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ABSTRACT

The Student Motivation for Musical Activities in Elementary School project was conducted between 1982 and 1983 with 3 main purposes: to study problems of motivation in the classroom, to examine factors significant to student motivation for general music program activities, and to obtain empirical foundations for the development of teaching strategies for enhancing student motivation in school. Four instruments--the Self Perception Inventory, the Perceived Competence Scale, the Achievement Motives Scale, and an Interest in School Music Scale developed by the author--measured self-confidence, perceived confidence in school, interest in music activities, and achievement motivation in 381 fourth graders in 8 elementary schools in Trondheim, Norway. The results indicated that achievement motives are important factors in characterizing student groups as to self-perceptions, some aspects of self-perception were fundamental sources of achievement motivation, and several aspects of self-perception and two achievement motives contributed significantly to student interest in school music. A bibliography and six tables are included. (Author/LP)

ACHIEVEMENT MOTIVATION AS A FACTOR IN SELF-PERCEPTIONS

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Introduction

Students' Motivation for Musical Activities in Elementary School was a project initiated by the author in 1979 with data collections in school carried out during 1981/82. The project had three main purposes: first, to investigate problems of motivation in the classroom in general, second, to examine factors significant to students' motivation for the musical activities of the general music program specifically, and third, to obtain empirical foundation for the development of teaching strategies of enhancing student motivation in the classroom in general as well as in the subject of music in particular.

In this paper I will be presenting some results from the abovementioned project, bearing on the intention on this symposium elucidating aspects of student self concept. More specifically I will be addressing the question of whether achievement motives can be considered important factors in students' self-perceptions, and furthermore to what extent achievement motives and different kinds of self-perceptions will function as important factors in discriminating student motivational groups in school music.

In accordance with experiences from educational practice and recent research results, several factors and phenomena seem to predict learning outcomes in school, including student motivation, the social-psychological climate of the classroom, and interactions between personal characteristics and social and situational conditions. That is, going one step behind the learning outcomes, I would here like to focus on student motivation as related to students' self-perceptions.

There are several theoretical perspectives within different fields of research stressing the relationships between motivational factors and aspects of self-perception as

momentous determinants for human behavior (f.inst. White 1959; Atkinson 1964; deCharms 1968; Weiner et al. 1971; Coopersmith & Feldman 1974; Soares & Soares 1975; Covington & Beery 1976; Maehr 1976; Izard 1977; Purkey 1978; Deci 1980; Harter 1981; Burns 1982). Here I would just like to discuss shortly a few of these.

Atkinson (1964) directed the attention towards mastery and risk-taking behavior. He contended that interactions between achievement motives and the individual's perception of task difficulty constitute the primary determinants of the resultant motivation tendency, as it manifests itself in behavior. He therefore points to three components as basic to all achievement behavior:

- the balance (relative strength) between the two kinds of achievement motive, the motive to achieve success (Ms) and the motive to avoid failure (Mf),
- expectations of success/failure resulting from perception of task difficulty,
- the incentive value of success/failure for the activity, also mainly determined by perception of task difficulty (Atkinson & Feather 1966).

This means that reactions to success and failure are predominantly determined by perceived task difficulty and the constellation of the achievement motives. So, behavior related to achievement is an inverted U-shaped function of perceived probability of success for Ms-dominated persons and a U-shaped function of perceived probability of success for Mf-dominated persons. Research has indicated that a Ms-dominated person will typically show a strong resultant motivation if task difficulty considerations arouses moderate expectations of success (maximum uncertainty as to outcome) and the activity is attractive or has high incentive value to the person. Very easy or very difficult tasks will arouse little or no motivation neither in Ms-dominated nor in Mf-dominated persons. Regarding the lastmentioned statement, there has been suggested a modification of the achievement

motivation theory, as some research findings seem to indicate that Ms-dominated persons tend to get understimulated and develop resistence and aversion against the very easy and highly difficult tasks. Mf-dominated persons on the other hand presumably tend to get enough stimulation and challenge working with these kinds of task. (Cfr. Wygård 1977 p. 116, Clifford 1980 p. 106.)

