

## **Internal versus External Locus of Control: An Analysis of Music Populations**

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*This study investigated the relationship between locus of control and chosen field of music specialization. The Nowicki-Strickland Locus of Control Scale was designed to assess the construct of locus of control and reinforcement, which is defined as the perception of a connection between one's action and its consequences; the version of the scale used in this study was specifically developed and validated for use with college-aged students by Nowicki (2000). This scale was administered to four separate college-aged groups: music therapy majors, music education majors, applied music majors, and nonmusic majors who also had previous music background and were currently enrolled in a formal college music performance organization. Results indicated that there were indeed, differences among these populations with music therapy majors evidencing a significantly lower internal locus of control. Music education majors and nonmajors evidenced a greater internal level and were not significantly different from each other, yet both were significantly different from the music therapy majors. Music performance majors were also significantly lower in internal control compared to the music education and nonmusic majors, but they were not significantly different from the music therapy majors. This entire line of research has a long history and seems advisable to continue with all music populations, especially potential music therapists in order to investigate those aspects of self-perception that may help or hinder therapeutic effectiveness.*

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This study represents an attempt to investigate the relationship between locus of control and chosen field of music specialization.

Locus of control is one's tendency to attribute the consequences of actions to internal or external sources. Music therapy interactions involve all aspects of the therapists' personality including all individual characteristics. One aspect relating to both client and therapist concerns perceived locus of control. Social learning theorists have long advocated that externality is related to psychological maladjustment (Rotter, Chance, & Phares, 1972). Externality has been shown to relate to larger self-ideal discrepancy, a lower self-concept and a lower self-acceptance. Alternately, internal control has been found to relate to greater academic achievement.

While this research has a long history, outside of the excellent work of Asmus (1989), it has not often been applied to music therapists in relationship to other musicians who have shared a good deal of the therapists' past "musical culture." Additionally, the very nature of therapist-client interaction would seem to involve how locus of control might be differentiated among various music populations in order to better understand why people choose the therapy field and in what ways they might be more effective in their interactions with clients.

A great deal of research has been done with locus of control and achievement. Baron, Cowan, Ganz, and McDonald (1974) studied locus of control and found that internal individuals performed better on self-discovery tasks, while external attributers performed better on tasks relying on external feedback. These results were replicated with populations of varying ages. Parent, Forward, Canter, and Mohling (1975) studied the effect of different teaching settings on student performance and found that students evidencing internal control performed better in low discipline settings, while those with an external locus of control performed better in high discipline settings.

A rather detailed example of how perception affects assessment follows. Lord, Umezaki, and Darly (1990) investigated three teacher behaviors' on judged perception of students: (a) feedback to students attributing the student's performance to the student's ability or lack of effort, (b) a teacher's display or lack of display of warmth toward the student, and (c) a teacher either attending or not attending to the student. Subjects were from four age groups: first-second graders, third-fourth graders, fifth-sixth graders, and university students.

The above researchers presented hypotheses of either linear or

multiplicative relationships between perceptions of student characteristics and situational variables. Adults were found to have a linear perception of student performance, the student's ability, and the amount of attention received by the student. In this linear relationship, the variables can be placed in any order, such that the more attention a child receives, the higher the judges' perception of that student's ability and performance. All groups demonstrated this linear relationship for the three variables. The better a student's performance, the higher the student's ability was judged and the more attention the student received. The student that was attended to was rated as smarter, while the one that was not attended to was rated as having lower ability. Younger students were suggested to have a linear perception of performance, ability, and praise, such that the more praise a student received, the higher was the perception of his/her ability. Younger judges rated students receiving warmth from the teacher as smarter. In contrast, older judges had a multiplicative perception of these variables. Ability and praise inversely related, such that for any performance, the more praise a student received, the lower was the judges' perception of their ability. A similar relationship was found among ability, effort, and performance. For older judges, the higher a student's ability, the less effort he/she must contribute to achieve a certain result. Two students received equal scores on an assignment. When students were criticized for lack of effort, they were rated as having higher ability compared to students praised for their ability. Younger judges demonstrated a linear relationship. If a student had high ability, she/he had given greater effort; when teachers criticized students for lack of effort, these students were rated as having lower ability compared to the students who were praised for their ability. It is evident that one's perception of another person may be partially dependent on one's own perception of ability achievement or locus of control (Lord, Umezaki, & Darly, 1990).

