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Comparison of Students' and Teachers' Perceptions of the Psychosocial Learning Environment in Mathematics Classrooms

Nishat Zafar [1] Mobeen Ul Islam [2] Laraib [3]

Abstract: The research paper has investigated the perceptions of Grade 10 students and mathematics teachers with the psychosocial learning environment in mathematics classrooms and contrasted the two data sets to find instances of convergences and divergences. A quantitative, descriptive-comparative research design was adopted whereby 2,400 students and 120 mathematics instructors in 12 public secondary schools in District Gujranwala in Pakistan were used. The adapted version of the What Is Happening in This Class? was used to collect the data. Questionnaire: (WIHIC) measured six dimensions: Student Cohesiveness, Teacher Support, Involvement, Task Orientation, Cooperation and Equity. Results obtained have showed that students and teachers have a positive perception of the classroom environment in all dimensions, with teachers having a higher perception in all dimensions especially the Teacher Support, Involvement and Equity. Although students reported moderate engagement, other areas like student involvement and perceived equity showed that there were slight discrepancies in how teachers intended to do something, and how students experienced it. The research points to the relevance of integrating classroom practice with the students' views, reinforcing the active learning strategies, as well as a supportive and equitable psychosocial environment, to improve the engagement and student performance in mathematics.

Key Words: Psychosocial Learning Environment, Mathematics Classroom, Student Perceptions, Teacher Perceptions, WIHIC, Classroom Climate, Secondary Education

Introduction

Background of the Study

The classroom learning environment is well-known as one of the most crucial factors that affect the academic, social, and emotional progression of students. The psychosocial learning climate, which comprises interpersonal relations, emotional support, classroom norms, teacher behavior, and student interaction, is one of its dimensions (the others are social, cultural, and cognitive learning environments) that contribute to the learning experiences of students (Fraser, 2014). An encouraging psychosocial classroom atmosphere encourages motivation, interest, and success, whereas the unsupportive atmosphere might cause disengagement, anxiety, and low academic results. Therefore, the psychosocial nature of classrooms has been of great interest in educational studies.

The situation in mathematics classrooms is the most problematic as mathematics is abstract, and mathematics anxiety is prevalent among students. Studies have always demonstrated that the success of students in mathematics is not only dependent on their cognitive ability or learning methods but the classroom climate in which they learn has a great influence. Such aspects as teacher support, instruction clarity, equity, task orientation and student opportunity contribute greatly to student attitude towards mathematics and their inclination to engage in learning activities. Whenever the students feel that their mathematics classrooms are positive and well organized, they tend to have positive attitudes and show increased academic achievement (Pekrun, 2006).

The perceptions of the psychosocial learning environment by students are crucial since they capture the experiences of the students in the classroom. Learners on social-constructivist viewpoints are active interpreters of their worlds

[1] Associate Lecturer, Department of Education, University of Gujrat, Gujrat, Punjab, Pakistan. Email: nishat.zafar@uog.edu.pk
[2] Assistant Professor, Department of Education, University of Gujrat, Gujrat, Punjab, Pakistan. Email: drmobeen.islam@uog.edu.pk
[3] Research Scholar, Department of Education, University of Gujrat, Gujrat, Punjab, Pakistan. Email: laraibasif741@gmail.com

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Corresponding Author: Laraib (✉ laraibasif741@gmail.com)

through their everyday interactions with teachers and other learners. Such perceptions affect their emotional reactions, motivation, and academic behaviors of the students. Empirical research findings have revealed that perception of teachers to be supportive, peer cooperation, and classroom fairness are positively related with mathematics performance and lower mathematics anxiety among the students (Aldridge & Fraser, 2000).

On the other hand, teachers also develop perceptions of the classroom psychosocial environment which in most cases is based on their teaching intentions, classroom management and their experiences. The teachers can perceive the classroom setting as a positive one in case, the lesson is properly organized, the learning goals are achieved, and the disciplinary problems are minimal. Yet the perceptions that teachers have might not necessarily be in line with the experiences of the students, especially in the context of emotional support, equity, and participation opportunities (Fraser & Fisher, 1983). These differences in perceptions are significant, as it is teachers who are the main actors who can create classroom climates, and inappropriate alignment between teachers and students' perceptions can be detrimental to teaching effectiveness and student achievement.