Interestingly enough to the relationship between achievement motivation and self-perceptions, there seem to exist an underlying interpretation in Atkinsom's theory of achievement motivation. Namely the fact that when a person considers or perceives the difficulty of the task or activity, he or she must certainly do this in relation to something. The primary source of this something would most likely have to be the perceived competence of the person in the actual area of activity. With this perspective in mind it is highly reasonable that several proponents of mastery motivation theories today have suggested extentions and presented elaborations, attempting at emphasizing the self concept perspective to a greater extent than represented in the theory of Atkinson and others (Cfr. deCharms 1976; Maehr 1976, 1978; Harter 1978; Deci 1980; Fyans 1980.) Several theoretical approaches therefore appear to converge on the importance of self-regard in framing achievement behavior. Maehr (1976) has been pointing to at least three important facets in a self-regard perspective. One of them is the individual's judged competence to perform a task, the other two being self-identity in relation to socio-cultural groups and self-as-initiator of the activity. Accordingly, he identified three broad dimensions as critical to all achievement behavior:

- social expectations,
- task characteristics,
- the self (Maehr 1978).

As I have contended elsewhere (Lillemyr 1982a) Harter has recently been advocating similar ideas of self-as-a-motivator based on elaborations of White's theory of competence as Maehr

has been launching. White's main idea was that the child has an urge toward competence or dealing effectively with the environment. Following success the child will experience a feeling of efficacy (intrinsic reward), eventually contributing to the development of its sense of compentence. White considered sense of competence both as a kind of intrinsic motivation and an important ingredient of self-esteem. Harter (1978, 1981) extended the ideas of White, taking more cognizance of both success and failure experiences, optimal challenge, and effects of the socializing agents (significant others) for the development of competence as the main source of motivation. However, competence is not seen as a global, unitary phenomenon, according to Harter. She has adopted a differentiated approach of components in a child's sense of competence, maintaining that children often do not view themselves as equally competent in different domains. Though, she does include general self-esteem as the general component of perceived competence, in addition to competence in different domains (Harter 1979).

Looking to the self-perceptions or self concept field of theory, there is first of all the problem of definitions and use of a complexity of terms, a problem I have commented elsewhere. In my own thinking I have found it advisable to consider self constructs like self concept, self-esteem, and self-perceptions as more or less synonymous in nature. (Cfr. Lillemyr 1982b.) Suffice it here to mention that problems of definition and use of terminologi are evidence of the problem of the nature of self-perceptions. However, more important to the purpose of the present discussion, the dynamic and motivational aspects of self concept, self-esteem, or self-perceptions have for a long time been conceived of as central to behavior (Coopersmith 1967, Purkey 1970). Along these lines, Soares & Soares (1975, 1979) consider feelings of competence and aspirations in a challenging environment as of great importance to the individual's interactions with significant others. Similar ideas have been advocated by others in the field

(Shavelson, Hubner, & Stanton 1976). With this perspective Soares & Soares emphasize the role of significant others or interpersonal perceptions as "vital to the shaping and the support of the self" (1979, p. 3).

In self-perception research there have been various attempts at either a nomothetic or an ideographic direction of research. The ideographic or "profile-approach" appears to be the most popular in recent thinking and research strategies, but different strains within this approach have been presented lately. And several of these focus on self-perceptions as related to school experiences and student motivation (Coopersmith & Feldman 1974; Covington & Beery 1976; Soares & Soares 1980; 1982; Burns 1982). Obviously, there is a strong emphasis on the relationship between motivation and self concept in the field of self-perceptions like it is in the field of human motivation. Still, surprisingly little overlap in theoretical perspectives and research literature seems to exist. Though, such an overlap might involve essential issues as to fundamental principles, a fact I will not be pursuing further here.

In research there has been different opinions advocated as to the nature of self-perceptions. Some claim self-perceptions are mainly of a hierarchical nature (Shavelson, Hubner, & Stanton 1976) and others contend they are varied and multiple and best can be conceptualized in dimensions (Soares & Soares 1982). Harter (1979, 1981) from the motivational field of research, consider general self-esteem as a superordinate kind of component in relation to perceived competence in different domains (cognitive, social, physical). Harter feels that all components must be considered more or less independent of each other, and accordingly, in measurements a combined score cannot be computed. This perspective seems in some respect contrary and in some respect comparable to viewpoints presented by Soares & Soares (1975, 1980).

In the present study self-perceptions have partly been considered as relatively independent factors and partly as highly related factors.

From the aim of addressing the question of whether achievement motivation can be seen as a factor in self-perceptions, the following problems will be focused:

Problem 1: Will achievement motives (the motive to achieve success, and the motive to avoid failure) function as important factors in characterizing self-perception groups at fourth grade in elementary school?

Problem 2: Will aspects of self-perceptions function as a significant foundation in characterizing achievement motive groups at fourth grade in elementary school?

Problem 3: To what extent will achievement motives and self-perceptions function as important factors in characterizing motivational groups (interest groups) in general music at fourth grade in elementary school?

