DEPARTMENT OF PEDAGOGICAL, CURRICULAR AND PROFESSIONAL STUDIES

Students' Perception of Class Interrelationships and its Relation to Students' Sex, School Satisfaction, School Absenteeism and School Achievement

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Abstract

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Keywords:	interpersonal relations; peer relations; student; relations; student interaction; student-student relationships; high school; upper secondary school; classroom environment; classroom climate; classroom management; classroom dynamics

Purpose:	The aim of the present study is to explore how upper secondary school students' perceive group dynamic aspects of the interrelationships in their class and how these perceptions are related to Sex, School Satisfaction, Absenteeism and Achievement.
Theory:	Group Dynamic Theory
Method:	Quantitative (means, standard deviations, factor analysis, bivariate correlations and multiple linear regressions)
Results:	Students' perception of the group dynamic aspects of their class interrelationships showed no significant sex differences. However, all these student perceptions were significantly, positively and moderately related to School Satisfaction. The group dynamic dimensions that were most strongly correlated to School Satisfaction were: Communication and Relatedness. The multiple linear regression analysis revealed that students' perception of the group dynamic dimensions of class interrelationship accounted for 54.4 % ($p < .01$) of the variance in the students' perceived School Satisfaction, 0.2 % ($p = .380$) of the variance in the students' Absenteeism and 7.6 % ($p < .01$) of the variance in the students' Achievement. The students' perception of the group dynamic dimensions of their class interrelationships: Communication and Relatedness were significantly, positively and slightly associated with Achievement. The regression analyses results for the variable, Sex, was not significant.

The variables, School Satisfaction, Absenteeism and Achievement were significantly, positively and slightly related. It is assumed that they measure different concepts and do not imply problems with multicollinearity, which is favourable for scale validity. However, scale validity was not optimal and requires substantial improvement. Yet, the results of the present study contributes to previous research within classroom environment with its group dynamic perspective on students' perception of their class interrelationships in relation to School Satisfaction, Absenteeism, Achievement and Sex.

It provides a foundation of correlations between students' perception of group dynamic aspects in their class interrelationship and students' School Satisfaction to a larger extent and Achievement to a minor extent. For future research, longitudinal explanatory studies, including causal modelling, are recommended, that investigate students' perception of the group dynamic aspects in the present study and its relation to School Satisfaction, Absenteeism, Achievement and Sex.

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1.   Background

1.1.   Introduction

Three of the main school related problem areas from the perspective of principals and teachers concern students' school dissatisfaction, high absenteeism and low achievements. Numerous studies show that students' perception of their class interrelationships are related to these three factors: school satisfaction, absenteeism and achievement (Trickett & Moos, 1974; Haertel, Walberg & Haertel, 1981; Kim & Kim, 2013, Glew, Fan, Katon, & Rivara (cited in PIRLS, 2016), Mishna, Cook, Gadalla, Daciuk, & Solomon and Tokunaga (cited in PIRLS, 2016), Juvonen (cited in Abdollahi & Noltemeyer, 2018); Shook & Clay (cited in Abdollahi & Noltemeyer, 2018); Spiridon & Evangelia (cited in Abdollahi & Noltemeyer, 2018); Hirata & Sako, 1998; The National Agency for Education, 2014; The Authority for Youth Policy and Civil Affairs (cited in The National Agency for Education, 2014); Fraser & Walberg, 1981; Haertel, Walberg & Haertel, 1981; Fraser & Fisher, 1982; Byrne, Hattie & Fraser, 1986; Baek & Choi, 2002).

It has formerly been claimed that students' perceptions of Cohesiveness, Democracy, Friction, and other psychological characteristics of social environment, mediate the multiplicity of events of instruction and other classroom activities and properties (Walberg, 1976). A multivariate analysis of behavioural factors and educational perceptions have been proposed to generate general factors of social environment that can improve learning and teaching (Walberg, 1976). It is suggested that high school teachers and educational administrators could reach further in their work, by being aware of the significance of students' psychosocial classroom environment (Baek & Choi, 2002).