Comparative research has shown differences in the perceptions by both students and teacher in the classroom to be ordinary. The teachers tend to give higher ratings than students do on classroom environment, particularly in areas that touch on support and involvement (Den Brok et al., 2005). Such differences can be due to difference in expectations, power and roles in the classroom. Teachers emphasize the method of instruction and classroom management, but students might be more concerned with the relationship and emotional aspects of the interaction in the classroom. These differences are important since the perceptions of students are directly related to learning outcomes than those of teachers (Fraser, 2011).

Mathematics education Research instruments like Classroom Environment Scale (CES), Questionnaire on Teacher Interaction (QTI) and What Is Happening In this Class? have been utilized in the research. The (WIHIC) questionnaires have been popularly utilized and applied in the study of psychosocial learning environment on both the student as well as the teacher side (Wubbels & Brekelmans, 2005). Research involving these measures has shown that psychosocial classroom variables are significantly related to cognitive and affective student performance in mathematics such as the achievement, self-efficacy, and liking learning (Fraser & Goh, 2003).

Although the amount of international research is increasing, not many studies have compared the perception of students and teachers with regards to the psychosocial learning environment in particular in the mathematics classroom, especially in the context of developing countries. In this context, educational systems are usually confronted with issues pertaining to high classes, exam pressures and low teacher training with regard to social-emotional concerns of teaching. These mechanisms can magnify the perception boundaries between students and instructors and have adverse impact on the classroom environment (Aldridge et al., 1999).

To help in enhancing teaching and learning mathematics it is important to know both sides of the argument in order to create a positive learning atmosphere. Students have been found to have a strong association between their perceptions of classroom atmosphere, emotional support, and general psychosocial climate with their emotional experiences, engagement and academic performance in mathematics learning settings (Patrick et al., 2000). Research has established that students who feel positive classroom atmosphere say they enjoy mathematics and are more engaged with mathematics and this is among the predictors of achievement and motivation. In cases where the teachers understand the way students experience the interactions and emotional support in the classroom, they are in a better position to reflect on their practice and conduct informed changes as the comparative studies continue to find that the self-perceptions of the teachers and the perceived perception of the students greatly differ, thus pointing to the possibility of a mismatch between the intended and experienced classroom dynamics (Roorda et al., 2011). The comparative evidence may be used to enhance teacher professional development programs, as the perspectives may inform the strategies used to provide more support to students in the classroom, on the understanding of the psychosocial needs and viewpoints of the students and the teacher, respectively (Kunter et al., 2013). Consequently, the comparison of students and teachers perceptions about the psychosocial learning environment in mathematics classes is not only theoretically important, as it would expand the knowledge about the effect of the classroom climate on the engagement

of students and their learning, but also practically important, as it would equip educators with the actionable information on how to ameliorate the current teaching practices and develop effective professional development.

Rationale of the Study

The psychosocial learning conditions of the mathematics classrooms are very important in determining the engagement of the students, their emotional status, and their academic performance. Even though earlier studies have been conducted on classroom settings either by students or by teachers, there has been scant emphasis on eliciting these perspectives of students and teachers simultaneously in the same mathematics classes. These comparisons are necessary because students and teachers will perceive classroom interactions, support and participation in a different way because they have different roles in teaching learning process. Students/Teachers Disjunctions could reflect any differences between the planned instructional activities and what students actually experience in the classroom, especially in mathematics which has been found to be full of anxiety and student disengagement. The identification of these gaps may help to bring good insights to improve classroom climate, harmonize the teaching practices with the psychosocial needs of students, and improve mathematics learning. Thus, the research is justified by the need to compare the perceptions of the students and teachers on the psychosocial learning environment in the mathematics classrooms and to produce evidence that can be used to inform the effective practices of instruction and professional development.