Most theories of human motivation and behavior view self-beliefs as being extremely important. Closely related to locus of control issues is attribution theory and Bandura's social cognitive theory of self-efficacy (Bandura, 1986, 1997). In Bandura's work there are four tenets that underpin the theory. The first is *mastery experiences* and includes authentic successful experiences from one's past, the second is *vicarious experience* and involves observing other people's successes and failures perceived as similar in capability. The third

concerns the influence of *verbal persuasions* one receives and the last includes the *physical and emotional states about one's capabilities*. An exemplary qualitative study dealing with mathematic achievement in women indicated that the strongest influence for their career choice came from the *verbal persuasions* of others (Zeldin & Pajares, 2000). Since mathematics is a field dominated by men, these data seem extremely important in investigating under what conditions women persevere. An interesting part of the study indicated that the gender of the person giving the verbal encouragements did not matter. Verbally convincing people that they are indeed capable of accomplishing a particular task is hypothesized as having the greatest effect on those who already believe themselves to be capable and many music therapists often engage in this type of "reaffirming" "validating," and "persuading" by encouraging their clients to do those things of which they are indeed capable. Underlying *self-efficacy* are many issues having to do with perceived locus of control for both the client and therapist.

Indeed, the locus of control construct continues to be one of the most durable as evidenced by its being one of the 10 most cited articles published in the history of the *Psychological Bulletin*. In an attempt to explain the extreme interest that has been shown over the years in the construct, Lefcourt (1992) refers to the varied disciplines that have used it. Asmus has done the most complete work using attribution theory in studying achievement motivation with music populations and has developed many useful models (1985, 1986a, 1986b, 1989). Asmus found that, in an open-ended written scale listing reason for success/failure in music attribute achievement as being more *internal*, younger students indicate that they believe a person has more control over successes in music; as they age, however, their attributions become more externally based and concern aspects out of their control (Asmus, 1986b). In a 1989 study, Asmus investigated music teachers' effect on student motivation and found that effort and musical ability were chief reasons cited for success and failure in music. Teacher effect was also suggested as a possible cause of variations.

In a large-scale study most closely related to the present investigation, Asmus' (1986a) devised an 80-item inventory consisting of three major sections that measured undergraduates and graduates attribution perceptions and success tendency. His populations included students majoring in music therapy, music education, or

dual music education/therapy majors and he assessed various aspects of their attributions of success and failure in various settings. Asmus states that "Music education students have a higher regard of their potential for success in music therapy than do music therapy students or dual majors" (p. 82), and suggests that this could be related to either the naïveté of the education students or their having greater self-confidence. Asmus' most important finding related to the present investigation is that success or failure attributed to self does *not* influence how success or failure is attributed to others.

### Method

The *Nowicki-Strickland Locus of Control Scale* was designed to assess the construct of locus of control (Nowicki, 2000.) Grounded in Rotter's social learning theory, locus of control of reinforcement is an important personality construct (Rotter, Chance, & Phares, 1972). The version of the *Scale* used in this study was specifically developed and validated for use with college-aged students to assess the construct of locus of control of reinforcement, which is defined as the perception of a connection between one's action and its consequences (Nowicki, 2000; Nowicki & Duke, 1974). The scale contains 40 statements concerning these perceptions to which one answers yes or no. Several examples are: Do you feel that most problems will solve themselves if you don't fool with them? Are some people born lucky? Do you feel that most of the time it doesn't pay to try hard because things never turn out right anyway? When you are criticized, does it usually seem it's for no good reason at all? Do you believe that your parents should allow you to make most of your own decisions? Do you feel that the best way to handle most problems is just not to think about them? Do you feel that you have a lot of choice in deciding who your friends are? Do you believe that when bad things are going to happen they are just going to happen no matter what you try to do to stop them? The scale is keyed such that the higher the score, the more external the locus of control.