Social expectations and other interactional aspects were ignored and not included in the problems here. However, most important to recognize is the fact that no simple cause-effect relation between achievement motives and self-perceptions will be expected. Although, the two sets of factors might be considered different in broadness, seeing self-perceptions as a broader and more general phenomenon compared to achievement motives.

The relationships between achievement motives and self-perceptions in school settings have not been much focused in research, which is not surprising taken into account that these relationships are particularly relevant with the very latest of motivational and self-perception theories. On the other hand these relationships have been focused for some time, but within quite separate fields of research, apparently knowing little about each others theory and research.

Though, it appears to be coming along an increasing amount of studies embarking on this interdisciplinary field of research. (Cfr. f.inst. Ames 1978; Ames & Felker 1979; Blumenfeld & Pintrich 1982; Tollefson, Tracy, Johnson, Buenning, & Farmer 1982.)

Method

The present study was a descriptive field study confined to fourth grade of the Norwegian elementary school. Focus on the subject of music was selected for several reasons. First, the phenomenon of intrinsic motivation seems particularly relevant with an aesthetic subject like music. (Cfr. Csikszentmihalyi 1975; Izard 1977, p. 237.) Second, it represented a reasonable pursuit of my research studies in the field of music education (Lillemyr 1980a). Third, music seems today to be one of the most troublesome school subjects as to motivational aspects, for which reason it denotes a challenging field to motivational research.

The variables in the study were measured with four different instruments. Since self-perceptions and perceived competence were hypothesized as important aspects to students' achievement motivation and vice versa, two different self-perception instruments were employed. One of them, the Self-Perception Inventory (Soares & Soares 1975) was selected as a suitable, general measure of students' self-perceptions with satisfactory values of reliability and validity reported. Though, as the instrument was translated and adapted to Norwegian, evidence of reliability and validity had to be checked once again. Four of the SPI Student Scales were adapted to our purposes:

- self concept (20 items)
- reflected self/teacher (20 items)
- ideal concept (20 items)
- student self (25 items)

Furthermore, scores from each of the subscales were added

into a total score of student ratings. (Cfr. Lillemyr 1980b.)

The other instrument, the Perceived Competence Scale for children (Harter, 1979) was chosen for the same reasons as SPI. Furthermore, the two instruments were seen as partly supplementing each other and partly overlaping each other. The Perceived Competence Scale was adapted and translated into Norwegian. Another subscale taking care of the musical aspect of children's perceived competence in school was constructed by the author and added to the PC Scale. Accordingly, the instrument used consisted of the following subscales (with 7 items each):

- cognitive competence,
- social competence,
- physical competence,
- musical competence,
- general self-esteem

(Harter 1980; Lillemyr 1982b).

The motivation variables of general concern, the motive to achieve success (Ms) and the motive to avoid failure (Mf), were measured with a slightly adapted version of the Achievement Motives Scale (Gjesme & Nygård 1970; Lillemyr & Nygård 1980). Satisfactory values of reliability and validity of the scale have been presented from several studies (Nygård & Gjesme 1972; Rand 1978; Bøe & Rand 1979).

Lastly, an instrument measuring students' Interest in School Music, developed by the author, was employed to collect data concerning student interest for the activities of the general music program in school. The instrument having shown satisfactory values of reliability and validity in a pre-study (Lillemyr 1982c) includes the following subscales (used in the present study):

- general interest in school music,
- task-oriented achievement motivation in school music
- self-enhancement-oriented achievement motivation in school music;

- social desirability orientation in school music,
- expectations of future success with school music activities.

All subscales consisted of 4-6 items (a total of 24 items), and the construction of the instrument was based on recent achievement motivation theory (Maehr 1978; Maehr & Nicholls 1982) and attribution theory (Weiner 1979), in addition to relevant ideas of music curriculum.

As a first step, analyses of intercorrelations were chosen as an appropriate method of statistics. Since it was hypothesized that achievement motives are characteristics on which self-perception groups might be expected to differ, discriminant function analysis seemed to be a relevant method. Further, aspects of self-perceptions was expected factors of importance characterizing achievement motives groups, and similarly both set of factors could be expected characteristics on which interest groups of music might differ. With a stepwise method, the discriminating variables could be selected for entry into the analysis based on their discriminant power. As these analyses were considered tentative attempts in an extensive set of analyses in the project, the discriminant function analyses made at this stage were limited to first functions only. (Cfr. Tatsuoka, 1970; SPSS Manual, 1975.)