Statement of the Problem

Although psychosocial learning environment is known to be important in improving engagement, emotional wellbeing, and performance of students in mathematics, classroom activities tend to focus on the delivery of content and performance in exams without considering psychosocial aspects of learning. Whereas teachers have a focal role in influencing the classroom perceptions, they may be having misleading views of the psychosocial classroom environment, which are not practical to the real classroom experiences of students. This disparity may have an adverse impact on the motivation of students, their involvement, and their attitudes to mathematics. Also, the available literature has mostly analyzed the classroom learning conditions either through the lens of students or teachers and there is limited evidence of empirical research between both perspectives in mathematics classroom. Without such comparative data, it is hard to determine perceptual gaps and the obstacles that might exist to reduce effective teaching and learning. Devoid of a clear perspective of the perception of the psychosocial learning environment by the students and teachers, an attempt to improve mathematics instruction can miss out on very important social and emotional elements that are critical in influencing student learning. Thus, there is a necessity to compare systematically the perceptions of students and teachers regarding the psychosocial learning environment in mathematics classrooms to implement these in the classroom and contribute to the establishment of more efficient and enabling learning environments.

Objectives of the Study

1. Explore students' perceptions about the psychosocial classroom learning environment in mathematics classrooms.
2. Explain the perceptions of teachers about the psychosocial learning environment of mathematics classrooms.
3. Compare the perceptions of the students and the teachers to the psychosocial learning environment within the mathematics classrooms.

Research Questions

1. How do students perceive psychosocial learning environment in mathematics classroom?
2. What do teachers think of the psychosocial learning environment in mathematics classrooms?
3. Do students and teachers differ significantly in their perceptions of the psychosocial learning environment that occurs in mathematics classrooms?

Review of Literature

The idea of the psychosocial learning environment has been developed in educational psychology and is focused on social, emotional, and interpersonal aspects of classroom life. The initial studies of Lewin (2013) theorized behavior as an outcome of the interaction between individuals and their environments, which led to further studies of the classroom environment. This view emphasizes the fact that the learning outcomes of students are affected by instructional content as well as social climate and emotional tone of the classroom. The classroom setting has thus turned out to be a hot spot in exploring a successful way of teaching and learning.

It is based on this that Moos (1979) proposed a system of studying human environments, defining the dimensions of relationships, personal development, and system maintenance as the most important elements of psychosocial environments. These four aspects (teacher-student relationships, student involvement, goal orientation and classroom organization) are emphasized in this framework when applied to educational settings. The work by Moos gave a theoretical foundation to the creation of measurement tools in classroom environments and also highlighted the fact that the perception of students on their environment has a great influence on academic and emotional growth of the students.

The study of learning in the classroom setting took a new impetus with the study by Fraser (1998) that has highlighted the relevance of student perceptions in the process of gauging the effectiveness of classroom learning. Fraser offered an argument that students make the best judges of the classroom environment since they live in that environment on a daily basis. His works revealed that positive psychosocial classroom climates are always related to higher student achievement, learning satisfaction and learning attitude. This literature made classroom environment research to be a crucial field in the research of education.

The psychosocial learning environment has been of special interest in mathematics education since the subject is abstract and students are prone to anxiety and low self-efficacy. It was discovered that the attitude that students had towards mathematics was highly determined by classroom experiences, such as the support of teachers and peer interaction. Their meta-analysis showed that poor classroom climates are another cause of negative attitudes to mathematics that may adversely affect academic performance in the subject in the long term.

Educator conduct is one of the main factors that determine the psychosocial climate of mathematics classrooms. Wubbels and Brekelmans (2005) have analyzed interpersonal behavior of teachers and have discovered that teacher leadership, knowledge and friendliness have a great impact on the engagement and motivation of students. Their results have indicated that in the cases when teachers create positive, supportive, and structured classroom environments, students tend to become more active and have positive attitudes towards learning mathematics.

Motivational and emotional outcomes are closely associated with the perceptions of students with regard to the psychosocial learning environment. Ryan and Deci (2000) state that self-determination theory focuses on the importance of autonomy, competence and relatedness in promoting intrinsic motivation. Motivation and engagement are promoted in classroom environments where there exist student autonomy and positive relationships. This theoretical approach underscores the importance of the perceptions of students towards teacher support and classroom interaction of students in mathematics classrooms.

Equity and fairness of classroom are also vital elements of psychosocial learning environment. Through the equity theory, Adams (1965) opined that the perception of fairness determines the level of motivation and satisfaction in individuals. Students in schools who feel fairly treated by their teachers will have good chances of participating positively in the learning processes. The feeling that there is inequity, especially in mathematics classes can result to disengagement and low self-confidence in academic activities.

