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ABSTRACT

This study investigated the effects of college students' actual, rather than manipulated, perception of control along with expressive instruction, as they relate to cognitive and emotional aspects of academic achievement. In a simulated college classroom study, 228 male and female introductory psychology students at the University of Manitoba wrote an aptitude test and were classified into Perceived Control (low, high) categories based on perceptions of control over performance. Students also completed the Multidimensional Multiattributional Causality Scale, which assesses students' locus of control, and were classified into Internals and Externals, thereby forming a 2x2 factorial design. Students were then presented with either low or high expressive instruction, completed a post-lecture achievement test, and post-achievement questionnaire. Student perceptions had an effect on achievement outcomes and effects in both expressive instructional conditions. Incongruent perceptions of control, as demonstrated by externals with high perceptions of control, identified the at-risk students. High Perceptions of control for externals did not correspond to their attributions (low ability and high luck) responses indicating a lack of personal responsibility. Student affect, as defined by anger, was most prominent among low control internals and least among high control internal under low expressive instruction. Contains 15 references and 6 figures. (JB)

Key Factors for College Student Achievement, Cognition, Affects, and Motivation: Student Locus of Control and Quality of Instruction

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ABSTRACT

Instruction is receiving increasing attention from cognitive and educational researchers regarding its impact in the college classroom. Recently, research has demonstrated that students' manipulated perceptions of control, can impede or enhance the benefits of one effective teaching behavior, namely instructor expressiveness. The present study investigated the effects of students' actual perception of control, rather than their manipulated perceptions, along with expressive instruction, as they relate to cognitive and emotional aspects of academic achievement. In a simulated college classroom study, students wrote an aptitude test and were classified into Perceived Control (low, high) categories based on perceptions of control over performance. Furthermore, students completed the MMCS Locuse of Control Scale and were divided into Internals and External, thereby forming a 2 x 2 factorial design. Students were then presented with either low or high expressive instruction, completed a post lecture achievement test, and post achievement questionnaire. Student perceptions had an effect on achievement outcomes and affects in both expressive instructional conditions. These results are discussed in relation to the achievement-enhancing effect of expressive instruction.

Key Factors for College Student Achievement, Cognition, Affects, and Motivation: Student Locus of Control and Quality of Instruction

Individual differences manifested by students in the college classroom present a major challenge for educators. Particularly, characteristics that place students at risk academically (McKeachie et al., 1986). For some of these academically-at-risk students, effective teaching compensates for their maladaptive learning orientation by enhancing their achievement performance. However, for others, effective teaching has little or no facilitative influence on their learning (Perry 1991). The purpose of the present study was to investigate the effect of quality of instruction on academically-at-risk versus mastery students' achievement, cognition, affects, and motivation. More specifically, the focus was to explore why certain students are less likely to benefit from effective instruction than other. The exploration of such phenomenon addresses some of the questions educators have concerning the improvement of students' learning experience in the college classroom.

Academically-at-risk students are defined as those with maladaptive learning orientations who are unable to benefit from the facilitative effects of "rich" learning environments. Although many different personality and behavioral variables have identified at-risk students, such as attributional patterns, authoritarianism, reflective-impulsive, Type A/B, rigid-flexible, few have demonstrated consistent relationships with achievement and instruction (Cornor & Snow, 1986; Covington & Omelich, 1979; Cronbach & Snow, 1977; McKeachie et al., 1986). Furthermore, only a few have shown the facilitating influence of effective instruction on student variables, particularly students' stable and transient locus of control. For example, stable locus of control, as portrayed by internal and external loci of control (Lefcourt et al., 1979), is predictive of student learning outcomes. Magnusson and Perry (1987) found that external students were less likely to benfit from expressive instruction in comparison to internal students. Furthermore, students with transient perceptions of personal control over their immediate academic performance, benefit more from a high, as compared to a low, expressive instructor (Perry & Dickens, 1984; 1987; Perry & Magnusson, 1987; 1989). In contrast, students who had little control did not demonstrate significant achievement gains when presented with high expressive instruction. According to Perry and Dickens (1984), cognitive, motivational, and emotional deficits associated with loss of control (Abramson et al.,1980) may impair selective attention normally activated by expressive instruction. Thus, students' locus and perceptions of control influence their capacity to engage in the selective attention necessary for academic achievement.