The study was carried out at eight different schools in the city of Trondheim, Norway, during 1981/82. The sampling technique was a combination of stratification sampling and cluster sampling, providing a fairly representative sample of schools in the city. The total sample comprised fifteen classrooms (with fourteen teachers of general music) and 381 students, aged about ten years, encompassing 202 boys and 179 girls.

Results

The instruments of measurement were subjected to analyses and considerations of reliability and validity before further analyses of the data. Table 1 shows values of internal consistency (coefficient alpha) for the different subscales of SPI, PCS, AMS, and ISM. Also included are values of internal consistency of the total instrument (as to student ratings) for the SPI and the ISM. For the other two instruments a totaled score is not recommended by the originators. As can be seen most of the values are moderately satisfactory to very satisfactory. Values of coefficient alpha of SPI and ISM (total scores) have turned out most satisfactory. The lowest value of reliability in the table is computed for the subscale Social Competence in the Perceived Competence Scale (.49).

Table 2 discloses the subscale structure as indicated by the range of correlations for subscale total/items. Relatively larger ranges were obtained with the SPI subscales than the other subscales.

For all instruments student ratings were checked for criterion-related validity by correspondance to teacher ratings. In some cases no correlation or very low correlation values were found, except for the following where modest to moderate values of (PM) correlation were computed:

Student Self:	r = .25
ISM:	r = .37
Cognitive Competence:	r = .32
Social Competence:	r = .19
Physical Competence:	r = .25
Musical Competence:	r = .41
General Self-esteem:	r = .20
Mf:	r = .20

When computations were restricted to classroom teachers only (ignoring music specialists' ratings), all values increased considerably (from .06 to .23), except for Musical Competence,

ISM, and Social Competence, where no change or a slight decrease was found.

Table 3 gives an overview of the intercorrelations as calculated from the subscale scores of the Norwegian version of SPI, PCS, AMS, in addition to total scores of SPI and total scores of ISM. As indicated in the table subscales of SPI correlate significantly and positively with subscales of PCS, except for Ideal Concept that correlates significantly and positively only with Cognitive Competence and General Self-esteem. SPI total student ratings correlate significantly and positively (.21 - .46) with all aspects of PCS. Subscale scores of SPI and PCS all show positive and significant (modest to moderate) correlations with Motive to Achieve Success (Ms) scores, and most of the SPI and PCS subscale scores correlate negatively and significantly with the Motive to Avoid Failure (Mf) scores. As would be expected ISM total scores (ISMT) correlate positively and significantly with several of the self-perception aspects and achievement motives included. The highest correlation was found between ISMT and Musical Competence (.40) and between ISMT and Student Self (.30), with ISMT/Ms coming next (.25). There were also found positive and significant correlations between ISMT and SPI total scores, Reflected Self/Teacher, Ideal Concept, Cognitive Competence, and Social Competence. As would be expected no correlation was registered between ISMT and Physical Competence, and somewhat surprising, between ISMT and General Self-esteem and between ISMT and Motive to Avoid Failure. The table further provide some evidence of fairly high and positive correlations between subscales <u>within</u> the instruments. Motive to Achieve Success (Ms) scores and Motive to Avoid Failure (Mf) scores were found to be rather low but negatively correlated (-.22).

Further analysis of the correspondance between achievement motives, aspects of self-perceptions, and interest in school music were made by employing discriminant function analysis. Median split was used with SPI, student ratings in total, obtaining two self-perception groups: students high vs.

low self-perceptions. Means, standard deviations, and univariate F-ratios for discriminating variables will not be presented in any of the discriminant function analyses here, but are available by the author. Table 4 provides results of the two levels of self-perceptions (in total) group stepwise discriminant function analysis. Interest in School Music (total score) was also used as a possible discriminating variable in the analysis, in addition to the various components of Perceived Competence. Five variables entered the analysis (F exceeding 1.00), all making significant contributions to the differentiation between students high vs. low as to level of Self-perceptions in total. The five variables provided a Wilks' Lambda of .787 approximated by a multivariate F-ratio of 17.92 ($df = 5/332$, $p < .001$). This first and only discriminant function was found to be statistically significant with $X^2 = 79.67$, $df = 5$, $p < .001$. The canonical correlation of the function was computed to .46. The discriminant function coefficients in table 4 mean that high vs. low self-perception groups are best described as follows:

> The high self-perception group tends to have higher scores on Cognitive Competence, Interest in School Music, General Self-esteem and Motive to Achieve Success (Ms), but lower scores on Motive to Avoid Failure (Mf).