Another aspect of psychosocial learning environment is peer interactions. According to Johnson and Johnson (1987), cooperative learning was found to be instrumental in assisting positive peer associations and academic success. Their study demonstrated that a learning environment based on collaboration and interpersonal respect in classrooms

is supportive and this can be used especially in mathematics whereby discussing and finding solutions can encourage learning.

The atmosphere in the classroom, the emotional aspect, has also been much research. The control-value theory of achievement emotions postulated by Pekrun (2006) is used to explain the effects that classroom settings have on the feelings of students including enjoyment, anxiety, and boredom. The positive emotions in mathematics classroom are attached to the environment that seems to be supportive and well-organized, whereas the mathematics anxiety and avoidance behaviors relate to the controlling environment and unsupportive environment.

The standardization of the psychosocial learning environment has assisted in the measurement process. Classroom Environment Scale (CES) created by Trickett and Moos (1985) was one of the earliest instruments created to measure classroom social climates. The CES allowed the researchers to be able to measure the psychosocial dimensions and analyze their correlation with the student outcomes predetermining the further tools in the classroom environment.

Fraser et al. (1996) later came up with the What Is Happening In this Class? It used the (WIHIC) questionnaire, which incorporated modern learning theories and classroom practices. The WIHIC is popular in research about mathematics curriculum and has proven to be very reliable and valid in a variety of cultures. Its application has helped in a better comprehension of the way students view their learning environments in terms of the psychosocial factors.

Perception of teachers on classroom environment has also been looked into though not as frequently as the perceptions of the students. Kunter et al. (2013) discovered that teachers tend to assess the classroom environments in terms of instructional flow and classroom management effectiveness. But their results imply that educators can miss seeing the emotional experience of students, which creates a possibility of the existence of misalignments between the intentions of teachers and the perceptions of students.

Comparative analyses of the perceptions of the students and teachers show that there are significant differences. Den Brok et al. (2004) have indicated that teachers tend to rate classroom environments more positively than students, especially in terms of support and student participation. Such differences accentuate the necessity of comparative research in order to determine gaps between intended and experienced classroom settings.

Psychosocial learning settings are also perceived in the context of cultural aspects and contexts. According to Hofstede (2001), other cultural values influence the practices of education and classroom interactions. Classroom contexts, particularly in the developing countries, are perhaps based on the idea of performance over emotional assistance, which can increase perceptual differences between students and teachers.

Large class sizes and fewer chances of professional development in the developing education environments might influence the psychosocial learning environment adversely. As Edwards et al. (2017) state, in many cases, due to overcrowded classrooms and excessive workloads, a teacher does not have a chance to interact meaningfully with students. Such conditions can make mathematics classrooms seem like impersonal and stressful by the students.

Empowerment of teachers is a strategy that has been discovered as significant in enhancing the classroom psychosocial climates. Darling-Hammond et al. (2017) pointed out that social-emotional competencies and classroom interaction skill instruction in professional learning programs increase the capacity of teachers to provide positive learning conditions. This type of training is especially applicable when working with mathematics teachers who have to deal with varied needs of learners.

The last research have stressed the necessity to harmonize the psychosocial needs of students and classroom environments. According to Miele (2009), students who have a positive perception of teacher support and classroom relationships have a high level of academic motivation and involvement. This observation supports the fact that classroom evaluation should consider the perception of students.

Although a lot of research has been done worldwide, no direct studies have been done to compare the perceptions of students and teachers on psychosocial learning environment in mathematics classrooms that exist in particular

educational settings. OECD (2019) emphasized that evidence-based educational reforms should be supported by context-specific research. This gap can be filled to offer some insights on how mathematics can be taught and learned.

Research Design

The research design used in this study was a quantitative, descriptive-comparative research design, which was used to explore the perceptions of mathematics classrooms of secondary school mathematics teachers and students towards the psychosocial learning environment. The descriptive component was used to streamline the process of collecting and summing up the numerical data on perceptions of teachers and students in question, whereas the comparative component gave an opportunity to explore possible differences among the groups. This design was deemed suitable since it would be able to capture what already exists without controlling any variables thus, giving genuine information regarding the experiences of the classroom between the teachers and the students. The study population was all the mathematics teachers in secondary schools, and Grade 10 students in the public schools in the District Gujranwala in Pakistan. The sampling method used was the cluster random sampling which was used to select schools proportionately among the school types. Among the schools, 20 students at each school were selected randomly thus, making the total sample of students to 2,400 students. Also, the mathematics teacher in each of the sampled schools was sampled giving a total sample of 120 mathematics teachers. This sampling strategy was able to provide a balanced representation among schools and gender and increase the extrapolation of the results to the whole population of secondary schools within the district.

