Predictors of Sociometric Status for Low Socioeconomic Status Elementary Mainstreamed Students with and without Special Needs

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Abstract
The purpose of the present study is to compare the sociometric status of low socioeconomic status elementary school students with and without special needs and investigate the effects of different variables (gender, age, physical appearance, social skills, behavior problems, and academic competence) on students’ sociometric status. Elementary school students consisted of 96 with special needs and 1090 without special needs from grades 2, 3, 4, and 5 participated in this study. Students were administrated peer rating and peer nomination sociometric measures to determine their sociometric status. Data related to the variables which influence students’ sociometric status were collected from teachers by a Student Information Form, the Physical Appearance Rating Form and the Social Skills Rating System-Teacher Form. The results of the study showed that students with special needs are less frequently accepted and more rejected than their peers without special needs. For the group with special needs, academic competence, physical appearance, and behavior problems predicted social acceptance, while social rejection was predicted by behavior problems. For the group without special needs, academic competence, social skills, behavior problems, physical appearance, and gender predicted social acceptance. For the same group, social rejection was predicted by behavior problems, academic competence and physical appearance. It is expected that determining the variables that affect the social status of students with and without special needs may facilitate preparing and implementing the educational/intervention programs which are intended to increase social acceptance of students with special needs.

Key Words
Mainstreaming, Students with and without Special Needs, Social Acceptance, Social Rejection.

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Today, regular classrooms are considered the least restrictive environment for students with special needs (Mastropieri, & Scruggs, 2000; McCoy, 1995). In Turkey, the number of school-aged students with special needs educated in general education classrooms is approximately 57,000 (MEB, 2008). General education classrooms provide social (Freeman, 2000; Lewis, & Doorlag, 1999; Salend, 1998) and academic (Freeman, 2000) gains to students with special needs. However, it is reported that mainstreamed students are rated lower in sociometric status compared to their peers without disabilities. Students with disabilities are less frequently accepted and more rejected than their peers without disabilities (Akçamete, & Ceber, 1999; Larrivee, & Horne, 1991; Roberts, & Zubrick, 1992; Sater, & French, 1989; Smoot, 2004; Stone, & La Greca, 1990; Şahbaz, 2004; Taylor, Asher, & Williams, 1987; Vuran, 2005) and even though their social acceptance levels do not differ from that of their peers, they do not display frequent peer relationships (Kemp, & Carter, 2002) and are in the isolated group (Prillaman, 1981). This lack of acceptance and low social interactions with peers affect mainstreaming practices negatively, and hinder learning of the students with special needs both with and from their peers that is the main aim of mainstreaming. Furthermore, the self-concept and academic competence of students whose social acceptance are low are affected negatively (Lewis, & Doorlag, 1999). Particularly, these problems increase in adolescence. Adolescents whose interaction with peers is low feel lonely, have insufficient social skills and avoid taking social risk (Hendrickson, Shokoohi-Yekta, Hamre-Nietupski, & Gable, 1996).

The most popular data collection method for social acceptance and rejection is sociometric measures (Lewis, & Doorlag, 1999). There are many different types of sociometric measures. The most widely used ones are the peer nomination and peer rating methods. In the peer nomination method, in order to obtain the liking and disliking scores of students, students are asked to make both positive and negative choices from a certain group (for example, from their classmates) according to a certain criteria. It is stated that social acceptance and rejection should be regarded as separate and psychologically different constructs and when there is a decrease in rejection, there may be no increase in acceptance. Therefore, it is suggested that to obtain a complete picture of the social status, positive and negative nominations should be used together (Frederickson, & Furnham, 1998). In the peer rating method, students are
given a list of a target group and are asked to rate each student from that list on three or five point scales.