Group centroids after step 5 was completed, were - .51 for group 1 (Low Self-perceptions) and + .52 for gruop 2 (High Self-perceptions). A classification results table showed that 71,98% of the students were correctly grouped using these discriminating variables. A further discriminant function analysis, using only Ms, Mf, and Interest in School Music, turned out in a canonical correlation of .35 and a percentage of correctly grouped cases of 67.5. (These results are available by the author, but not presented here.)

Table 5 and table 6 disclose the results of the next discriminant function analyses, using median splits with Ms and Mf,

obtaining two motivational groups along the two dimensions: high vs. low motive for success, and high vs. low motive to avoid failure. The two splits were used one at a time. Table 5 gives the results of the two levels of Ms group stepwise discriminant function analysis. All subscales of SPI and PCS were employed as possible discriminating variables in the analysis, in addition to the Ms or Mf scores, respectively. Seven variables entered the analysis, all of which had a significant effect in the differentiation of high vs. low Ms groups. The seven scales resulted in a Wilks' Lambda of .808 equivalent with a multivariate F-ratio of 10.89 ($df = 7/320$ $p < .001$). This discriminant function was found to be significant with $X^2 = 68.93$, $df = 7$, $p < .001$. The canonical correlation was calculated to .44. The discriminant function coefficients presented mean that high vs. low Ms groups can be described in the following way:

> The high Ms group tends to have higher scores on Student Self, Ideal Concept, Physical Competence, and Cognitive Competence, but lower scores on Social Competence, General Self-esteem, and Motive to Avoid Failure (Mf).

Group centroids after step 7 was completed, were -.50 for group 1 (Low Ms) and +.47 for group 2 (High Ms). Classification results showed 71.43% correctly grouped cases with the discriminating variables that entered the analysis.

Table 6 provides the results of the two levels of Mf group stepwise discriminant function analysis. The similar set of discriminating variables as with the Ms group analysis, was employed. Only three variables entered the analysis with a significant contribution to the differentiation between Mf groups. The three variables provided a Wilks' Lambda of .891 equivalent with a multivariate F-ratio of 13.22 ($df = 3/326$, $p < .001$). The function was found significant with $X^2 = 37.77$, $df = 3$, $p < .001$ and resulted in a canonical correlation of .33. Therefore:

The high Mf group tends to have lower scores on Motive to Achieve Success, Cognitive Competence, and Self Concept scores.

Here the percentage of cases grouped correctly amounted to 65.7. Group centroids (after step 3) were at +.37 for group 1 (Low Mf) and +.33 for group 2 (High Mf).

Lastly, median split was used with the total scores of Interest in School Music (ISM), thereby obtaining two groups of students: those high vs. low interest in school music. Table 7 shows the results of the stepwise discriminant function analysis. The Student Self and Self Concept scores of the SPI, all subscale scores of PCS and the two achievement motives scores (Ms and Mf) were used as possible discriminating variables in the analysis. Six variables entered the analysis here, all contributing significantly to the discrimination between the interest in school music groups. The six variables or scales resulted in a Wilks' Lambda of .787 approximated by a multivariate F-ratio of 14.58 ($df = 6/324$; $p < .001$). This first and only discriminant function was statistically significant with $X^2 = 77.94$, $df = 6$, $p < .001$. The corresponding value of canonical correlation was computed to .46. According to the table:

The high Interest in School Music group tends to have higher scores on Musical Competence, Motive to Achieve Success (Ms), Student Self, and (to a lesser degree) Motive to Avoid Failure. But the high ISM group tends to have lower scores on Self Concept and (to a lesser degree) Physical Competence.

Group centroids after step 6 was completed were located at -.54 for group 1 (Low ISMT) and +.50 for group 2 (High ISMT). Classification results indicated that 72.37% of the cases were correctly group with the variables that entered the analysis.

Discussion

One rather serious limitation should be noted regarding the nature of the results presented in this paper. These results represent the first tentative steps towards a more comprehensive and extensive set of data analysis in the project. Accordingly, data concerning some of the important variables of the study are lacking in the results exhibited, f.inst. as to sex, musical abilities and teacher expectations. The results presented above must therefore be considered an excerpt of the total amount of results in the study.

But because of the sampling procedure employed and the sample size, the sample could be regarded representative of the population, being fourth graders in the city of Trondheim.