Instrumentation

Mathematics classroom psychosocial learning environment was evaluated in both perspectives of the students and teachers to give a holistic picture of the classroom dynamics. Perceptions of teachers and students were evaluated with the help of a modified variant of the WIHIC (What Is Happening In This Class?) questionnaire created by Fraser (1996) and having been previously validated and adapted across cultures to the United Kingdom, Canada, India, Thailand, China, Pakistan and Australia (Fraser, 2011). The questionnaire used by the students and teachers had six major dimensions: Student Cohesiveness, Teacher Support, Involvement, Task Orientation, Cooperation, and Equity. The items were scored in five-point Likert scale, starting with Almost Never (1) to Almost Always (5), to the extent to which the respondent agreed with each statement (Gay et al., 2009). This method enabled the comparison of the perceptions of students and teachers systematically on various dimensions of psychosocial classroom environment. A refinement in expert review was done to make the instrument relevant to both groups and clear due to the contexts of mathematics classrooms in secondary schools. The ability to compare students and teachers using the same instrument helped to directly compare the two sides and bring an insight on where there is a similarity and where there is a difference in perceptions. This two-sided viewpoint emphasizes possible discrepancies between what teachers want to do in classrooms and what actually happens to students to provide data to shape the choice of what actions should be taken to make the learning of mathematics a more positive and effective experience.

Data Collection

The target sample of Grade 10 students and mathematics teachers in some of the selected public secondary schools of District Gujranwala, Pakistan was used to gather data. The educational authorities and school principals were contacted to get permission, and the participants were made aware of the purpose, voluntary participation and confidentiality. The modified WIHIC questionnaire was used in the classroom, whereby students were requested to answer the questionnaire under the supervision of the researcher and teachers under their own schedule. It was a three-week process, and all questionnaires were verified to be complete then they were coded to analyse them. This process provided credible and legitimate information to compare the perception of students and teachers on the psychosocial learning environment.

Data Analysis

Table 1

Comparison of Students Perceptions about Psychosocial Learning Environment in Mathematics Classes

Dimensions of Psychosocial Learning Environment	Mean	S.D.	M.D.	t-value	Sig (2-tailed)
Student Cohesiveness	4.21	0.56	1.21	105.21	.000**
Teacher Support	4.12	0.73	1.12	87.36	.000**
Involvement	3.60	0.91	0.60	49.89	.000**
Task Orientation	4.28	0.63	1.28	102.54	.000**
Cooperation	4.09	0.71	1.09	84.62	.000**
Equity	4.17	0.74	1.17	89.92	.000**
Overall Students' Perceptions	4.08	0.51	1.08	106.14	.000**

*N = 2,400, df = 2,399, *p < .05, p < .01*

Table 1 shows the perceptions of Grade 10 students on the psychosocial learning environment in a mathematics classroom. The students had a positive perception on all 6 dimensions with the mean scores being higher than the neutral point of 3 on the Likert scale of five points. Student Cohesiveness reported 4.21, which means that students feel well-supported by their peers and friendly classroom environment and Teacher Support (Mean = 4.12) implies that students feel that they are well-supported by their mathematics teachers. The dimension Involvement was given slightly less mean, 3.60, which means that students are moderate in their engagement in classroom activities, however, it is still above the neutral midpoint, indicating that, on the whole, students are engaged in the learning process. Task Orientation (Mean = 4.28), Cooperation (Mean = 4.09), and Equity (Mean = 4.17) had also high scores, and this means that students rate their mathematics classrooms to be organized, collaborative, and fair. A general perception of 4.08 proves that students have a positive perception of the psychosocial environment. The positive perceptions of the students were statistically significant ($p < .01$) in all dimensions, which proves that positive perceptions of students are not random. These insights indicate that although the students are extremely pleased with teacher support, peer cohesion, classroom organization, cooperation, and equity, it might be possible to further improve the student involvement to have the most out of mathematics learning.