Instructors are exposed to students with diverse differences (see Figure 1). Mastery students approach the classroom with stable perceptions of personal control (i.e.,"I have control over my academic outcomes") and benefit from qualitative instruction, whereas the helpless student (external) enters the learning environment with a maladaptive learning orientation (i.e., "Significant

others, fate, or environment control my academic outcomes"). Both students may experience temporary events that may lower their transient perceptions of control (i.e., such as surprise quizzes, poor lecture presentation). Given the paucity of research literature on the interaction effects of stable and transient student control, the focus of the present study was to investigate the outcomes related to these perceptions under low and high expressive instruction. As portrayed by Figure 1, mastery students (internals) regardless of their transient perception of control (low or high), were expected to perform well because of the adaptive learning associated with internality. However, given the composite effect of the maladaptive learning orientations associated with both externality (stable) and low perceptions of control (transient) low control externals were expected to be at greatest risk academically. High control externals, on the other hand, because of the adaptive learning orientation associated with the transient perception of control, were thought to do better than the low control externals. As an extension of previous research, students' attributions, affects, and motivation were also investigated.

Insert Figure 1 about here

PROCEDURE and METHODS

228 male and female introductory psychology students at the University of Manitoba participated in the study. Experimental sessions were randomly assigned after participants selected session times.

Participants, in groups of 20-25, completed the Multidimensional Multiattributional Causality Scale (Lefcourt et al., 1979), which assesses students' locus of control. This scale, in comparison to Rotter's Internal-External scale (1979), is more appropriate for use with students in the college classroom given that it relates specifically to academic achievement. Next, students were exposed to an aptitude test manipulation which assimulates student academic achievement performance in a college classroom (Perry & Dickens, 1984). Students were asked to rate on a ten point scale, how much control (transient) they perceived to have over their aptitude performance (0 = no control, 9 = high control).

Following the aptitude test, students were exposed to one of two expressive instruction 25-min. color videotapes. A male psychology professor gave an actual lecture on the topic of gender differences. Both presentations maintained a high lecture content density while the expressiveness of presentation varied (high = humor, voice intonation, eye contact, body movement vs. low = absence of the latter; Perry et al.,1979). The lectures were presented with an Advent 1000A Videobeam Color Projection Unit onto a 2.2 meter diagonal screen to ensure that the presentation was as lifelike as possible. A lecture achievement test, consisting of 30 multiple-choice items derived from the lecture, was administered to assess retention and conceptual understanding of the lecture. Finally, a post-lecture questionnaire was given. Students rated

the extent to which each attribution, ability and luck, determined their postlecture achievement performance on a 10-point scale (0=not at all; 9=entirely) Students also assessed their emotional reaction and motivational response to their test performance on a similar10-point scale.

RESULTS and DISCUSSION

A consistent pattern, contrary to the original hypotheses, emerged on the dependent measures (Bonferroni critical t was 2.50 for all comparisons). External students with high perceptions of control performed poorly under low and high expressive instruction in comparison to externals with low perceptions of control (see Figure 2), t_B's(225)=4.48, 2.94, p's< .05, and internals with low, t_B's(225)=4.11, 4.10, p's< .05, and high perceptions of control, t_B's(225)=3.64, 5.17, p's< .05. Low perceived control in conjunction with external locus of control were not predictive of poor performance as postulated. Rather, it seems that incongruent perceptions of control, as demonstrated by externals with high perceptions of control, identified the at-risk students.

Insert Figure 2 about here

A similar pattern was demonstrated for causal attributions made for performance outcomes. Externals with high perceptions of control made lower attributions to ability for their performance under low expressive instruction, in comparison to internals with high perceptions of control, $t_B(225)=3.29$, $p<$ .05 (see Figure 3). High control externals also made higher atributions to luck under low expressive instruction in comparison to externals with low perceptions of control, $t_B(225)=2.46$, $p<$ .05, and internals with low, $t_B(225)=3.83$, $p<$ .05, and high perceptions of control, $t_B(225)=4.19$, $p<$ .05 (see Figure 4). Ironically, high perceptions of control for externals did not correspond to their attributions, low ability and high luck, responses indicating a lack of personal responsibility.