The values of reliability of the instruments must be considered very satisfactory, with a few exceptions. The picture of reliable instruments was strongly supported by the subscale structures presented. Considerations of validity were somewhat harder to make. The satisfactory values of validity reported by the originators of the instruments were of course helpful, but examinations of validity for the Norwegian instrument versions had to be made. The results with calculations of criterion-related validity reported were in some cases hardly a success. Though, teacher ratings as criterion with these kinds of measurement are probably not the best choice, as they might be too much biased from outside factors and represent rather difficult aspects for the teacher to evaluate. But additional indications of validity can be read out of the intercorrelations presented. General Self-esteem of the PCS correlates moderately high with the SPI subscales Student Self (.42), Self Concept (.41) and with the SPI student ratings in total (.40). There were also moderately high correlations computed between Cognitive Competence of the PCS and Student Self (.51), and SPI student ratings in total (.46). Further, moderately (but somewhat lower) coefficients of

correlation were calculated between the two achievement motives and SPI student ratings in total, Student Self, Self Concept, and Cognitive Competence of the PCS. Together with subjective judgements of content validity, these indications seemed to support a picture of a satisfactory validity for the four instruments employed. Still, further considerations as to validity of instruments like this have to continue. In particular, within network studies of human motivation and self-perceptions will be of great importance to between network studies like the present one.

The intercorrelations presented deserve some additional comments, as far as correlation between aspects of self-perceptions and achievement motives is concerned. For all aspects of self-perceptions/perceived competence there was a (most often) moderately high correlation with Motive to Achieve Success (Ms), showing that achievement or success orientation correlates moderately and positively with all aspects of self-perceptions. Similarly, most aspects of self-perceptions/perceived competence (except Physical Competence and Musical Competence) showed negative, modest to moderate correlations with Motive to Avoid Failure (Mf), indicating that the tendency to avoid failure correlates negatively with most self-perception aspects. In general, these results, which were expected, appear to confirm tentative results from my prestudies, though providing somewhat lower correlations (Lillemyr 1981, 1982c).

Further, the correlations between students' Interest in School Music and self-perception aspects and achievement motives, disclosed some interesting traits. First, Interest in School Music (ISM) scores seem to correlate moderately and positively with scores on Reflected Self/Teacher, Student Self, and SPI student ratings in total. Second, ISM scores correlate moderately and positively with Musical Competence, but also show modest, positive correlations with scores on Cognitive Competence and Social Competence

of the PCS. But no correlation was found between ISM scores and General Self-esteem. Third, ISM scores tend to correlate positively and moderately with Motive to Achieve Success scores, though no correlation was found between ISM scores and Motive to Avoid Failure scores. These correlations might lead to different explanations. Suffice it here to point to the somewhat surprising results that no correlation was found between ISM scores and scores on General Self-esteem, between ISM scores and scores on Motive to Avoid Failure, and between ISM scores and Self Concept scores. This means that students' interest in the subject of music does not seem to correspond with their ratings of themselves as a person, judgements of themselves as to general self-respect, and their reported anxiety of mastery situations. One explanation for this might be that the subject of music represents rather low incentive values to the students, and furthermore the subject of music may provide little of challenging activities and thus few anxiety-provoking situations for Mf-dominated students.

In the discriminant function analysis with self-perception groups the results as to entering variables could be expected, although, the discriminant function coefficients or weights seemed to modify some of the reasonable expectations in this case. Cognitive Competence (clever at school) turned out with the strongest positive weight, then followed ISM. The Motive to Avoid Failure (Mf) came up with a rather strong negative weight, a considerably stronger negative weight than the corresponding positive weight of the Motive to Achieve Success (Ms). General Self-esteem was also included, but with a rather modest, positive weight. Maybe it can be objected that the PCS components should not have been included in this analysis, as they beforehand might be expected to discriminate between self-perception groups, and since the contributions of the two achievement motives was the main focus of problem 1. However, the results indicated that in spite of this condition of analysis, the achievement motives both entered the

analysis as contributing variables. Besides, a further analysis using Ms, Mf, and ISM as the only possible discriminating variables, still resulted in a cannonical correlation of .35 and 67,5% correctly grouped cases.

The results of the discriminant analysis with Motive to Achieve Success (Ms) groups were for most variables in compatible with what would be expected, but the contribution with negative weights as to General Self-esteem and (to a lesser extent) Social Competence, must be regarded surprising. Only Student Self and Ideal Concept of the SPI subscales entered the analysis, a result that confirmed tentative results from a prestudy (Lillemyr 1981, p. 29). This means that high Ms students tend to rate themselves higher "as a student" and regarding ideal self, compared to low Ms students, but a similar tendency as to ratings of themselves "as a person" (Self Concept) does not seem to have manifested itself here. This interpretation is supported by the negative contribution of General Self-esteem referred to above. From this it can be concluded that success-oriented students do not necessarily have a more positive self-esteem than students with a low success-orientation. There have been some indications in recent research that this might particularly be so in the case of most of the girls, dependent on their abilities and achievement motives. (Cfr. Gjesme 1979.) Accordingly, variables like sex as well as musical abilities would have been interesting factors to include in these analyses. As would be expected, Physical Competence and Cognitive Competence (clever at school) came up with rather strong positive weights. Accordingly, to be clever at school and good at sports and games seem important to high Ms students. This interpretation is supported by the rather strong postive weight pertaining to Student Self. In this analysis it seemed obvious that the two instruments of measurement for self-perceptions (SPI and PCS) supported each other considerably.