Table 2

Comparison of Teachers' Perceptions about Psychosocial Learning Environment in Mathematics

Dimensions of Psychosocial Learning Environment	Mean	S.D.	M.D.	df	t-value	Sig (2-tailed)
Student Cohesiveness	4.48	0.53	1.48	119	20.45	.000**
Teacher Support	4.50	0.44	1.50	119	24.38	.000**
Involvement	4.12	0.67	1.12	119	11.60	.000**
Task Orientation	4.19	0.68	1.19	119	12.32	.000**
Cooperation	4.27	0.69	1.27	119	13.28	.000**
Equity	4.61	0.46	1.61	119	25.71	.000**
Overall, Teachers' Perceptions	4.36	0.45	1.36	119	21.53	.000**

*N = 120, df = 119, *p < .05, p < .01*

The data in Table 2 shows the beliefs of mathematics teachers about the psychosocial learning classroom environment. The teachers have given consistently positive perceptions in all the dimensions, and the mean scores are significantly above the neutral position of 3. Student Cohesiveness had a score of 4.48, which means that teachers regard the relationship and cooperation with peers as high. The highest score was in Teacher Support with a rating of 4.50 indicating that the teachers have no second doubts about offering guidance and support to their students. The dimension of Involvement got a mean of 4.12, which was based on the fact that the teachers assumed that the students are actively involved in classroom activities. Task Orientation (Mean = 4.19), Cooperation (Mean = 4.27), and Equity (Mean = 4.61) also scored high, and this indicates that teachers think their classrooms are well-structured, collaborative and equitable. The average mean of 4.36 suggests that there is a positive perception of the psychosocial environment by

teachers who consider it to be favorable to the effective learning process. All of the dimensions were statistically significant ($p < .01$), which proves that such perceptions are strong. The findings imply that educators are aware of a very positive classroom culture especially on equity, teacher support and student cooperation, which may help in successful learning of mathematics.

Table 3

Comparison of Students and Teachers' perceptions about Psychosocial Learning Environment in Mathematics Classes

Dimensions of Psychosocial Learning Environment	Student Mean	Student S.D.	Teacher Mean	Teacher S.D.	M.D.	t-value	Sig. (2-tailed)	η^2
Student Cohesiveness	4.22	0.57	4.49	0.52	0.27	3.32	.001	0.010
Teacher Support	4.11	0.75	4.49	0.44	0.38	5.80	.000	0.031
Involvement	3.58	0.93	4.11	0.68	0.53	4.02	.000	0.015
Task Orientation	4.29	0.64	4.18	0.69	-0.11	-1.17	.242	0.001
Cooperation	4.08	0.72	4.26	0.67	0.19	1.81	.071	0.003
Equity	4.18	0.74	4.62	0.45	0.44	6.58	.000	0.039
Overall Perceptions	4.08	0.52	4.36	0.45	0.28	3.85	.000	0.014

*$N = 2,400$ (students), 120 (teachers), η^2 = effect size, M.D. = Mean Difference, *$p < .05$, $p < .01$*

Table 3 illustrates the differences between the perception of students and teachers on the psychosocial learning environment in math classes. On the whole, there were small differences between the perceptions of teachers and students in the majority of dimensions. The mean difference in Student Cohesiveness was 0.27, which implies a stronger perception of peer relationships by teachers as compared to that of students, and the difference between them was significant ($t = 3.32$, $p = .001$). On the same note, Teacher Support had a mean difference of 0.38 which indicates that teachers viewed their support as more effective compared to how students viewed them and the difference was very significant ($t = 5.80$, $p < .01$). The Involvement also showed a substantial difference (M.D= 0.53, t= 4.02, $p<.01$) which implied that teachers have the perception that students are more engaged in classroom activities as compared to students reporting themselves. Conversely, there was a small, non-significant negative mean difference in Task Orientation (M.D. = -0.11, t = -1.17, $p = .242$) implying that students report slightly more task based classroom activities compared to teachers, however, it is not statistically significant. There was no significant difference in cooperation as well (M.D. = 0.19, t = 1.81, $p = .071$). The greatest significant dissimilarity was recorded in Equity (M.D. = 0.44, t = 6.58, $p < .01$), which indicates that teachers have a more positive view of classroom fairness and equal treatment compared to students. It also had a considerable difference in the overall perceptions (M.D. = 0.28, t = 3.85, p =. 01) with teachers indicating more overall positive perceptions than students did.

