotic than persons with a more external locus of control due to the greater use of systematic processing, carefully scrutinizing all available information before reaching a decision. Additionally, persons with a more internal locus of control should be less likely than persons with a more external locus of control to rely on stereotypes and should be less ethnocentric.

Alternatively, persons with a more external locus of control are expected to have utilized more heuristically based information processing strategies. Several studies have

demonstrated that the more a person tends toward an external locus of control, the more easily they are persuaded by instructions, social pressure, and social reinforcements. For example, Getter (1966) found that persons with a more external locus of control tend to be more suggestible and dependent on cues from others than persons with a more internal locus of control. Crowne and Liverant (1963) found that persons with a more external locus of control were more prone to conformity than persons with a more internal locus of control. These studies support the notion that persons with a more external locus of control are more likely to rely on mental shortcuts to form their decisions. Consequently, persons with a more external locus of control are expected to be more blindly patriotic, that is, to support their country "right or wrong," based on a heuristic decision rule such as "we can trust our leaders to take care of us." Because persons with a more external locus of control appear to use relatively less cognitive processing as compared to persons with a more internal locus of control, persons with a more external locus of control are expected to be more likely to use stereotypes as heuristics for understanding other groups of people, so are expected to be more ethnocentric.

In sum, the main hypothesis of this study is that mode of information processing mediates the relationship between locus of control and intergroup attitudes such that locus of control predicts mode of information processing, which in turn predicts intergroup attitudes (see Figure 1).

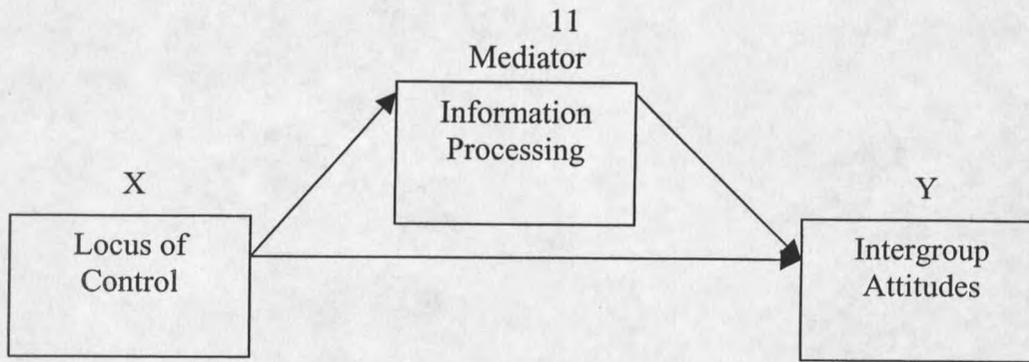


Figure 1. Model of Predicted Relationships Between Locus of Control and Intergroup Attitudes. Mode of Information Processing as the Mediator Between Locus of Control and Intergroup Attitudes.

In addition to the main focus of this study, several additional factors will also be explored to further examine the relationships between locus of control, mode of information processing, and intergroup attitudes. Sidanius and Lau (1989) found an inverse relationship between prejudice and what they called “political sophistication” which includes interest in politics, knowledge about politics, and information seeking regarding politics. The present study will incorporate measures of political interest and information seeking to replicate their findings. It is predicted that political interest and information seeking will be positively correlated with constructive patriotism, further supporting the role of mode of information processing in predicting intergroup attitudes from locus of control.

Hypothesis 5

Political interest will be related to constructive patriotism such that persons with higher levels of political interest will show higher levels of constructive patriotism, and persons with lower levels of political interest will show lower levels of constructive

patriotism.

Hypothesis 6

Information seeking will be related to constructive patriotism such that persons who engaged in the most information seeking will show higher levels of constructive patriotism, whereas persons who engaged in the least information seeking will show lower levels of constructive patriotism.