The results of the discriminant function analysis with Motive to Avoid Failure (Mf) groups, must be considered

somewhat unexpected, as only three variables entered the analysis. Though, as expected, it was found that high Mf students tend to have lower success orientation (Ms), lower cognitive competence, and rate themselves lower "as a person" (Self Concept), compared to low Mf students. These results partly confirm and partly modify results from a pre-study (Lillemyr 1981, p. 30). However, high Mf students does not seem to rate themselves much different from low Mf students as to f.inst. Student Self, Social Competence, and General Self-esteem. Accordingly, it could be concluded that the discriminant analysis with Mf groups provided a less comprehensive and not too clear picture as to discriminating variables. It is interesting though, that Self Concept was related negatively to Motive to Avoid Failure, whereas Student Self was related positively to Motive to Achieve Success.

The last discriminant analysis concerned the discrimination between Interest in School Music groups. As highly expected, Musical Competence entered the analysis with the strongest positive weight, then followed Motive to Achieve Success and Student Self. But Motive to Avoid Failure did also show up among the positive weights, which was maybe somewhat surprising. As might be expected Physical Competence provided a negative crontribution. So did Self Concept as well. The quite opposite contributions of Student Self and Self Concept are interesting, but hard to interpret, until more research is done. Though these results seem to correspond with what was found in the analysis of Ms groups.

As conclusions to the research problems set up, I would suggest the following:

1. Problem 1 was confirmed both from intercorrelations and discriminant function analysis.
2. Problem 2 was partly confirmed from intercorrelations and discriminant function analysis, as some self-perception aspects were found to be fundamental sources to achievement motivation. Several more such aspects were found to be central to the Motive to Achieve Success, than to the Motive to Avoid Failure. In the case of Mf it was

indicated negative relations to self-perceptions. Most (but not all) relations in the case of Ms were positive.

3. Problem 3 was <u>partly</u> confirmed, as several of the self-perception aspects and the two achievement motives were found to contribute considerably to students' Interest in School Music. In most cases it was indicated positive relations, except for Physical Competence and Self Concept, indicating that not all aspects of self-perception contribute positively to student motivation.

Still, further examinations of the relationships between achievement motives and self-perceptions are needed in future on this exciting interdisciplinary field of research. In my opinion within network studies and between network studies in this field will be most useful to each other. Developmental perspectives would be highly recommended in both kinds of studies, also in the case of investigating the relationships between human motivation and self-perceptions.

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Table 1 Internal Consistency (coefficient alpha)

Instrument	Subscale	Coefficient alpha
SPI	Self Concept	.61
	Reflected Self/Teacher	.76
	Ideal Concept	.68
	Student Self	.83
	Total SPI/Student ratings	.90
PCS	Cognitive Competence	.73
	Social Competence	.49
	Physical Competence	.77
	Musical Competence	.78
	General Self-esteem	.68
AMS	Motive to Achieve Success	.79
	Motive to Avoid Failure	.87
ISM	General Interest in School Music	.85
	Task-oriented Interest in School Music	.67
	Self Enhancement-oriented Interest	.81
	Social Desirability-oriented Interest	.79
	Expectations of Future Success in	.76
	Total ISM (all subscales)	.93

Explanations:

SPI - Self-Perception Inventory
PCS - Perceived Competence Scale,
AMS - Achievement Motives Scale
ISM - Interest in School Music

Table 2. Subscale structure (subscale total/item correlation ranges)

Instrument	Subscale	subscale total/item - correlation range
SPI	Self Concept	.18 - .48
	Reflected Self/Teacher	.22 - .59
	Ideal Concept	.20 - .49
	Student Self	.18 - .66
PCS	Cognitive Competence	.59 - .65
	Social Competence	.40 - .60
	Physical Competence	.50 - .77
	Musical Competence	.56 - .74
	General Self-esteem	.51 - .65
AMS	Motive to Achieve Success	.41 - .62
	Motive to Avoid Failure	.48 - .70
ISM	General Interest in School Music	.79 - .85
	Task-oriented Interest in	.65 - .76
	Self Enhancement-oriented Interest	.60 - .81
	Social Desirability-oriented Interest....	.55 - .77
	Expectations of Future Success	.72 - .78

Explanations:

See table 1.