These findings show that, although students and teachers have a positive view of the mathematics classroom environment, teachers are more inclined to rate the dimensions like teacher support, involvement, and equity higher than students. The differences, though with small effect size (η 2 between 0.001 and 0.039) allow pointing out possible discrepancies between the intent of teachers and the experience of students, especially in terms of engagement and equity, which can be used to develop strategies that can bring classroom activities closer to the perceptions of students.

Conclusions

Finally, Grade 10 students and mathematics teachers have a positive perception of the psychosocial learning climate in mathematics classrooms on all of the measured dimensions. Student Cohesiveness, Teacher Support, Task Orientation, Cooperation, and Equity are high, meaning that students feel friendly, orderly, and supported in the classroom environment and are moderately involved, meaning that they might be engaged further. Likewise, teachers have a high rating of the environment, especially Teacher Support, Equity, Student Cohesiveness, Cooperation and Task Orientation, which represent their satisfaction with offering a just, cooperative and well-organized classroom climate, with moderate-level perceptions of student involvement. The perceptions of students and teachers mentioned above are compared and show that teachers are always slightly higher perceived than the students in Teacher Support,

Involvement, and Equity, with some minor differences between the intentions of teachers and the actual experiences of the students. Although no significant differences were identified in the areas of Task Orientation and Cooperation, the results indicated that there should be a closer alignment between classroom practices and the views of students to achieve engagement, fairness and a positive psychosocial learning environment that facilitates successful learning of mathematics.

Discussion

The current research explored the views of students and teachers about psychosocial learning environment in mathematics classes and compared the two perspectives in the research to find the areas of convergence and divergence. On the whole, the results show that students and teachers have a positive perception of the classroom setting, which can be interpreted as a fairly supportive, well-organized, and cooperative learning environment. Taking into consideration the student point of view, the high scores on Student Cohesiveness, Teacher Support, Task Orientation, Cooperation and Equity indicate that students feel that they have good relationships with their peers, teachers are seen as supportive and the school classroom is seen as organized and equitable. These findings support other studies that have mentioned that positive classroom climates are essential in academic engagement and social development (Fraser, 2011). The change in Involvement is slightly lower, which means the level of participation is moderate, and although students have the general participation in the classroom activity, it is possible that strategies could be used to promote additional active learning and student-centered participation.

Teachers on the other hand had slightly higher perceptions than the students on most of the dimensions, especially Teacher Support, Involvement and Equity. It means that educators view themselves as giving considerable assistance, facilitating interaction, and being just in the classroom. The congruence of the high scores regarding the Student Cohesiveness and Cooperation also prove that teachers appreciate collaborative interaction of peers and favorable social climate. These results are consistent with the prior research which indicated that the perceived classroom environments reflect slight positive difference in perception between teachers and students due to the difference in experience and worldview (Fraser, 2014).

The perceptions of students and teachers compared showed statistically significant differences in a number of dimensions, especially Teacher Support, Involvement, and Equity, which indicate the presence of a subtle discrepancy between the intentions of teachers and experiences of students. Although both groups shared the general positive character of environment, the teachers were more inclined to overestimate the engagement of students and equality of classroom interactions. These differences highlight the need to have constant feedback systems, reflective teaching, and ways of improving the voice of students, so that the experiences of the students become more consistent with the teaching objectives of the teachers. These results are in line with the general literature that has highlighted the importance of taking into consideration the student and teacher viewpoints in assessing classroom climates (Fraser et al., 2010).

Recommendations

Considering the results of this research, it is suggested that mathematics teachers should remain supportive and collaborative classroom through encouraging peer binding, cooperation, and equal treatment among students, and at the same time, keeping the levels of guidance and encouragement high. In order to engage the students more, an educator must employ active learning techniques like inquiry learning, group problem solving, project-based learning and classroom discussions through which the student will have more control and should have a say in the learning process. As another measure, regular feedback of students would assist the teacher to notice some of the gaps in perceptions especially on teacher support, involvement and equity so that they can make appropriate changes in their approach to instruction. Also, the school administrators are expected to offer resources, training, and mentoring to assist teachers in the design of inclusive and effective psychosocial learning environments, promote professional growth, peer observations and reflective teaching that matches the classroom practices with student experiences.

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