Allport (1954) and Rokeach (1960) suggested that people who hold prejudiced attitudes toward out-groups tend to share personality characteristics that are different from those of people who do not hold prejudiced attitudes toward out-groups. In particular, the "prejudiced personality" is one in which the person has a need for definiteness and dichotomy, and cannot tolerate ambiguity (Allport, 1954). Prejudiced persons are more likely than non-prejudiced persons to be dogmatic, to defend traditional values, and to have a more clearly defined distinction between in-groups and out-groups (Rokeach, 1960). Thus the present study will also include measures of political affiliation and strength of religious conviction to test the hypotheses that persons who are ethnocentric will also be politically conservative and highly religious as compared to persons who show low levels of ethnocentrism. It also follows from the research of Allport (1954) and Rokeach (1960) that persons who are politically conservative and highly religious will show higher levels of blind patriotism than persons who are politically liberal and/or not religious.

Hypothesis 7

Political affiliation will be related to ethnocentrism and blind patriotism such that persons who are more politically conservative will show higher levels of ethnocentrism and blind patriotism, whereas persons who are more politically liberal will show lower levels of ethnocentrism and blind patriotism.

Hypothesis 8

Strength of religious conviction will be related to ethnocentrism and blind patriotism such that persons who are more religious will show higher levels of ethnocentrism and blind patriotism whereas persons who are less religious will show lower levels of ethnocentrism and blind patriotism.

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METHOD

Participants

One hundred ninety one (125 females and 65 males) Introductory Psychology students at Montana State University participated for partial course credit.

Materials

Locus of Control

Generalized locus of control was measured using Rotter's (1966) scale of generalized expectancies for internal versus external locus of control. Participants were presented with 23 pairs of statements. For each pair of statements, participants chose the statement which they more strongly believed to be true.

Situation-specific locus of control was measured using a modified version of Rotter's (1966) scale. For this scale, participants were presented with 15 pairs of statements, and for each pair of statements participants chose the statement which they more strongly believed to be true as regards the events of September 11, 2001.

Mode of Information Processing

Mode of information processing was measured using Schmeck, Ribich, and Ramanaiah's (1977) elaborative processing scale. Participants were presented with 14

statements, and responded on a 7-point scale the extent to which each is true of him or her.

Numerous studies investigating systematic versus heuristic information processing have measured reaction time to determine the amount of systematic processing participants engaged in. The present study was conducted approximately one year after the events of September 11th, so a latency measure would have been inappropriate because the information seeking participants engaged in took place immediately after the event. The information processing measurement scale used in the present study (Schmeck, Ribich, & Ramanaiah, 1977) was specifically aimed toward how students learn, especially in terms of their elaborative processes during the encoding of new information. The scale distinguishes between people who take an active approach in the processing of new information and those who take a more passive role. It also distinguishes between persons' habitual use of "deep" or "shallow" processing strategies (Craik & Tulving, 1975). Thus the elaborative processing measure of Schmeck et al. (1977) appears to be an appropriate measure of systematic versus heuristic processing, which is based on differences in time and effort allocated to information processing.

Participants also reported how much information seeking they did in the aftermath of September 11th. Participants were asked open-ended questions regarding how much news they pursued on television, on the internet, and in newspapers, both during a normal week and during the aftermath of September 11th. The items measuring information seeking were presented with the demographic questions at the end of the questionnaire.¹

Intergroup Attitudes

Ethnocentrism was measured using Levinson's (1949) ethnocentrism and attitudes towards minorities scale, modified to examine attitudes towards persons of Middle-Eastern decent (the scale originally measured attitudes toward Blacks, Jews, and Hispanics). The scale consists of 12 statements; participants rated each statement on a 7-point scale anchored from 1 (*strongly disagree*) to 7 (*strongly agree*).

Patriotism was measured using Schatz, Staub, and Lavine's (1999) blind versus constructive patriotism scale. Participants indicated on 7-point scales anchored from 1 (*strongly disagree*) to 7 (*strongly agree*) their agreement with each of 18 items.

Demographic Questionnaire

Participants also indicated their age, sex, and education level. Political affiliation, level of interest in politics, and strength of religious conviction were also measured on 7-point scales. Please refer to the appendix to see a complete list of the questionnaire items.