There are four different types of classroom environment scales: Preference for Peer Conflict, Preference for Individualization, Preference for Teacher-Managed Structure and Actual Environment (Byrne, Hattie & Fraser, 1986). A scale that measures students' perception of their actual classroom environment is used in the present study. There are various ways to measure students' perceived social classroom environment and one of the most commonly used instruments within the educational domain is the Actual Classroom Environment Scale, ACES (Trickett & Moos, 1974) that include the dimension affiliation i.e. the degree of friendship that is reflected in the students' perception of their class interrelationships. Apart from Affiliation, ACES comprises the following dimensions: Student Involvement, Teacher Support, Task Orientation, Competition, Order and Organization, Rule Clarity, Teacher Control and Teacher Innovation (Trickett & Moos, 1974). The present study is directed towards the social component of classroom environment and more specifically, the students' interrelationships in their class. Of the ACES dimensions, it only includes Affiliation. Students find affiliation to be the most important dimension within their classroom environment followed by: rule clarity, teacher support, task orientation, involvement and order & organization (Wei &Elias, 2011). It has been found that affiliation is a fundamental dimension within classroom environment and that it is associated with students' motivational behaviour in the classroom, Anderson, Hamilton & Hattie (cited in Wei & Elias, 2011) advocate. More specifically, affiliation is related to students' extrinsic motivation in learning English (Wei &Elias, 2011. Affiliation also increases students' achievements, Haertel, Walberg and Haertel (cited in Wei &Elias, 2011) claim. No significant age differences for the dimension, Affiliation, within ACES, have been found between students aged 12-13, 14-15 and 16-17 (Byrne, Hattie & Fraser, 1986). Friendship is an essential concept to investigate to understand adolescents' social, emotional and cognitive development, Newcomb and Bagwell (cited in Kim & Kim, 2013) claim. Students' interrelationships can support academic achievements and school attachment, Crosnoe, Cavanage & Elder and Moody & White (cited in Kim & Kim, 2013) state. Reciprocal friendship is connected to a stronger school belonging and higher academic achievements measured in Grade Point Average, GPA, compared to non-reciprocal friendship,Vaquera and Kao (cited in Kim & Kim, 2013) argue. In a study of social cohesion at school level, performed by Moody and White (cited in Kim & Kim,

2013), it was also found that strong friendship ties at school level, contributed to students' attachment to school.

Students' interrelationships have previously also been studied through The Learning Environment Inventory, LEI, (Anderson & Wahlberg, 1974) which measures students' perception of the social environment in their high school classrooms and some of the aspects that are included are: cohesiveness, diversity of students' interests, friction, democracy (referring to the degree of students class decisions being performed by all students), cliquishness, satisfaction and students' inclination of competitiveness (Fraser, Anderson & Walberg, 1982). There are also other studies that have investigated students' perception of class interrelationships through the concepts: cohesion, (Haertel, Walberg & Haertel, 1981; Clément, Dörnyei & Noels, 1994; Wong & Fraser, 1994), integration (Wong & Fraser, 1994), friction and cliquishness (Haertel, Walberg & Haertel, 1981).

The insight into how strongly environmental factors influence us, has created an extensive body of research with a fundamental purpose, to create a good learning environment. All learning occurs through filters of attitudes and perceptions, according to Marzano (cited in Levine & Donitsa-Schmidt, 1996). For this reason it is essential to investigate students' perception of their classroom environment. Students prefer their classroom environment (chemistry laboratory) to be different from their actual perception of it (Wong & Fraser, 1994) and the results replicates previous research on classroom environment performed with other instruments by Moos and Fraser (cited in Wong & Fraser, 1994) and Fisher and Fraser (1983). As students' perception of the classroom environment is not as satisfying as they wish it to be, investigations of students' perception of classroom environment in relation to School Satisfaction is further motivated. Furthermore, teachers perceive classroom environment as more favourable than students do. Students prefer a more positive atmosphere than teachers (Fisher & Fraser, 1983). These findings make it important to foremost focus on students' perception of classroom environment, as they are the learners, even though teachers' perception of their work environment probably also is important indirectly, for the purpose of improving the prerequisites for students' learning. An extensive study claims that when students' are asked about classroom learning environment, they say that they prefer to belong to a cohesive network (Byrne, Hattie & Fraser, 1986), confirming that class interrelations are fundamental also from a student perspective.

According to the National Agency for Education (SFS 2010:800), upper secondary schools should provide a good foundation for work and further studies and also for personal development and active participation in the life of society. The Education act states that education should be organized so that it promotes a sense of social community and develops students' ability to independently and jointly with others acquire, deepen and apply knowledge (SFS 2010:800). To stimulate students' cognitive , social and personal development and encourage an active citizenship are more easily accomplished if the relations between student interrelationships and School Satisfaction, Absenteeism and Achievement are further examined. It has been suggested that both classroom environment and school environment should be explored in the same study (Wong & Fraser, 1994), and that is fulfilled in the present study.

It is particularly important to inquire into students' perception of class interrelationship at all levels in the school system, but especially at secondary and upper secondary school, partly because the students on this level spend a considerable part of their school day together with their classmates, while their teachers vary depending on what course they study, but also due to adolescence being the developmental period where students go through an independence process, where the impact of parents, teachers and other adults is reduced, while the influence of peers is increased (Rodkin & Ryan, 2012; Mikami, Ruzek, Hafen, Gregory, Allen, 2017). It is further motivated to examine upper secondary school students' perception of class interrelationships, as students aged 16-17 prefer cohesiveness to a considerably greater extent than students aged 14-15 (Byrne, Hattie & Fraser, 1986). Students at the age of 16-17 also prefer a low level of peer conflicts in the form of friction

and competitiveness, while the opposite was found among students at the age of 14-15 (Byrne, Hattie & Fraser, 1986).