Determining the variables that affect the social status of students with and without special needs may facilitate preparing and implementing educational/intervention programs which are intended to increase the social acceptance of students with special needs. Variables such of gender, age, physical appearance, academic competence, behavior problems, social skills and sociometric status of students with and without special needs have thoroughly been examined in the literature. Different results have been obtained in the studies examining the effect of gender on sociometric status. Despite some studies have found that girls had less acceptance than boys by their peers (Gottlieb, Gottlieb, Berkell, & Levy, 1986), others have found opposite results (Coie, Dodge, & Coppotelli, 1982; Sabornie, Marshall, & Ellis, 1990; Ummanel, 2007), or yet some other studies have found no differences between male and female students in terms of social status (French, & Waas, 1985; Larabee, & Horne, 1991; Prillaman, 1981; Sater, & French, 1989; Smoot, 2004; Stone, & La Grace, 1990). In review of the studies examining the relationship between age and sociometric status, it has been concluded that age did not affect sociometric status (Frederickson, & Furnham, 2004; French, & Waas, 1985; Roberts, & Zubrick, 1992). Lewis and Doorlag (1999) have indicated that physical appearance is another variable that affects the sociometric status of students with special needs and some students with special needs are noticed more easily because of their physical appearance that, in turn, affects their social acceptance. The results of some studies have shown that physical attractiveness was a strong predictor for social acceptance of students without special needs (Coie et al., 1982; Dion, & Berscheid, 1974; Kleck, Richardson, & Ronald, 1974; Langlois, & Stephan, 1977). Students with low academic competence also have low sociometric status (Larabee, & Horne, 1991; Roberts, & Zubrick, 1992; Sater, & French, 1989). Another variable that affects sociometric status is behavior problems. Students with behavior problems have low social acceptance (Roberts, & Zubrick, 1992; Ummanel, 2007) and more rejection (Cantrell, & Prinz, 1985; Carlson, Lahey, & Neeper, 1984; Coie et al., 1982; French, & Waas, 1985; Roberts, & Zubrick, 1992; Warden, & Mackinnon, 2003). Social skills is also a variable that affects social status. It has been indicated that students who have been rejected by their peers have lower social skill levels com-
pared to their peers who are accepted (Sater, & French, 1989). It has also been found that there is a positive relation between social skills and social acceptance (Coie et al., 1982; Frederickson, & Furnham, 2004; Ummanel, 2007; Warden, & Mackinnon, 2003).

The purpose of the current study is to compare the sociometric status of low socioeconomic status elementary school students with and without special needs and investigate the effects of different variables (gender, age, physical appearance, academic competence, social skills, and behavior problems,) on the students’ sociometric status. In line of this goal, the following questions were posed:

Are there differences between students with and without special needs in terms of liking, disliking and rating scores?

Are there differences between students with and without special needs in terms of sociometric group (popular, rejected, neglected, controversial, average, other)?

Do gender, age, physical appearance, academic competence, behavior problems, and social skills predict of liking, disliking and rating scores for students with and without special needs?

Method

Participants

The students consisted of 96 with special needs (48 mainstream students and 48 candidates for mainstream) and 1090 without special needs in 2, 3, 4, and, 5 grades from elementary schools with mainstreamed practices already underway in the Mamak County of the Ankara participated in this study. Mainstreamed students have been formally defined by the Guidance and Research Center Assessment Team as those who had mild mental disability and/or learning disability. The mainstreamed students were not defined formally as having disability, but were behind their peers according to classroom teachers’ opinions. Students without special needs were those with normal development, who did not receive formal definition and who have not been proposed as candidates for mainstreaming (Sucuoğlu, & Özokçu, 2005; Ünsal, 2007; Vuran, 2005). 1st grade students were not included in the study because they would have reading-writing difficulties in completing the sociometric scale and that none has been defined as students with special needs by the Guidance and Research Center Assessment Team.
Instruments and Data Collection Process
The sociometric measures are distributed in groups by using peer nomination and peer rating methods.

Peer Nomination and Peer Rating Sociometric Measures
Students were administrated group application of peer nomination and peer rating sociometric measures to determine their sociometric status. In the peer nomination method, in order to obtain the liking and disliking scores of the students, students in the study group were asked to make both positive and negative choices. Students ordered three classmates as “like to play with” and “do not like to play with” by starting with the one they prefer the most. For this purpose, a form was prepared and given to the students with instructions in the beginning to explain what they were expected to do, followed by a fill-in-the-blanks section to list the names of the friends they liked to play with and the ones they did not. For ‘like to play with’, the most preferred student received a score of 3, the second a score of 2 and the least preferred a score of 1. For each class, the total scores for the students nominated positively and a standard liking score for each student in the class were obtained. Similarly, for “not like to play with”, the most preferred student received a score of 3, the second preferred a score of 2 and the least preferred a score of 1. For each class, the total scores for the students who received negative nomination scores and a standard disliking score for each student in the class were obtained. In the peer rating method, each student was asked to rate each classmate from the class list as “I like him/her”, “I am not sure”, “I do not like him/her.” “I like him/her” statement was scored as 3, “I am not sure” as 2, “I do not like him/her” as 1, respectively. The total rating score was obtained for each student and was transformed to standardized rating score in each classroom. In statistical analyses, standard liking, standard disliking and standardized rating scores were used.