Effective use of this or any other measurement scale for music therapists would seem to require some form of "validation" with college-aged music therapy students in order to investigate how music therapists may be similar or different from other college-aged students and also from other college music populations. These comparisons may inform potential use of this scale as well as

providing “normative” data for music therapists. The study was accomplished in two phases. The first phase of this study was to assess the *Scale* using different music therapy populations. Four different populations were used representing four different geographical regions of the United States. The analysis of these data indicated that the instrument was psychometrically sound (split-half reliability ranging from .75 to .86; test-retest reliability over a 4-week period was  $r = .817$ ,  $N = 58$ ). Also, there were no significant differences among any of the music therapy groups,  $F(3,122) = .22$ ,  $p > .05$ . There was also no significant difference between any of the music education samples,  $F(3,95) = .19$ ,  $p > .05$ , nor the performance majors  $F(3,89) = .18$ ,  $p > .05$ , nor for the nonmusic majors still playing in an ensemble,  $F(3,97) = .19$ ,  $p > .05$ .

After the initial phase of the study, random equal samples from these same data sets were selected for the current investigation. Samples from the above populations were compared based on external scores from the *Nowicki-Strickland Locus of Control Scale*: 30 music therapy majors, 30 music education majors, 30 applied performance majors, and 30 nonmusic majors with previous music backgrounds currently performing in a university ensemble. Comparisons were then made among these four populations.

### Results

Results of the study indicated that there were, indeed, significant differences among the four populations,  $F(3,116) = 5.29$ ,  $p < .01$ . Subsequent *Newman-Keuls* comparisons\* indicated that there were no significant differences between the music education majors and the nonmusic majors currently performing in an ensemble. There were also no significant differences between the performance majors and the music therapy majors. There were, however, significant differences between the music therapy/performance majors versus the music education/nonmusic majors. The mean number of total external responses for these various groups was as follows:

Music Education	Nonmusic	Performance	Music Therapy
<u>7.23</u>	<u>7.63</u>	<u>10.13</u>	<u>10.53</u>

Results indicated that there were indeed, differences among these populations with music therapy majors evidencing a signifi-

\* Underline indicates no significant difference. All other comparisons significant  $p < .01$ .

cantly lower internal locus of control. Music education majors and nonmajors evidenced a greater internal level and were not significantly different from each other yet both were significantly different from the music therapy majors. Music performance majors were also significantly lower in internal control compared to the music education and nonmusic majors, but they were not significantly different from the music therapy majors.

### Discussion

The main comparison in this study relates to differences among college-aged music students. Yet when any of the music groups are compared with other populations, it is apparent that all music groups are certainly within a "normal" range for this measure. Specifically, in one of the major studies concerning discriminative validity of this scale, "significant differences were found among hospitalized schizophrenics (mean = 16.30), nonpsychotics (mean = 11.95), and staff workers (mean = 9.20)" (Nowicki & Duke, 1974, p. 136). It should be remembered that the scale is keyed such that the higher the score, the more external the locus of control. While direct comparisons should not be made between the present study and the validation studies, it seems obvious that the therapy majors' mean of 10.53 is very close to other "normal" subjects in past studies.

Another issue concerns mixed results of past research when comparing locus of control and achievement of men versus women. In a study where the *Nowicki-Strickland Scale* was compared to Rotter's *Internal-External Control Scale* (Nowicki & Duke, 1974), high achievement was related to internality on the *Nowicki-Strickland Scale* for males and to externality for females; this unexpected result was found several times. In a later music investigation by Asmus (1986b), a gender difference was not found. The gender issue was purposefully not controlled in the present investigation primarily because subjects in the music therapy groups were mostly female. Yet *music achievement* was partially controlled in the present study in that all groups (including the nonmusic majors) were currently performing in a college music ensemble and all subjects were currently registered in a college/university, which might indicate somewhat comparable achievement levels throughout.