To the best of the author's knowledge, there are no previous study that uses a broad scope of specific group dynamic concepts as a base for exploring students' perceptions of their class interrelationships. Research that investigate students' perceptions of class interrelationships from a wide range of group dynamic aspects are missing. Thus, it has not yet been extensively studied, how various group dynamic aspects are related to School Satisfaction, Absenteeism and Achievement, with the purpose of possibly improving students' learning environment. This knowledge is needed, to analyse students' perception of class interrelationships more thoroughly and find out whether any group dynamic aspect of students' class interrelationships are more strongly correlated with School Satisfaction, Absenteeism and Achievement, than any other aspect. Yet, comprehensive future research is required to determine causal relationships between these variables. If students' perception of their class interrelationships affect School Satisfaction, Absenteeism and Achievement, it has important practical implications, as it provides teachers with knowledge about whether some group dynamic aspects are more important for them to focus on than others, to improve students' School Satisfaction, Attendance rate and Achievements.

An additional issue that needs to be examined in relation to students' perception of the group dynamic aspects in their class is whether these perceptions are associated with sex or gender differences. According to previous research there are sex differences in students' perception of some aspects of class interrelationships (Henderson, Fisher & Fraser, 1995; Wong & Fraser, 1994; Baker (cited in Levine & Donitsa-Schmidt, 1996), Darom, Ritz & Avrahami (cited in Levine & Donitsa-Schmidt, 1996), Lawrenz (cited in Wong & Fraser, 1994), Giddings & Fraser (cited in Wong & Fraser, 1994), Fraser, Giddings & McRobbie (cited in Wong & Fraser, 1994) and Slavin (cited in Levine & Donitsa-Schmidt, 1996)), but more research is necessary to examine whether there are sex or gender differences within a greater scope of group dynamic aspects and the size of these sex or gender differences. Potential sex or gender differences in the perception of class interrelationships are not a problem as long as they do not cause any sex unfavourable learning conditions. More knowledge is needed, to ensure that both male and female students are provided equally favourable conditions in their learning environment.

Based on previous research about the relation between students' perception of class relationships and School Satisfaction, Absenteeism, Achievement and Sex, a research design was developed that is displayed in Figure 1.
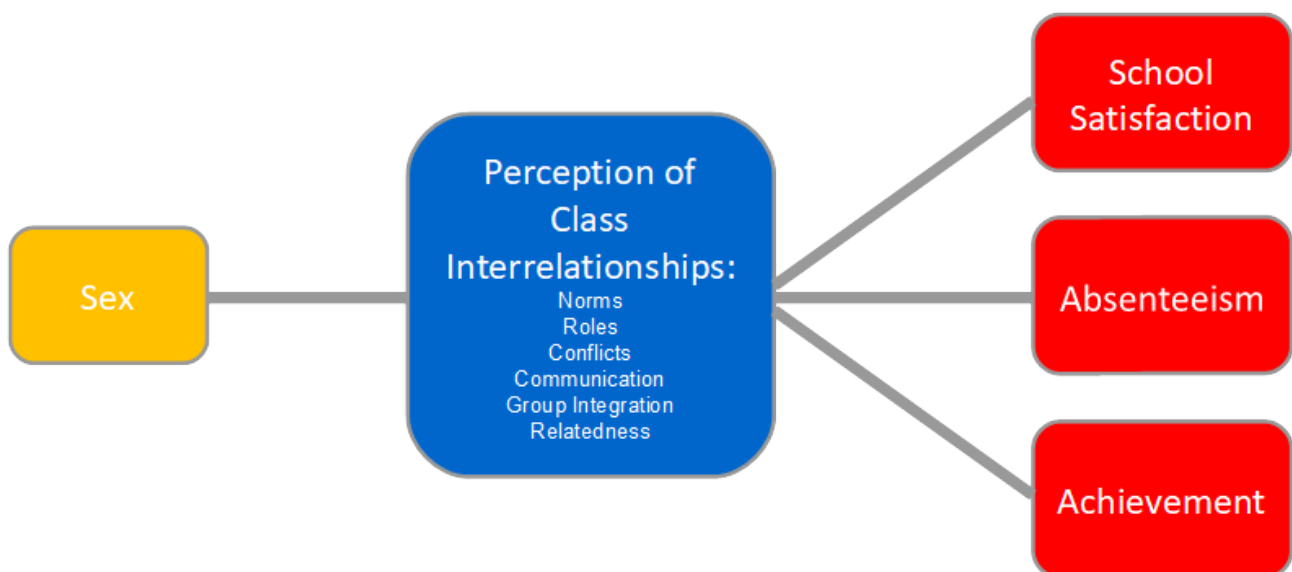

Figure 1: Research Design

1.2.   General, Educational and Societal Perspectives on Groups

To study students' class interrelationships is to study both individuals and groups. A school class is also divided into a number of sub groups. However, the main orientation in the present study is the the individual students' perception of the relationships in their whole-class-unit.