Procedure

Participants signed up for the study in groups of eight and completed all measures on personal computers in separate cubicles. Participants completed each scale, (Rotter's (1966) I-E scale, a version of Rotter's scale modified specifically to reflect locus of control as regards the events of September 11th, Schmeck et al.'s (1977) elaborative processing scale, a measure of information seeking in regards to the events of September

11th, Levinson's (1949) modified ethnocentrism scale, and Schatz et al.'s (1999) blind vs. constructive patriotism scale). To eliminate possible order effects, the scales and the items within each scale were presented to participants in random order. Demographic questions and questions about information seeking regarding September 11th were presented to participants after the other measures were completed. After completion of the questionnaires, participants were thanked, debriefed, and excused.

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RESULTS

Scale Scores

Rotter's (1966) scale measured generalized locus of control. The number of external choices made by the participant were summed, yielding a locus of control score in which a higher score reflected greater externality. For each item, the internal choice was coded as 1, and the external choice was coded as 2. The items were summed, yielding a score ranging from 23 (most internal) to 46 (most external). The mean score was 34.07 ($SD = 3.85$). Reliability analysis of Rotter's (1966) scale yielded Cronbach's $\alpha = .70$.

The revised scale measuring situation-specific locus of control was scored using the same method as the Rotter (1966) scale, and yielded a score ranging from 15 (least external) to 30 (most external). Reliability analysis yielded Cronbach's $\alpha = .41$. Four items with a item-total correlation of $r < .1$ were removed, yielding Cronbach's $\alpha = .51$. The mean score of the situation-specific locus of control scale was 16.76 ($SD = 2.06$).

For Levinson's (1949) ethnocentrism and attitudes towards minorities scale, several items had to be reversed-scored such that for all items a higher rating indicated greater ethnocentric sentiment. The ratings for the 12 items were then summed, creating a score ranging from 12 (least ethnocentric) to 84 (most ethnocentric). The mean score was 35.40 ($SD = 12.85$). Reliability analysis of the scale yielded Cronbach's $\alpha = .84$.

For Schatz, Staub, and Lavine's (1999) blind versus constructive patriotism scale, two scores were obtained, a blind patriotism score and a constructive patriotism score. Twelve items were summed to yield a blind patriotism score ranging from 12 (least

blindly patriotic) to 84 (most blindly patriotic). The remaining six items were summed to yield a constructive patriotism score ranging from 6 (least constructively patriotic) to 42 (most constructively patriotic). For blind patriotism, the mean score was 39.84 ($SD = 12.49$). Reliability analysis of this subscale yielded Cronbach's $\alpha = .84$. For constructive patriotism, the mean score was 33.35 ($SD = 4.84$). Reliability of this subscale yielded Cronbach's $\alpha = .68$.

For Schmeck, Ribich, and Ramanaiah's (1977) elaborative processing scale, higher ratings reflected more elaborative processing, and lower ratings reflected less elaborative processing. The 14 items were summed, yielding a score ranging from 14 (least elaborative processing) to 98 (most elaborative processing). The mean score was 69.18 ($SD = 10.94$). Reliability analysis of the scale yielded Cronbach's $\alpha = .78$.

Locus of Control Predicting Intergroup Attitudes Mediated by Mode of Information Processing

In the present study, locus of control was expected to predict intergroup attitudes, mediated by mode of information processing. There were two different measures of locus of control, one as a generalized expectancy and the other as specific to the situation, in this case relating to the September 11th attacks and their aftermath. There were three different measures of intergroup attitudes. Attitudes toward the in-group were measured as blind patriotism and as constructive patriotism. Attitudes toward the out-group were measured as ethnocentrism regarding persons of Middle-Eastern decent. Several series of regressions were conducted to test the model, using the procedures outlined by Baron and Kenny (1986).