Validity studies for the peer nomination method included construct validity analysis. Students with special needs are more at risk to be rejected and less frequently accepted than their peers without special needs (Odom, 2000). This was done by using Mann Whitney U test for independent samples (Büyüköztürk, Çakmak, Akgün, Karadeniz, & Demirel, 2008). Results showed that students without special needs (n = 96) received more positive nomination scores than those with special
needs \((n = 96)\) and students with special needs have received more negative nomination scores than those without special needs. In line with these results, the peer nomination method was sufficient to differentiate between students with special needs and those without special need and thus had construct validity.

The criterion validity of the peer rating method was also examined (Büyüköztürk et al., 2008). For this purpose, teachers’ opinions on how each student would be evaluated in liking by their peers was obtained by the Student Information Form. The teachers, for each student’s evaluation, marked 1 if they thought the student was not liked by their peers, 2 if they were unsure, and 3 if they thought the student was liked by their peers. A teacher evaluation score was obtained for each student. In order to examine the validity of peer rating method, a Pearson correlation coefficient was calculated for the study groups between teacher rating score and peer rating mean score. This correlation was positive, moderate and meaningful for students without special needs \((r = .49, p = .000)\), students with special needs \((r = .61, p = .000)\), and for the whole group \((r = .61, p = .000)\). In light of these results, it was concluded that the peer rating method was sufficient.

To study the reliability of sociometric measures, a test-retest reliability was conducted. In estimating test-retest reliability, a month’s interval between the measures is recommended (Kapçı, & Çorbacı-Oruç, 2003). For this reason, both measures were repeated within a month in the 2nd, 3rd, 4th, and 5th grades and the relationships between the measures have been examined by Pearson correlation coefficients. The relationships between the repeated measures for the 2nd, 3rd, 4th, and 5th grades were .91, .93, .75 and .75 for standard liking scores, .83, .88, .62, and .71 for standard disliking scores, and .90, .81, .90, and .89 for standard rating scores, respectively. It was found that all correlation coefficients were significant at .001 significance level. In light of these results, it was concluded that sociometric measures were reliable.

Dimensions of social status, social preference (SP), and social impact (SI) scores were derived from the standardized liking and standardized disliking scores. Each student was classified into one of six sociometric groups (popular, rejected, neglected, controversial, average, and other). SP score is an index of student popularity and is estimated by subtracting the standard disliking score from the standard liking score. SI score, on the other hand, reflects student’s social appearance and is estimated
by adding the standard liking and standard disliking scores (Stone, & La Greca, 1990). By using SP and SI scores, students were placed in one of the six sub-sociometric groups according to the measures used by Asher and Dodge (1986) in sociometric classification. To determine the variables, which influence the students’ sociometric status, the Student Information Form, Physical Appearance Rating Form and Social Skills Rating System-Teacher Form were used.

**The Student Information Form**

The Student Information Form was developed by the researchers. In the form, there are questions about the students (school, branch, and grade) and the variables (gender, age, teacher’s opinion of the students on their sociometric status) of the study.

**The Physical Appearance Rating Form**

The Physical Appearance Rating Form was developed by Bakkaloğlu and Baydik in 2008. This rating form was used to obtain teachers’ opinions on the physical appearance of students. The items in the rating form were scored by the teacher for each student using a three point rating (1: I disagree, 2: I partially agree, 3: I completely agree). There are 20 items in the form. For the rating form, the highest score that can be obtained is 60 and the lowest score is 20.

**The Social Skills Rating System-Teacher Form**

The Social Skills Rating System-Teacher Form was used to determine the students’ social skills, behavior problems, and academic competency. The Social Skills Rating System developed by Gresham and Elliot (1990) was adapted to Turkish by Sucuoğlu and Özokçu (2005). The evaluation of social skills and behavior problems subscales were done on a 3 point rating scale (0-never does it, 1-does it sometimes, 2-does it frequently) and academic competency subscale on a 5-point rating scale (for each item, the student performance is indicated by numbers with number 1 showing a place in the bottom 10% cluster, number 2 in the next 20% cluster, number 3 in the middle 40% cluster, number 4 in the top 20% cluster, and number 5 in the top 10% cluster). The lowest score that can be achieved on the social skills subscale is 0 and the highest score is 60. For the behavior problems subscale, the highest score
can be obtained is 36 and the lowest score is 0. The Student Information Form, Physical Appearance Rating Form and Social Skills Rating System-Teacher Form were answered by the teachers for each student.

**Results**

Mann Whitney U test was used to determine group differences across standardized liking and disliking scores. The results showed that standardized liking score of the students without special needs were significantly higher than the score of students with special needs. Inversely, the students with special needs had higher standardized disliking score than students without special needs. One way ANOVA was used to evaluate differences in the rating scores of the groups. The results derived from one way ANOVA showed that the standardized rating score of the students without special needs was higher than the score of the students with special needs significantly. To determine the significance of the group differences in sociometric classification, Chi-square test was used. According to the results, the distributions of the groups into sociometric classes were significantly different.