Insert Figures 3 &4 about here

Student affect, as defined by anger, was most prominent among low control internals and least among high control internals under low expressive instruction $t_B(225)=3.90$, $p<$ .05 (see Figure 5). Finally, student motivation to excel at similar academic tasks in the future was the greatest for low control internals exposed to low expressive instruction as compared to low control externals, $t_B(225)=4.50$, $p<$ .05, high control externals, $t_B(225)=4.47$, $p<$ .05, and high control internals $t_B(225)=2.64$, $p<$ .05 (see Figure 6) No differences were found under the high expressive condition for anger or motivation. These results follow Weiner's attribution model (1985). Internals with low perceptions of control, may have perceived their achievement performance as inadequate, making attributions to ability and less to luck, thereby taking personal responsibility for their performance. Feeling responsible, these

individuals felt more anger, and this affect, in turn, may have motivated these students' desire to do better in the future. However, high control externals, who performed inadequately, took less personal responsibilty for their performance, experienced less anger, and, in turn, were less motivated.

Insert Figures 5 & 6 about here

IMPLICATIONS FOR HIGHER EDUCATION

In conclusion, effective teaching, as defined by expressive instruction, and student difference variables, defined by stable and transient perceptions of control, have important implications for student achievement and achievement related outcomes. In order to improve the quality of higher education for all students, researchers and educational practitioners need to focus not only on teaching effectiveness, but also on student differences, especially an external-high perceived control predisposition The maladaptive learning orientation associated with the latter, requires the concentrated effort of researchers and educators, focused on improving these students' learning orientation with remedial programs that may improve the quality of these students' learning experiences.

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Figure Captions

Figure 1: Interaction of college students' locus of control and perceptions of control.

Figure 2: The interactional effects of perceptions of control by locus of control on student achievement under low and high expressive instruction.

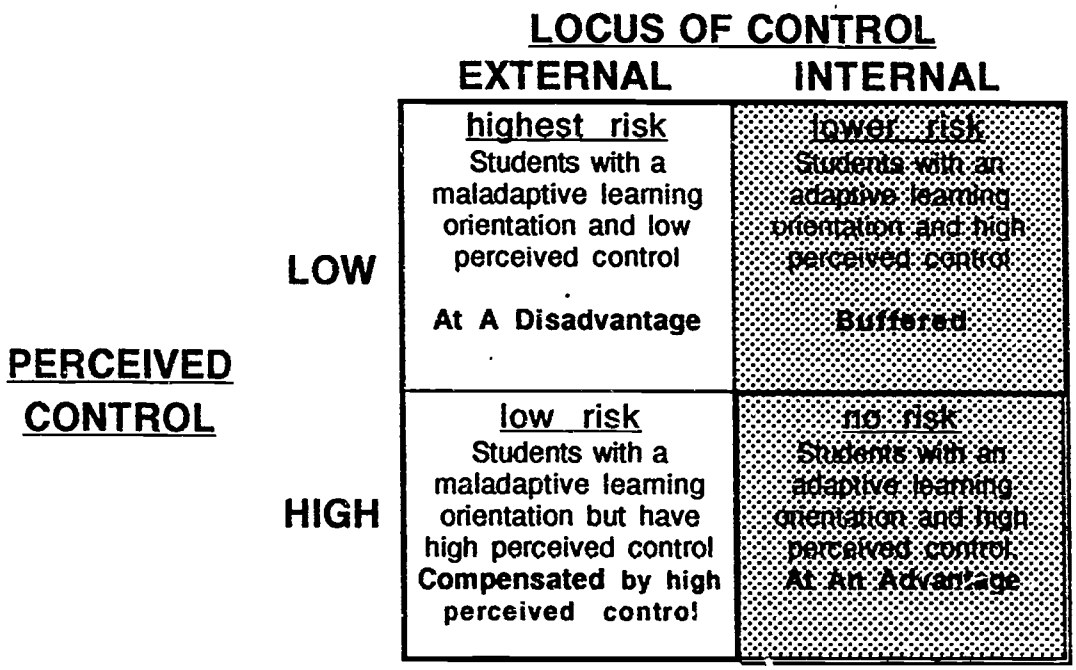
Figure 3: The interactional effects of perceptions of control by locus of control on ability determined under low and high expressive instruction.