Another important issue concerns differences in personal attributions versus those attributed to others. Subjects in the Asmus (1986a) study characterized others' success and failure as attribut-

able to the internal category of effort while success and failure of themselves was attributed more frequently to the external category of task difficulty.

This suggests that when in the more objective mode of attributing success and failure to others, the tendency was for ascribing attributions to internal-unstable causes. Such assignments may impact the effectiveness of an educational or therapeutic situation if the student or client does not have compatible attributions with the teacher or therapist. That is, high achieving individuals have been shown to ascribe success to internal causes and have greater lengths of persistence in attaining successful completion of a task . . . An educator or therapist who does not focus the learner to a success or failure compatible with the learner's self-view may seriously impair the eventual successful achievement of the task. (Asmus, 1986a, p. 82). This appears to be consistent with other research literature.

Results from this and other studies would seem of importance to all musicians and especially those who are music therapists and music therapy educators. Many questions arise from these findings regarding selection, success, and attrition within the music professions. Why is it that from the entire population that starts participating in some form of music study and continues to the college level that there are differences concerning general perceptions of locus of control? Is there something that predisposes certain college-aged youth to choose certain majors? Are there certain personality types that have a propensity to choose certain music activities or certain college majors? How difficult is it for persons who view themselves as successful and/or unsuccessful concerning various aspects regarding their own sources of reinforcement to help clients both "understand" and/or change nonfunctional aspects of a client's behavior? The entire area concerning locus of control seems to warrant much more research.

### References

- Asmus, E. P. (1985). Sixth graders' achievement motivation: Their views of success and failure in music. *Council for Research in Music Education*, 85, 1-13.
- Asmus, E. P. (1986a). Achievement motivation characteristics of music education and music therapy students as identified by attribution theory. *Council for Research in Music Education*, 86, 71-85.



- Asmus, E. P. (1986b). Student beliefs about the causes of success and failure in music: A study of achievement motivation. *Journal of Research in Music Education*, 34, 262–278.
- Asmus, E. P. (1989). The effect of music teachers on students' motivation to achieve in music. *Canadian Journal of Research in Music Education*, 30, 14–21.
- Bandura, A. (1986). *Social foundation of thought and action: A social cognitive theory*. Englewood Cliffs, NJ: Prentice-Hall.
- Bandura, A. (1997). *Self-efficacy: The exercise of control*. New York: Freeman.
- Baron, R. M., Cowan, G., Ganz, R. L., & McDonald, M. (1974). Interaction of locus of control and type of reinforcement feedback: Considerations of external validity. *Journal of Personality and Social Psychology*, 75, 285–292.
- Lefcourt, H. M. (1992). Durability and impact of the locus of control construct (APA Centennial: Psychological Bulletin's Top 10 "Hit Parade"). *Psychological Bulletin*, 112(3), 411–415.
- Lord, C. G., Umezaki, R., & Darly, J. M. (1990). Developmental differences in decoding the meanings of appraisal actions of teachers. *Child Development*, 61, 191–200.
- Nowicki, S. (2000). *Nowicki-Strickland locus of control scale*. Providence, RI: Manisses Communication Group.
- Nowicki, S., & Duke, M. P. (1974). A locus of control scale for noncollege as well as college adults. *Journal of Personality Assessment*, 38(2), 136–137.
- Parent, J., Forward, J., Canter, R., & Mohling, J. (1975). Interactive effects of teaching strategy and personal locus of control on student performance and satisfaction. *Journal of Educational Psychology*, 67, 764–769.
- Rotter, J. B., Chance, J. E., & Phares, J. E. (1992). *Applications of a social learning theory of personality*. New York: Holt, Rinehart, & Winston.
- Zeldin, A. I., & Pajares, F. (2000). Against the odds: Self-efficacy beliefs of women in mathematical, scientific, and technological careers. *American Educational Research Journal*, 37(1), 215–246.