Locus of Control as a Generalized Expectancy

The first series of regressions was conducted to test whether generalized locus of control predicted constructive patriotism, mediated by mode of information processing. Rotter's (1966) generalized locus of control did predict Schatz et al.'s (1999) constructive patriotism as hypothesized ($\beta = -.16, p < .05$), such that higher external locus of control scores predicted lower constructive patriotism scores. For step 2, another regression was conducted to test whether generalized locus of control predicted mode of information processing. Rotter's (1966) generalized locus of control did predict Schmeck et al.'s (1977) elaborative processing as hypothesized ($\beta = -.23, p < .001$), such that lower external locus of control scores predicted higher elaborative processing scores. To test for mediation, in step 3 another regression was conducted, in which Rotter's (1966) generalized locus of control and Schmeck et al.'s (1977) elaborative processing were entered simultaneously as predictors of constructive patriotism. The relationship between locus of control and constructive patriotism was eliminated when controlling for the effects of mode of information processing as hypothesized ($\beta = -.10, z = 2.36, p < .05$), indicating that mode of information processing completely mediated the relationship between locus of control and constructive patriotism. That is, persons with a more internal locus of control showed higher levels of constructive patriotism than persons with a more external locus of control due to the tendency of persons with a more internal locus of control to process information more systematically. Persons with a more external locus of control showed lower levels of constructive patriotism than persons with a more internal locus of control due to the tendency of persons with a more external locus

of control to process information more heuristically.

Two additional series of regressions were conducted to test whether generalized locus of control predicted blind patriotism, mediated by mode of information processing, and to test whether generalized locus of control predicted ethnocentrism, mediated by mode of information processing. Neither model was significant. Generalized locus of control did not predict blind patriotism ($\beta = .09, ns$) or ethnocentrism ($\beta = .08, ns$).

Locus of control as Situation-Specific

The first of this series of regressions was conducted to test whether situation-specific locus of control predicted blind patriotism, mediated by mode of information processing. Situation-specific locus of control did predict Schatz et al.'s (1999) blind patriotism ($\beta = .16, p < .05$), such that higher external locus of control scores predicted higher blind patriotism scores. For step 2, another regression was conducted to test whether situation-specific locus of control predicted mode of information processing. Situation-specific locus of control did not predict Schmeck et al.'s (1977) elaborative processing ($\beta = -.03, ns$).

Two additional series of regressions were conducted to test whether situation-specific locus of control predicted constructive patriotism, mediated by mode of information processing, and to test whether situation-specific locus of control predicted ethnocentrism, mediated by mode of information processing. Neither model was significant. Situation-specific locus of control did not predict constructive patriotism ($\beta = -.05, ns$) or ethnocentrism ($\beta = -.04, ns$), and as previously stated, situation-specific

locus of control did not predict mode of information processing.

Other Relationships Between Variables of Interest

In addition to the regression analyses, several correlations were also conducted to further explore the relationships between locus of control, information processing, intergroup attitudes, and other variables of interest. Participants were asked several demographic questions at the end of the questionnaire, including their level of interest in politics, their political affiliation (conservative or liberal) and the strength of their religious or spiritual conviction, all measured on 7-point scales. Table 1 provides a display of the intercorrelations between the variables. Some of the correlations of note include significant relationships between political interest and information processing, ($r = .24, p < .001$) political interest and constructive patriotism, ($r = .26, p < .001$) political interest and blind patriotism, ($r = -.12, p < .10$) blind patriotism and ethnocentrism, ($r = .53, p < .001$) constructive patriotism and ethnocentrism ($r = -.15, p < .05$) blind patriotism and political liberalism, ($r = -.41, p < .001$) and blind patriotism and religious/spiritual conviction ($r = .17, p < .001$).

Table 1.