Students are separate individuals with unique characteristics who are taught as members of different classes that consequently will be unique. Nevertheless, there are universal features within all individuals that are shared and there are also common aspects within different groups. A class is a formal group that the students themselves have not selected to be members of. There will be interaction patterns between the students that reflect how individuals in general function in groups. A group is considered being more than a collection of individuals and the processes that direct individual actions differ from the processes that operate in groups, McDougall (cited in Granström, 1998) states and several researchers of groups agree with his statement.

Research about groups in general was limited until the middle of the 20th century, when one of this field's prominent figures, Kurt Lewin, argued that a group is not just a collection of individuals, but several relationships between individuals and they are influenced by individual forces and forces in the social environment i.e. forces within the group and outside the group (Granström, 1998). The individual's thoughts, emotions and behaviour are directed by the social environment (Näslund, 1989).

Lewin's predecessor, Gustav LeBon, were pessimistic about group processes and was convinced that individuals only could be cultivated and responsible outside of a group and that they were barbaric within a group, due to the loss of anonymity and responsibility for actions in groups and LeBon considered that resulting in destructive and antisocial behaviour. On the contrary, Lewin claimed that a favourable group environment promotes democracy and peace (Granström, 1998). Lewin applied his ideas to the school context and argued that all teaching implies working in groups and that education should develop students' ability to participate in society by encouraging an interest for the social adjustment process to help students to further develop through learning from all relations in life (Granström, 1998). Moreover, Lewin believed that the success of a teacher, was based on the ability of creating a favourable social environment, the knowledge of the actual subject matter and the laws of learning. Teachers are able to reduce tension in a group and improve the stability of it (Lewin, 1943). At the time of World War II and the former German idealogical sentiments, Lewin and his colleagues experimented with group climate and democratic, authoritarian and 'Laissez faire' leadership and the results showed that the interaction and interrelationships in the groups had consequences for satisfaction and achievements. During the 1940's and 1950's, this knowledge was implemented within education, business and public administration (Granström, 1998).

According to the socio-cultural tradition, social interaction is claimed to be vital for students' learning and development. Both the socio-cultural tradition and the pragmatic tradition, argue that knowledge is gained through student-teacher and student-student interaction (Säljö, 2017). Education is viewed as a process that involves care giving, fostering and teaching. The educational results depend on how the interpersonal interaction is organized (Säljö, 2017). Education takes place in a social environment where students are mutually influenced by each others' expectations, demands, approvals and rejections. These social conditions either encourage or discourage the individual and thereby form and foster the mental and emotional disposition of behaviour Consequently, we cannot define an individual solely from his or her actions. Instead it is important to investigate norms and common interests in the social context (Dewey & Sjödén, 1999).

Furthermore, Dewey (Dewey, Hartman & Hartman, 2004) states that school resembles a society in miniature and is the foremost instrument for socialization and development, when democratic

methods are used. Education is a social process. Experiences that leads to growth and formation is developed through an interactive process, where all the individuals in a community participate (Dewey, Hartman & Hartman, 2004). However, students do not just learn different subjects at school, they also learn attitudes. To prepare students' for society's challenges, the school system and the classroom should provide an environment where the prerequisites of social cohesion exist. Another condition for a favourable societal development is communication of different opinions and between different social groups. The social environment should involve collaboration, community, free communication and exchange of ideas, suggestions and experiences. Students' must have freedom of thought, as that is necessary for freedom of actions. The democratic principles about respect for individual freedom and kindness in social relations contribute to a higher quality of human experience than what repressive methods do. When students express or act in an unacceptable way, teachers' speech and behaviour should defend the interest of the class rather than them using their position of power. All students' should also be given opportunities to be responsible for, take part in and contribute to constructive work, as democracy means to believe in all human beings having unique qualities. Another way of implementing democracy at school, is to practice equality in personal relations by kindness, complaisant and social adaption. To maintain democracy, schools' foremost aim should be to develop students' emotional, intellectual and moral abilities. In addition, it is important that education is conducted in a democratic way, both for the individual and also for the repercussions on society as a whole. Students' should experience an institution that practices democratic values and supports a positive societal development (Dewey, Hartman & Hartman, 2004). The concepts that are mentioned in this section: social cohesion, community, equality and all individuals' unique qualities, will be further discussed in chapter 2, 'The theoretical framework', but then expressed slightly different (cohesion, belongingness, status and competences).