Figure 4: The interactional effects of perceptions of control by locus of control on luck determined under low and high expressive instruction.

Figure 5: The interactional effects of perceptions of control by locus of control on anger under low and high expressive instruction.

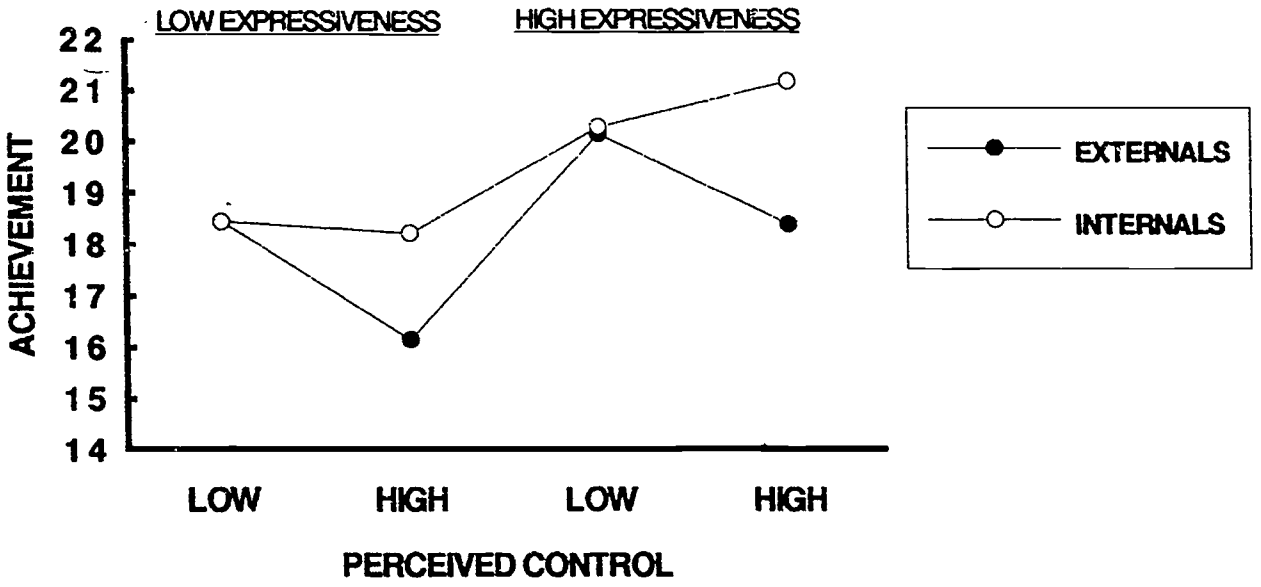
Figure 6: The interactional effects of perceptions of control by locus of control on motivation under low and high expressive instruction.

Instructors are exposed to students with diverse individual differences. Common among college students are their perceptions of control. Along with instructor teaching styles, these student variables may be predictive of students' scholastic outcomes.



These students are educationally at risk and therefore, of concern to educators.