Correlations Between Locus of Control, Information Processing, Intergroup Measures, and Other Exploratory Measures

Measure	Mean	SD	1	2	3	4	5	6	7	8	9
1. Generalized locus	34.07	3.85	--								
2. Specific locus	16.76	2.06	.384**	--							
3. Information processing	69.18	10.94	-.229**	-.034	--						
4. Blind patriotism	39.84	12.49	.093	.162*	-.098	--					
5. Constructive patriotism	33.35	4.84	-.160*	-.045	.283**	-.165*	--				
6. Ethnocentrism	35.40	12.85	.080	-.039	-.070	.528**	-.151*	--			
7. Political interest	4.19	1.69	-.082	-.118	.237**	-.116	.261**	-.038	--		
8. Political affiliation	3.82	1.65	.037	-.053	.089	-.409**	-.098	-.309**	.073	--	
9. Religious conviction	4.92	1.80	.007	-.013	.046	.166*	.234**	.025	-.050	-.354**	--

* $p < .05$. ** $p < .001$

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DISCUSSION

It was hypothesized that both generalized and situation specific locus of control would predict all three intergroup attitudes, mediated by mode of information processing. Only one of the mediation models was significant. Generalized locus of control did predict constructive patriotism, and was completely mediated by mode of information processing.

Previous studies have shown that a person's generalized locus of control orientation is a predictor of several attitudes, behaviors, and cognitive processes. For example, it has been shown that persons with a more external locus of control tend to encode information more superficially than persons with a more internal locus of control (Thal, Harris, & Stock, 1983). Persons with a more external locus of control also respond more favorably to general than specific information when preparing for surgery whereas persons with a more internal locus of control respond more favorably to specific than general information before surgery (Auerbach, Kendall, Cuttler, & Levitt, 1976). In addition, persons with a more external locus of control appear to be less able than persons with a more internal locus of control to attend to relevant stimuli while disregarding irrelevant stimuli (Berggren, Öhman, & Fredrikson, 1977). Persons with a more internal locus of control also appear to organize incoming stimuli to a greater extent than persons with a more external locus of control (Bartel, Ducette, & Wolk, 1972). This suggests that there are differences in information processing tendencies depending on one's generalized locus of control orientation, which was supported in the present study (hypothesis 1 was supported).

Also found in the present study was a relationship between locus of control and constructive patriotism (hypothesis 3 was supported). Constructive patriotism involves criticism of one's country with the goal of changing it for the better. It makes sense that persons who believe that they can control the events in their lives would be more likely to develop and voice their own ideas about how to improve their country, whereas persons who believe that they do not have control over the events in their lives would feel powerless to affect change, and thus would not be motivated to take an active role in trying to change their country.

Previous research has found a relationship between locus of control and the tendency toward conformity. Crowne and Liverant (1963) found that persons with a more internal locus of control are less likely to show conformity in an Asch-type situation than persons with a more external locus of control. Getter (1966) and Strickland (1970) found that persons with a more internal locus of control actively resist influence from other people, especially if the influence is subtle rather than blatant. This suggests that persons with a more internal locus of control will refuse to support their country "right or wrong" because to do so would mean that they are conforming to the influence of the government, media, etc. Instead, persons with a more internal locus of control want to form their own ideas about their country, and will resist attempts by others to influence them, which was confirmed in the present study by the relationship between locus of control and constructive patriotism. Lefcourt (1992) suggested that the reason that persons with a more external locus of control are more likely to conform than persons with a more internal locus of control is that persons with a more external locus of control are more influenced by the environment than persons with a more internal locus of

control because persons with a more internal locus of control seem to have an internal monologue, but persons with a more external locus of control do not, which forces them to rely more on environmental cues.

The relationship between locus of control and constructive patriotism was completely mediated by mode of information processing (hypothesis 4 was supported). Based on the research cited above, it appears that persons with a more internal locus of control are more likely to seek out and attend more closely to relevant information than persons with a more external locus of control so that they can form their own ideas rather than allowing themselves to be influenced by others. Persons with a more external locus of control, on the other hand, should not be motivated to seek out information or attend closely to it because they perceive themselves to be helpless to change outcomes in their lives, and therefore the information they receive is irrelevant, because they believe that they are unable to use the information to change the outcomes in their lives. Perhaps the increased cognitive activity and attention to information that persons with a more internal locus of control engage in leads them to be more knowledgeable about their country, which causes them to be more constructively patriotic, or to believe that they have the ability to change their country for the better. The relationship may also be bi-directional. A person's belief that their government is not inherently correct may lead them to engage in more information seeking and information processing, which could influence their generalized locus of control orientation.