1.3.   Research Field

It is evident from previous research, that this field, students' perceived class interrelationship in relation to School Satisfaction, Absenteeism, Achievement and Sex, has important implications for educational and societal development. Past studies demonstrate that there is a significant, positive and strong relation between students' perception of the interrelationships in their class and the students' School Satisfaction (Glew, Fan, Katon, & Rivara (cited in PIRLS, 2016); Haertel, Walberg & Haertel, 1981; Juvonen (cited in Abdollahi & Noltemeyer, 2018); Kim & Kim, 2013; Mishna, Cook, Gadalla, Daciuk, and Solomon (cited in PIRLS, 2016); Shook & Clay (cited in Abdollahi & Noltemeyer, 2018); Spiridon & Evangelia (cited in Abdollahi & Noltemeyer, 2018); Tokunaga (cited in PIRLS, 2016); Trickett & Moos, 1974). There are also findings showing that the relation between students' perception of their class interrelationship and absenteeism is significant, positive and strong (Hirata & Sako, 1998; The Authority for Youth Policy; Civil Affairs (cited in The National Agency for Education, 2014); The National Agency for Education, 2014. In addition, the relation between students' perception of class interrelationship and achievements has been found significant, positive and strong (Baek & Choi, 2002; PIRLS, 2016; Byrne, Hattie & Fraser, 1986; Fraser & Fisher, 1982; Fraser & Walberg, 1981; Haertel, Walberg & Haertel, 1981). Furthermore, perception of students' interrelationships has been shown to be significantly, positively and strongly associated with students' Sex ((Henderson, Fisher & Fraser, 1995; Wong & Fraser, 1994; Baker (cited in Levine & Donitsa-Schmidt, 1996), Darom, Ritz & Avrahami (cited in Levine & Donitsa-Schmidt, 1996), Lawrenz (cited in Wong & Fraser, 1994), Giddings & Fraser (cited in Wong & Fraser, 1994), Fraser, Giddings & McRobbie (cited in Wong & Fraser, 1994) and Slavin (cited in Levine & Donitsa-Schmidt, 1996)). Moreover, Students' class interrelationship are significantly related to: motivation for learning (Andersson, Hamilton & Hattie, 2004; Wei & Elias, 2011); students' affective and behavioural learning (Haertel, Walberg & Haertel, 1981; Stiwne, 1998) and students' physical and psychological health (Stiwne, 1998; Rodkin & Hodges, 2003; Statistics Sweden, 2012; Farmer & Xie, 2007).

1.3.1. Students' Interrelationships and Motivation for Learning

Students' interrelationships in the classroom are related to students' motivation (Haertel, Walberg & Haertel, 1981; Kim & Kim, 2013) and some researchers state that they affect students' motivated behaviour (Andersson, Hamilton & Hattie, 2004). It is therefore fundamental to create a positive and constructive social classroom environment to make students motivated to learn. Teachers need to arrange a comfortable atmosphere where students dare to take intellectual risks and where they are not afraid of being criticized or for being wrong (Brophy, 1987). Perceptions of security are related to student involvement and it is suggest that these experiences support personal risk-taking (Trickett & Moos, 1974). Furthermore, affiliation, i.e. the extent of students friendship, their willingness to get to know and help each other and their inclination to cooperate (Trickett & Moos, 1974) has been found to be strongly related to students' motivated behaviour in the classroom, regardless of the students' sex (Andersson, Hamilton & Hattie, 2004). It has also been claimed that Affiliation is positively correlated to intrinsic motivation (engagement in a behaviour, because it is perceived as personally rewarding and connected to learning and mastery, rather than being externally rewarding) when learning English (Wei & Elias, 2011). Consequently, practitioners should put an effort into supporting affiliation in students' interrelationships (Andersson, Hamilton & Hattie, 2004).

1.3.2. Students' Interrelationships and Affective/Behavioural Learning

Students' class interrelationships is strongly connected to affective and behavioural learning (Haertel, Walberg & Haertel, 1981). Students' class interrelationships are important as groups stimulate our development and create our self concepts and self-reliance, (Stiwne, 1998). If we rely too much on the rationales and neglect the emotional and social needs, we will pay the price in illness, absenteeism, wrong decisions and irrational behaviour, Moxnes (cited in Stiwne, 1998) claims.

1.3.3. Students' Interrelationships and Physical/Psychological Health

There is a relationship between students' perception of the social environment among their classmates in the classroom and their health. Students with a negative perception of the social classroom environment, suffer from headache, stomach ache and difficulties falling asleep more than once a week (Statistics Sweden, 2012). Teachers can contribute to positive student interrelationships by being attentive and engaged in them and thereby prevent bullying (Rodkin & Hodges, 2003). Strong interrelationships in groups are related to happiness, physical and psychological health and an extension to our life span. The people who foremost influence us in this respect are our family and work team (Stiwne, 1998). It may be assumed that students' interrelationships in their class have a similar impact on adolescents as work teams. Positive student class interrelationships are also considered preventing verbal and physical aggression (Farmer & Xie, 2007). Therefore social hierarchy, interactional dynamics and social values and norms in school classes needs to be further studied, Farmer; Hymel, Wagner & Butler and Rodkin & Hodges argue (cited in Farmer & Xie, 2007).