Educators can learn from these students' strengths and attempt to transfer them to the maladaptive learners via remediation programs.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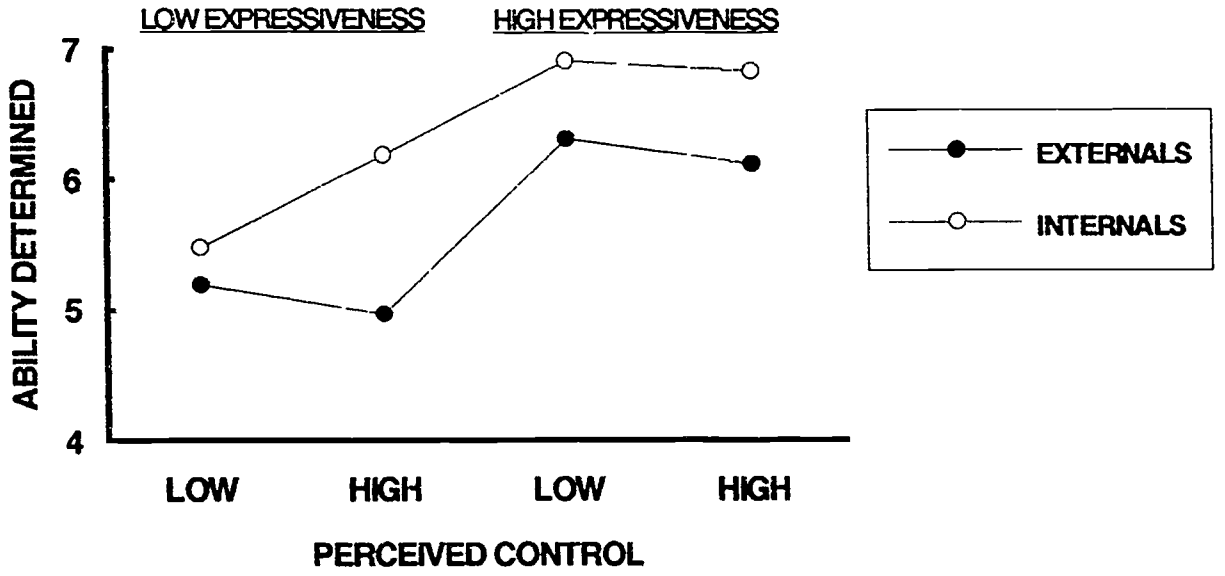
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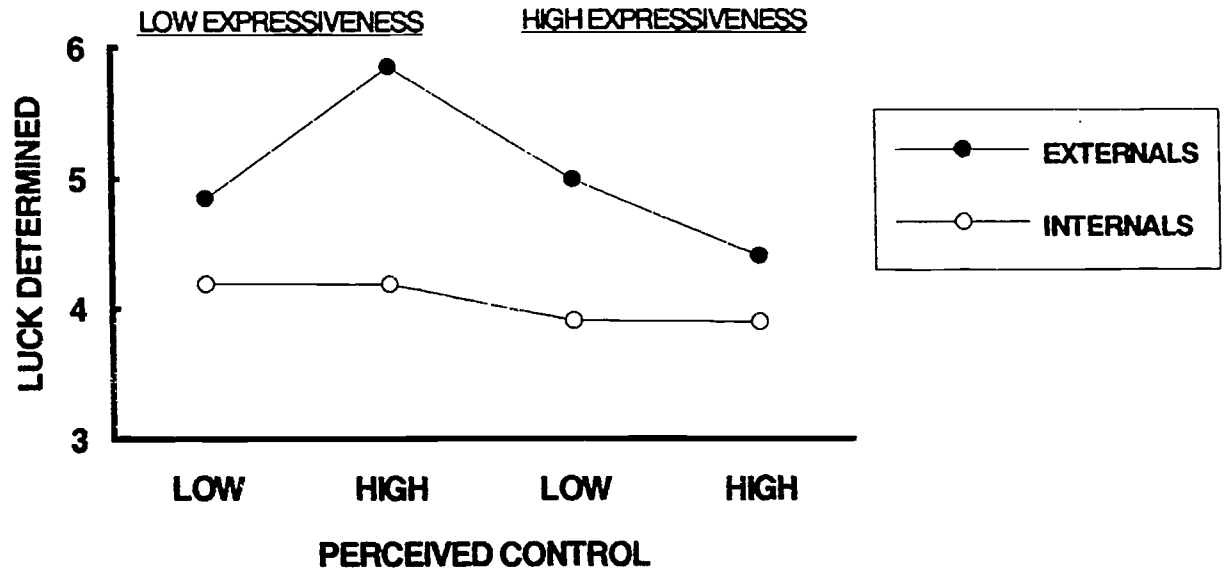