The present study also found a significant relationship between the situation-specific locus of control scale and blind patriotism, such that higher external locus of control scores predicted higher blind patriotism scores (additional support for hypothesis

3). Stated differently, persons who thought that they were in control regarding the events of September 11 were less likely to show blind patriotism than those who did not think they were in control. As noted previously, persons with a more external locus of control display a greater tendency to conform than those with a more internal locus of control (Getter, 1966; Strickland, 1970; Crowne & Liverant, 1963). Blind patriotism is defined by unquestioning, obedient allegiance to one's country, which is analogous to political conformity.

The lack of other significant results for the situation-specific locus of control scale may be due to flaws in the scale. The scale was a modified version of Rotter's (1966) generalized locus of control scale, and may not have adequately measured locus of control as specific to the events of September 11, 2001. Reliability analysis of the situation-specific locus of control scale yielded a low reliability coefficient ($\alpha = .41$), and even after removing items with low item-total correlations, the reliability coefficient was still relatively low ($\alpha = .51$).

In terms of the patriotism measures, the constructive patriotism construct was significantly related to mode of information processing, but the blind patriotism construct was not. This may be due to the nature of the two constructs. Blind and constructive patriotism were not two opposite ends of a continuum, but rather two separate constructs. Constructive patriotism involves attachment to the country accompanied by criticism with the goal of changing the country for the better, whereas blind patriotism involves attachment to the country with no tolerance of criticism. Future research should further examine the blind and constructive patriotism constructs. One possibility that the present study explored was that the opposite of constructive patriotism may be apathy, and a

significant correlation between constructive patriotism and political interest supports this idea. It makes sense that a person with a more internal locus of control will feel that they have the power to produce change, and would thus be more likely to show constructive patriotism. But how does information processing play a role? Persons with a more internal locus of control, since they believe that they can change the outcomes in their lives, are motivated to seek out and attend closely to relevant information so they can make an informed decision. Persons with a more external locus of control, however, believe that they cannot change the outcomes in their lives, so information seeking and attention to information is irrelevant, and they are not motivated to do so.

There were several correlations conducted apart from the regression analyses to further explore the relationships between the various factors (refer to Table 1). Political interest was significantly related to both the information processing measure and the constructive patriotism measure (hypothesis 6 was supported). This is further support for the role of differences in information processing tendencies in the relationship between locus of control and constructive patriotism. People who are not interested in politics are the same people who score low on the constructive patriotism scale, and it should also be noted, tend to score higher on the blind patriotism scale ($r = -.12, p < .10$).

Schatz, Staub, and Lavine (1999) suggested that blind patriotism, with its emphasis on maintaining the status quo, may be related to ethnocentrism, which tends to involve the preservation of traditional values. A significant correlation between the two measures supports this idea. Additional support comes from Allport, (1954) who said that "much prejudice is a matter of blind conformity with prevailing folkways" (p. 12). Allport found that people who are politically conservative tend to defend traditional

values, and are more likely to scapegoat and blame out-groups for society's ills. Schatz et al. (1999) also suggested that blind patriotism may be related to political conservatism, which was also supported by the results of the present study (hypothesis 7 was supported). Levinson (1949) found a significant correlation between "pseudo-patriotism" and his overall ethnocentrism measure ($r = .75, p < .05$), and suggested that persons holding ethnocentric ideologies tend to also think in terms of rigid stereotypes, express authoritarian ideologies, and reject what is different or does not fit into their value system. They also tend to approach persons different from themselves with doubt, distance, and rejection, rather than with curiosity, interest, and receptivity, as would persons lacking strong ethnocentric attitudes. This rejection of out-groups (and perceived threat from out-groups) is generalized to all groups that the ethnocentric person doesn't identify with, along with a sharp in-group/out-group distinction (Levinson, 1949).