1.4. Arguments for Research Interest

Students' perception of the group dynamic aspects of their class interrelationships and its relation to students' School Satisfaction, Absenteeism, Achievement and Sex or Gender are vital to study as they provide a valuable base for further investigations of the causal relations between these aspects and variables, by indicating the strength and direction of the relations between them. Future studies of the causal relations between these aspects and variables will provide more knowledge about which of them that are causes and which of them that are effects. If some or all of the students' perceptions of the group dynamic aspects of their class interrelationships that have been included in

the present study cause School Satisfaction, Absenteeism and Achievement, it has important implications for the educational field, as it could be assumed that students' learning would benefit if teachers invested time and effort in group dynamic aspects of class interrelationships. Yet, these results would only reflect the causes and effects related to this specific perspective of students' interrelationships. Evidently, the variables: School Satisfaction, Absenteeism and Achievement could be viewed from various other perspectives that may generate other causes. If some or all of the variables, School Satisfaction, Absenteeism and Achievement are causes and students' perception of the group dynamic aspects of their class interrelationships are effects, the underlying causes to School Satisfaction, Absenteeism and Achievement need to be examined in relation to other factors. If it would be found that students' Sex or Gender influence the perception of the group dynamic aspects of class interrelationships, further studies are needed to look into whether it is the students' Sex or Gender that cause these differences.

If knowledge is gained of how the problems of school dissatisfaction, absenteeism and poor achievements may be prevented, teachers would be better equipped to form a more favourable learning environment for all students. Naturally, teachers cannot change students' past experiences or influence external factors. Teachers can only direct their efforts towards what can be improved to create a conducive learning environment and one step in that direction may be to become aware of the importance of students' class interrelationships and to be attentive to students' expressions of how they perceive their class interrelationships. Even though the present study do not deal with causal links, it contributes to this field of research with its group dynamic perspective of students' class interrelationships and provide a foundation for further studies through the presentation of the strength and direction of the relations between students' perception of group dynamic aspects of their class interrelationships and the variables: School Satisfaction, Absenteeism, Achievement and Sex or Gender. It is urgent to study School Satisfaction, Absenteeism and Achievements as they are related to severe individual and societal consequences. As the relations between students' perception of group dynamic aspects of classroom interrelationship and School Satisfaction, Absenteeism, Achievement and Sex are contingent, they need to be examined.

2.   Theoretical Framework

2.1.   Previous Research

2.1.1.   Students' Interrelationships and School Satisfaction

Students' satisfaction is a general concept that targets students' subjective well-being at school (Huebner, 1994). Students' perceptions of the psycho-social classroom environment are significantly associated with students' positive mood (Trickett & Moos, 1974) and students' school satisfaction (Trickett & Moos, 1974; Haertel, Walberg & Haertel, 1981). These correlations were strongest for classrooms that accentuate personal relationships and clarity of rules (Trickett & Moos, 1974).

School satisfaction is equivalent to School Life Satisfaction that is defined as students' subjective and cognitive assessment of their general satisfaction with school life experiences, according to Huebner and Huebner, Ash and Laughlin (cited in Kim & Kim, 2013). Students' positive perceptions of the interrelationships in their class, are significantly associated with high School Life Satisfaction and students' perceptions of problematic peer relations are significantly related to low School Life Satisfaction (Kim & Kim, 2013). These findings correspond with the results of a study about school attachment and inter-relational support or victimization by Wei and Chen (cited in Kim & Kim, 2013).

The benefits of an increased School Life Satisfaction is that students feel more safe and the motivation for learning is enhanced (Kim & Kim, 2013). Moreover, Boesel (cited in Kim & Kim, 2013) states that students who perceive high Student Life Satisfaction reach higher academic achievements. It has also been shown that these students are less inclined to show, what is referred to as problematic behaviour, or drop out of school (Black, Grenard, Sussman and Rohrbach; Dornbusch, Erickson, Laird and Wong; Henry and Slater; Takakura, Wake and Kobayashi (cited in Kim & Kim, 2013)). School Life Satisfaction is also crucial for students' well-being and quality of life (Kim & Kim, 2013). In addition, School Life Satisfaction is also important for students' educational experiences as well as their future life experiences, Epstein & Mc Partland (cited in Kim & Kim, 2013) claim. School satisfaction is an essential aspect of students' school life and should not be disregarded. It is suggested that policy makers should recommend schools to improve students' interrelations in various ways and that teacher-training program should emphasize how vital teachers are for students' School Life Satisfaction (Kim & Kim, 2013). As the relations between school satisfaction and students' perception of group dynamic aspects of classroom interrelationship is still contingent, they need to be examined.

2.1.1.1.   Students' Interrelationships and School Belongingness

In the present study, the general concept of School Satisfaction is viewed from the more specific perspective of students' Sense of School Belonging. The need to belong motivate all human beings to establish and maintain interrelationships that provide frequent and emotionally positive interactions. This desire is related to cognitive processes as well as emotional and behavioural patterns. It is also associated with health and well-being (Baumeister & Leary, 1995). The concept, school belonging, involves students' attitudes and emotions about their school and their perceived relatedness to the school community (PIRLS, 2016). In more detail, students' sense of belonging to school reflect the degree of respect, appreciation, perceived personal acceptance, inclusion and safety in the social environment at school, Goodenow & Grady (cited in Abdollahi & Noltemeyer, 2018) state.