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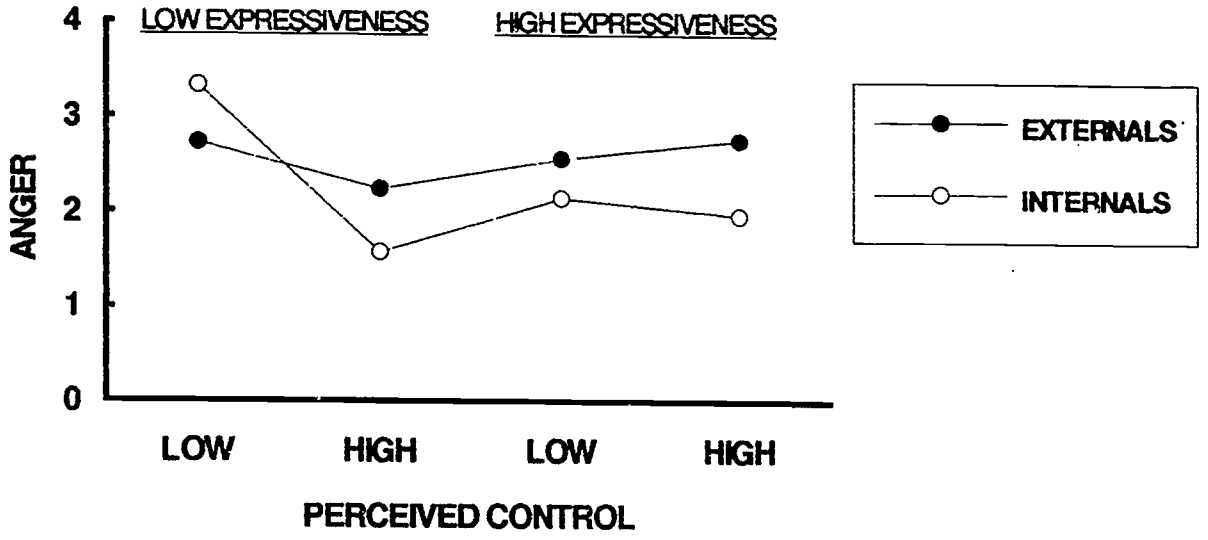
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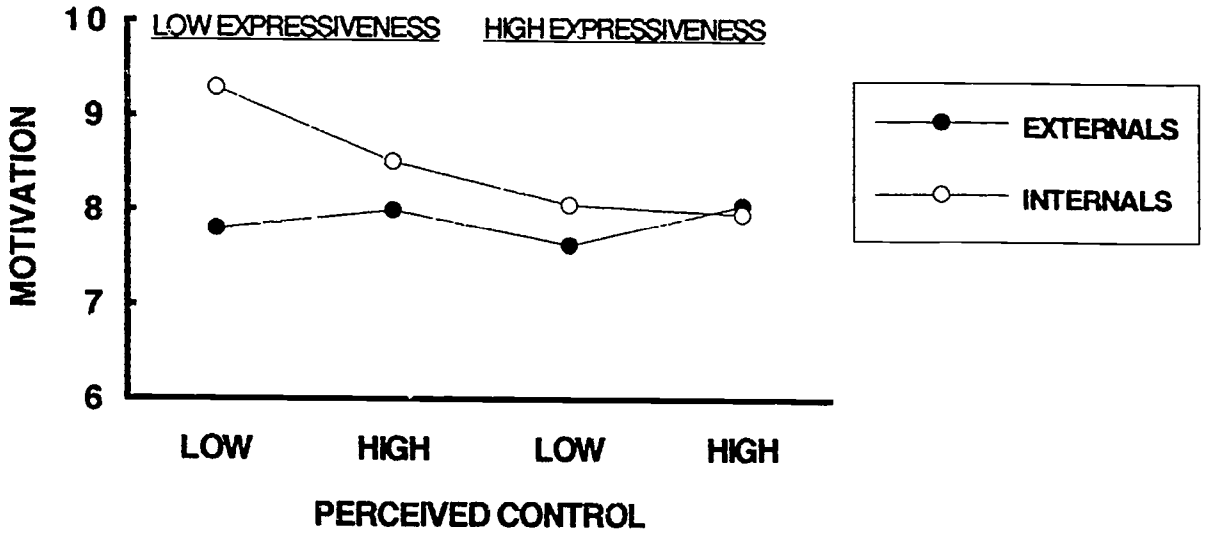
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