To determine the differences between the groups of students with and without special needs in each sociometric group in terms of the percentage distribution, the z test of the difference between two independent percentages was used. Each z value estimated for each sociometric group was checked against the z value for ±1.96 at .05 significance level. It is accepted that if the z value is within ±1.96, the percentages are equal and that the percentages of the two groups are not significantly different (Hovardaoğlu, 1994). The results indicated that the differences between the groups were in popular and rejected classes. The distribution of the group of without special needs was higher than that of the group with special needs in the popular class, but that students with special needs had higher distributions in the rejected class.

Stepwise regression analysis was used in order to determine which variables (gender, age, physical appearance, social skills, behavior problems, and academic competence) predict the scores derived from the sociometric measures. The results showed that for the group of special needs, academic competence predicted the standardized liking score and physical appearance. In addition, behavior problems predicted the standardized rating score. For this group, the standardized disliking score
was predicted by behavior problems. There was a positive relationship between social acceptance and academic competence. The relationships between social acceptance and physical appearance was in the same direction. However, there was a negative relationship between social acceptance and behavior problems. There was a positive relationship between social rejection and behavior problems.

For the group of without special needs, academic competence and social skills predicted the standardized liking score. In addition, academic competence, behavior problems, physical appearance, and gender predicted the standardized rating score. There was a positive relationships between social acceptance and academic competence. The relationship between social acceptance and physical appearance was in the same direction. However, there was a negative relationships between social acceptance and behavior problems. The mean standardized rating score ($M = .26$) of the girls without special needs was higher than that of the boys ($M = -.12$) without special needs. For the same group, the standardized disliking score was predicted by behavior problems, academic competence and physical appearance. There was a positive relationships between social rejection and behavior problems. However, the direction of the relation was negative for academic competence and physical appearance.

**Discussion**

In conclusion, students with special needs were accepted less and rejected more than their peers who do not have such needs. While in the popular class there were more students without special needs, there were more students with special needs in the rejected class. The results of the study were concurred with literature (Larrivee & Horne, 1991; Roberts & Zubrick, 1992; Sater & French, 1989; Smoot, 2004; Stone & La Greca, 1990; Taylor et al., 1987; Şahbaz, 2004; Vuran, 2005).

For the students with special needs, academic competence and physical appearance were seen as important predictors of social acceptance. For students without special needs, academic competence strongly predicted social acceptance, while behavior problems was the best predictor of social rejection in both groups. The results of some studies have shown that physical attractiveness was a strong predictor for social acceptance of students without special needs (Coie et al., 1982; Dion, & Berscheid,
However, there is no known study which examines the relationship between physical appearance and social status of students with special needs in the literature. In this research, it was shown that physical appearance was seen as an important predictor of social acceptance for students with special needs and that there was a positive relationship between these two variables. It was concluded in many studies that students with low academic competence also have low sociometric status (Larrieve, & Horne, 1991; Roberts, & Zubrick, 1992; Sater, & French, 1989). Our study confirmed those results. While behavior problems were seen as the best predictor for social rejection, social acceptance was predicted weakly by behavior problems in both groups. According to the relevant literature, students with behavior problems also have low social acceptance (Roberts, & Zubrick, 1992; Ummanel, 2007) and more rejection (Cantrell, & Prinz, 1985; Carlson et al., 1984; Coie et al., 1982; French, & Waas, 1985; Roberts, & Zubrick, 1992; Warden, & Mackinnon, 2003).

In light of these findings, in order to increase academic competence and decrease the behavior problems of students with special needs, teachers should be provided with the necessary knowledge and skills to modify their instruction and manage their behavior problems accordingly. In addition, students’ knowledge and skills on personal care, hygiene, health, and dressing should be improved. Although social skills was a weak predictor and predicted only the social acceptance of students without special needs, it is stated that social skills have a great importance for preventing behavior problems and academic failure (Sucuoğlu, & Kargin, 2006). Recently, social skills instruction has become a popular topic in Turkey (Akfirat, 2004; Avcioğlu, 2001, 2005; Çifçi, 2001; Çifçi, & Sucuoğlu, 2003; Özokçu, 2008; Sazak, 2003; Sucuoğlu, & Çifçi, 2001; Ünsal, 2007) but more research is needed in the field in order to gain a better understanding about how social skills are linked to behavior problems and academic achievement.
References/Kaynakça