Students' relationships with teachers and classmates have an immediate impact on students'

belongingness to school and that in turn, directly influence students' achievement, Juvonen (cited in Abdollahi & Noltemeyer, 2018) claims. This finding is consistent with that by Shook & Clay and Spiridon & Evangelia (cited in Abdollahi & Noltemeyer, 2018). Belongingness to school may also enhance students' expectations of succeeding academically and strengthen their academic responsibilities, that could lead to increased student motivation directed towards learning (Abdollahi & Noltemeyer, 2018). A strong belongingness to school, could motivate students to struggle extra hard to succeed with their studies even though they face difficulties, Shook & Clay and Spiridon & Evangelia (cited in Abdollahi & Noltemeyer, 2018) propose. It is confirmed even in other studies that school belongingness is positively related to students' valuing of school work, invested effort in learning and school motivation in general (Goodenow, 1993).

Students' school environment affects to what extent curricular goals are achieved. One aspect within the school context that is considered a quality indicator is a safe and well organized school characterized by order, respect for students and teachers, and constructive interactions among students, teachers, administrators and parents. These features promote a positive school environment and results in higher achievements, Cohen; McCabe; Michelli & Pickeral; Greenberg, Skidmore, & Rhodes; Konishi, Hymel, Zumbo, & Li; Martin, Foy, Mullis, & O'Dwyer (cited in PIRLS, 2016), Allen & Bowles and Ma claim (cited in Abdollahi & Noltemeyer, 2018) argue.

While few behavioural problems and no or few safety incidents, create security that supports the formation of a stable learning environment, aggressive behaviour in the form of bullying is a threat to the school learning environment, as it harms victims by causing them distress, low self-esteem and a sense of not belonging to the group, Glew, Fan, Katon, & Rivara (cited in PIRLS, 2016) declare. Students who are bullied tend to achieve less compared to their peers, Glew, Fan, Katon, & Rivara; Konishi, Hymel, Zumbo, & Li; Rothon, Head, Klineberg, & Stansfeld (cited in PIRLS, 2016) plea. Other forms of bullying as cyberbullying also causes the victims distress, low self-esteem and low achievements, Mishna, Cook, Gadalla, Daciuk, & Solomon (cited in PIRLS, 2016) and Tokunaga (cited in PIRLS, 2016) claim. All students who perceive no or low belongingness to school, find themselves unaccepted by classmates as well as teachers, experience themselves as not included in school activities and may tend to fail tasks at school, despite having the skills or knowledge needed to succeed and consequently achieve poorly.

The International Study Center of TIMSS (Trends in International Mathematics and Science Study) and PIRLS (Progress in International Reading Literacy Study), the IEA (International Association for the Evaluation of Educational Achievement), regularly conducts assessments of comparative studies regarding students' achievements in relation to contextual factors that influence learning (students' attitudes, resources and instructions provided at school and support from caregivers) to examine environmental factors contributing to success at school. PIRLS is performed every 5th year and measures reading achievement in fourth grade. It includes questionnaire items about students' thoughts about school, the school climate for learning, school satisfaction and the sense of school belonging. According to the most recently performed study by PIRLS (2016), students' sense of school belonging is related to reading achievement.

Students' sense of belongingness to school is not only related to academic achievement, but also contributes to students' positive attitude to education, Allen & Bowles and Ma (cited in Abdollahi & Noltemeyer, 2018) claim. School Belongingness is also positively associated with academic hardiness, that implies students' ability of commitment, controlling ones emotions against academic stress and experiencing academic difficulties as challenges and opportunities to learn, achieve and develop, Benishek, Feldman, Shipon, Mecham, & Lopez (cited in Abdollahi & Noltemeyer, 2018) declare. Academic hardiness function as a mediator between students' belongingness to school and academic achievement (Abdollahi & Noltemeyer, 2018).

The connection between students' class interrelationships and students' belongingness is vital to

study, also because the student population have become much more diverse during the recent years. Diversity risks splitting classes and making them fragmented that in turn may lead to destructive learning outcomes. One element in the learning environment that may function as a counter force is to build positive and constructive class interrelationships that promote inclusiveness that prevent cliquishness, preserve individual differences but unite them to form a cohesive group.

2.1.2. Students' Interrelationships and Absenteeism

The concept, School Absence is broad and compose late arrivals, stray absence occasional hours and long-term absence during several days in a row. School Absence is divided into two categories and one of them is reported absence that is approved of and the other one is not reported absence that is not approved of. Yet, it is hard to know where to draw the line between these categories as they are vague and can be interpreted in different ways (Skolveket, 2014).