(All correlations are PM correlations)

Table 3 Correlation Matrix

	ISMT	SC	RST	IC	SS	S-TOT	KOG	SOS	PHYS	MUS	SELF	Ms	Mf
ISMT		.06	.19*	.09**	.30*	.20*	.13*	.14*	.01	.40*	.06	.25*	-.007
SC			.63*	.46*	.63*	.81*	.37*	.27*	.27*	.15*	.41*	.20*	-.22*
RST				.49*	.67*	.85*	.39*	.21*	.17*	.19*	.33*	.18*	-.15*
IC					.51*	.71*	.21*	-.02	-.02	.05	.10**	.22*	-.12**
SS						.89*	.51*	.23*	.24*	.33*	.42*	.32*	-.25*
S-TOT							.46*	.21*	.21*	.23*	.40*	.28*	-.25*
KOG								.42*	.47*	.35*	.61*	.31*	-.22*
SOS									.44*	.30*	.41*	.10**	-.14*
PHYS										.19*	.48*	.23*	-.07
MUS											.25	.16*	-.08
SELF												.14*	-.12**
Ms													-.22*
Mf													

Explanations:

ISMT - Interest in School Music in Total (stud.rat.)
SC - Self Concept, student ratings
RST - Reflected Self/Teachers, student ratings
IC - Ideal Concept, student ratings
SS - Student Self, student ratings
S-TOT- Self-Perceptions, student ratings in total
KOG - Perceived Competence, Cognitive
SOS - Perceived Competence, Social
PHYS - Perceived Competence, Physical
MUS - Perceived Competence, Musical
SELF - Perceived Competence, General Self-este
Ms - Motive to Achieve Success Scores
Mf - Motive to Avoid Failure Scores

N varies from 338 to 374

* p<.01
** p<.05

Table 4 Stepwise Selection of Variables for Discriminant Analysis of High vs. Low Level of Self-perceptions

Step	Variable	Wilks' Lambda	Approx. F for Test of Lambda[1)]	Standardized Discriminant Function Coefficients
1	Cognitive Competence	.854	57.63*	.61
2	Interest in School Music	.822	36.28*	.40
3	Mf	.793	29.04*	-.39
4	General Self-esteem	.790	22.09*	.17
5	Ms	.787	17.92*	.14

1) Degrees of freedom range from 1/336 on step 1 to 5/332 on step 5.

* $p < .001$

Table 5 Stepwise Selection of Variables for Discriminant Analysis of High vs. Low Level of Motive to Achieve Success (Ms)

Step	Variable	Wilks' Lambda	Approx. F for Test of Lambda[1)]	Standardized Discriminant Function Coefficients
1	Student Self	.913	31.13*	.27
2	Mf	.877	22.85*	-.45
3	Physical Competence	.858	17.89*	.46
4	Ideal Concept	.836	15.81*	.36
5	Cognitive Competence	.828	13.33*	.49
6	General Self-esteem	.811	12.43*	-.42
7	Social Competence	.808	10.89*	-.18

1) Degrees of freedom range from 1/326 on step 1 to 7/320 on step 7.

* $p < .001$

Table 6 Stepwise Selection of Variables for Discriminant Analysis of High vs. Low Level of Motive to Avoid Failure (Mf)

Step	Variable	Wilks' Lambda	Approx. F for Test of Lambda[1)]	Standardized Discriminant Function Coefficient
1	Ms	.926	26.33*	-.66
2	Cognitive Competence	.900	18.10*	-.42
3	Self Concept	.891	13.32*	-.33

1) Degrees of freedom range from 1/328 on step 1 to 3/326 on step 3

*p .001

Table 7 Stepwise Selection of Variables for Discriminant Analysis of High vs. Low Level of Interest in School Music (ISM)

Step	Variable	Wilks' Lambda	Approx. F for Test of Lambda [1)]	Standardized Discriminant Function Coefficient
1	Musical Competence	.863	52.12*	.76
2	Ms	.826	34.53*	.53
3	Physical Competence	.815	24.75*	-.25
4	Mf	.805	19.77*	.28
5	Student Self	.798	16.41*	.42
6	Self Concept	.787	14.58*	-.34

1) Degrees of freedom range from 1/329 on step 1 to 6/324 on step 6

* p .001