Blind patriotism was also related to strength of religious or spiritual conviction (hypothesis 8 was supported). Rokeach (1960) suggested that people fall along a continuum between "open" and "closed" systems of belief, and that people with a closed belief system are more likely to be dogmatic, politically conservative, ethnocentric, and would likely have included blindly patriotic as well. Future research should include a measure of open versus closed belief systems to further explore these relationships. The relationship between blind patriotism and ethnocentrism should also be further explored. Both constructs seem to involve an element of closed-mindedness and need for dichotomization, which is supported by previous research (Allport, 1954; Rokeach, 1960). It should, however, be noted that strength of religious/spiritual conviction was also significantly correlated with constructive patriotism, which demonstrates that the

relationship between religion and belief systems is not clear-cut.

Ethnocentrism was not significantly related to locus of control or mode of information processing (hypothesis 2 was not supported). One possible explanation involves the different ways in which the construct can manifest itself. Pettigrew and Meertens (1995) made a distinction between subtle and blatant prejudice. Subtle prejudice involves the defense of traditional values, exaggeration of cultural differences, and denial of positive emotions toward the out-group, whereas blatant prejudice involves perceived threat and rejection of the out-group and opposition to intimate contact with the group. People who are subtly prejudiced believe that they are egalitarian, and need to have justifications for the prejudiced attitudes they hold, whereas blatantly prejudiced individuals need no justification for their attitudes. The present study used a subtle ethnocentrism measure, in which the items are framed such that participants can show rejection of minorities in socially acceptable ways, such as for economic rather than prejudicial reasons. Levinson's (1949) scale was constructed such that the items were "pseudo-democratic," involving qualifying phrases such as "Some of my best friends are colored, but..." (p. 20-21). Perhaps the items, despite being of a subtle nature, were still too blatantly intolerant of minorities for participants to identify with the statements or feel comfortable answering honestly if they did agree with the statements. It also should be noted that the ethnocentrism scale used in the present study was modified from Levinson's (1949) attitudes toward minorities subscale, which asked questions about African-Americans, to a measurement tool reflecting attitudes toward persons of Middle-Eastern origin. It may be that the scale was not sensitive to that particular ethnic group.

Ethnocentric attitudes can also be measured using an implicit attitudes measure.

Implicit attitudes are unarticulated and automatic, and the person may have implicit ethnocentric attitudes but explicitly believe in egalitarian values (Levy, Plaks, & Dweck, 1999). One shortcoming of self-report measures is that the person may not be consciously aware that he or she holds ethnocentric attitudes or may misrepresent his or her true attitudes in order to reflect what is perceived as socially acceptable attitudes. In the present study, the participants' showed low levels of ethnocentrism. The midpoint of Levinson's ethnocentrism scale was 48, but eighty percent of participants scored below the midpoint. It could be argued that the obtained ethnocentrism levels were low because of the nature of the measuring tool. Future research should incorporate an implicit attitudes measure to uncover participants' unconscious attitudes towards persons of Middle-Eastern descent, to explore whether underlying ethnocentric attitudes would be significantly related to locus of control and information processing. After September 11th, it became somewhat socially acceptable in the United States to hold ethnocentric attitudes towards persons of Middle-Eastern origin; for example there were many incidents of hate crimes perpetrated towards persons with Middle-Eastern heritage (Schevitz, 2002) and several religious leaders spoke out publicly against Islam, (Threats and Responses, 2002) so it was assumed that self-presentation would not be an issue in the ethnocentrism measure of the present study. Perhaps people did not believe that having ethnocentric attitudes towards persons of Middle-Eastern heritage was socially acceptable, or too much time had elapsed between September 11th and the collection of data, such that it was no longer socially acceptable to hold ethnocentric attitudes towards persons of Middle-Eastern origin.

It is also possible that the ethnocentrism scale was valid, but that mode of

information processing was irrelevant in forming attitudes towards persons of Middle-Eastern origin. Research on the systematic-heuristic information processing model has suggested that even when a person sets out to systematically analyze all relevant data, they may be biased by their expectations; and thus will be selective about what information they attend to or how they weight that information (Chen & Chaiken, 1999; Eagly & Chaiken, 1993; Chaiken, Liberman, & Eagly, 1989). If this was the case, regardless of whether persons used systematic processing or stereotypes as heuristics, the resulting attitudes would be the same. In other words, persons attempting to systematically analyze information about persons of Middle-Eastern heritage may have been influenced by their prior beliefs and expectations when attending to the information, which would have caused them to be selectively attentive to the information that confirmed their prior beliefs, and this selective attention would have prevented them from forming an unbiased attitude toward persons of Middle-Eastern descent.

Another explanation for the lack of a significant relationship between ethnocentrism and locus of control or mode of information processing is that given by Powell and Gable (1973). That is, the relationship between locus of control and intergroup attitudes is due to an ego defense, and persons with a more external locus of control are prejudiced because they have low self-esteem and tend to scapegoat to reduce their negative self-affect. It may also be true that different processes are responsible for the relationship between locus of control and intergroup attitudes depending on the situation or context. This would mean that in some cases, such as with the relationship between locus of control and constructive patriotism, mode of information processing is the mediating factor, whereas in other cases, such as the relationship between locus of

control and ethnocentrism, the ego defense explanation is correct.

Similarly, locus of control predicted constructive patriotism but not ethnocentrism, possibly because locus of control may only influence information processing regarding information relating to the self. Constructive patriotism involves attitudes toward the in-group, whereas ethnocentrism involves attitudes toward the out-group. Seeman and Evan's (1962) study found tuberculosis patients with a more internal locus of control to be more knowledgeable about their disease than tuberculosis patients with a more external locus of control. Perhaps persons with a more internal locus of control do not believe that they can control events that are not related to them personally, and the locus of control construct is not related to information processing in all situations.

One weakness of the present study that proved problematic was the nature of the six questionnaire items regarding information seeking behavior after September 11th. These items included questions such as how many newspapers participants read each week, and were open-ended such that participants could respond however they wished. By leaving the responses open, much of the data had to be discarded, (for example, some participants responded with "a lot," which cannot be quantified) and it is possible that there would have been significant results with this measure if participants had to choose from a list of responses. Future research should use forced-choice responses on the information-seeking measures.

Future research should also further explore the locus of control construct. Locus of control was a popular research topic in the 1960's and 1970's, but relatively few studies have examined locus of control during the past 20 years. There were several studies in the 1970's that showed that a person's generalized locus of control is a

predictor of what types of information they respond best to (Auerbach, Kendall, Cuttler, & Levitt, 1976) or how they react to stressful situations (Anderson, 1977; Glass, 1977). Strickland (1978) outlined several studies investigating the relationship between locus of control and health-related attitudes and behaviors. These studies suggest that people will respond better to different types of information or different coping strategies depending on their generalized locus of control orientation, and could have profound implications in terms of how to help people better manage their lives.

Future research should also incorporate an implicit prejudice measure into the study, which may produce a significant relationship between ethnocentrism and locus of control or mode of information processing. There was a small but significant correlation between constructive patriotism and ethnocentrism, which suggests that perhaps increasing a person's ability or desire to engage in critical thinking may reduce their levels of ethnocentrism, which would have profound implications in terms of inducing systematic processing to reduce levels of ethnocentrism. It has been suggested that people cannot change their implicit attitudes, but they can control their use of them when making decisions (Fiske, 1995). Heuristic processing seems to be the strategy used by people when they have low motivation, time pressure, or are cognitively busy and cannot allocate the resources needed for systematic processing (Bargh, 1994). Most people do not want to see themselves as prejudiced, and if they are made aware of the circumstances under which they are likely to fall back on stereotypes, they can attempt to increase time, motivation, etc. to avoid stereotyping and thus reduce discriminatory attitudes or actions.

In conclusion, the main finding of the present study was that in some situations,

mode of information processing was indeed the factor responsible for the relationship between locus of control and intergroup attitudes, but in other situations, other factors may be responsible for the relationship. Future research should attempt to discover what those other factors may be, to further our understanding of attitude formation regarding attitudes toward other persons or groups.