2.1.2.1. Causes to Absenteeism

Absenteeism among upper secondary school students is a widespread problem (Skolveket, 2016). According to OECD (cited in Skolvetket, 2014), absence that is not approved of, occur among all students, regardless of their background. The causes of absenteeism are believed to be found both at school and in other environments where the student spends time and may involve for example offensive treatment (Skolverket, 2016). One reason why a student is absent could be that the student is under-achieving and has lost energy and motivation to go to school. Another reason is that the student is overachieving, highly motivated and absent to prepare for tests. There are also students who perceive resistance to come to school (Skolverket, 2014). School absence often occur due to psychosocial problems that are related to the individual student, the student's family and the student's school (Svenska kommuner och landsting, 2013), but it is foremost caused by bullying and social alienation and secondly, it is due to lack of pedagogical support at school, according to The Authority for Youth Policy and Civil Affairs, formerly The Youth Board (cited in Skolverket, 2014). Previous research indicate that non-attendant students perceive that most classmates aren't their friends and they identify themselves as maladjusted among their peers. In addition, students at risk perceive loneliness, isolation and perceive themselves as strangers who don't fit into their class (Hirata & Sako, 1998).

2.1.2.2. Consequences of Absenteeism

When OECD analysed the PISA results from 2012, they concluded that school absenteeism affects students' school achievements negatively. Students who had been absent from lessons or for several days, achieved less than their peers in for example mathematics, OECD reports (cited in Skolvetket, 2014). School absenteeism is the single most influential factor of school failure, i.e. insufficient achievements, The Schools inspectorate (cited in Skolverket, 2014) states. School absence that is not approved of, may be related to drop-outs, The National Agency for Education and The Schools inspectorate (cited in Skolverket, 2014) announce. A crucial factor for students' progress on the labour market during their first five years after graduation from upper secondary school, is whether they attended a third year at upper secondary school or not. The shorter time the students' attend upper secondary school, the greater is the risk of them not moving on to higher education or becoming unemployed. It is therefore urgent to prevent drop-outs from students' upper secondary school education (Skolvetket, 2014). Research has also shown that long-lasting absence is related to risk factors as adolescents' psychological health, drug abuse and delinquency (Skolverket, 2016).

A reduction of absenteeism would be positive for the individual and also for society, as it results in lower costs (Svenska kommuner och landsting, 2013). School is considered being the single factor that best protect adolescents from psychological illness and social problems like abuse and

criminality (Svenska kommuner och landsting, 2013). To promote an active professional and societal life and prevent alienation, it is important to provide satisfaction and a positive social environment (Svenska kommuner och landsting, 2013) by creating security, good student interrelationships, an inclusive atmosphere and absence of insults (Skolverket, 2012)

2.1.3.   Students' Interrelationships and Achievement

There is a strong connection between adolescents' social and academic lives and it is therefore essential to study the relation between students interrelationships and academic achievement and learning. Still, knowledge about how the best possible conditions for learning is achieved in the social peer context, influenced by the norms of the classroom and school, is lacking. Students' interrelationship in the classroom and at school as a whole is related to the social status, division of power, social networks, subgroups and friendship between them and if teachers are aware of these characteristics, they will be better informed to direct the student class towards learning (achievement), safety (aggression prevention), and school belongingness (Rodkin & Ryan, 2012).

Previous research show that students' perception of their psycho-social environment is strongly related to cognitive learning and achievements. In more detail, students' perceptions of their class interrelationships, in terms of the dimensions: Cohesiveness, Satisfaction, Democracy are positively related to learning outcomes, while Friction, Cliquishness and Apathy are negatively correlated to learning outcomes (Haertel, Walberg & Haertel, 1981). It has also been found that students' perception of their interrelationships in their class is associated with achievements in English (Byrne, Hattie & Fraser, 1986; Baek & Choi, 2002). In classrooms that are characterized by strong affiliation and teacher support, teacher control and task orientation is positively associated with students' achievements in English. The group dynamics in the classroom is reflected in the classroom environment, which has been found to be related both to classroom and school organization (Baek & Choi, 2002). In addition, it has been found that Second Language Learning (L2) students' perception of group cohesion in their class is related to students' achievements, efforts, attitudes and classroom behaviour. The usage of group dynamic constructs within research on L2-motivation has been considered important to describe classroom environment. In Hungary, group dynamic activities have therefore been included in the L2 syllabus to support group development in order to create a better environment for learning (Clément, Dörnyei & Noels, 1994). Furthermore, findings of correlations between students' perception of class interrelationships and science have also been demonstrated (Fraser & Walberg, 1981; Fraser & Fisher, 1982). The psychosocial environment in the classroom accounts for a considerable variance in students' science learning (Fraser & Walberg, 1981). Moreover, students' perception of their interrelationships is also linked to mathematics (Byrne, Hattie & Fraser, 1986).

The link between students' perception of relatedness in their class and their behavioural engagement has been found to be causal. An increase in students' perception of relatedness in their class, enhance behavioural engagement in the classroom that in turn is related to students improved achievements. It is therefore assumed that students perceptions of relatedness with classmates may affect students' achievement through improving students' behavioural engagement. The results were shown to be independent of the subject matter and the students' average achievement level when entering the classroom (Mikami, Ruzek, Hafen, Gregory, Allen, 2017).

A study with students who studied obligatory vocational education courses at secondary schools, demonstrated that students' perception of relatedness in their class interrelationships was positively associated with students' intrinsic motivation and achievement (Lazarides, Rohowski, Ohlemann & Ittel, 2016).

2.1.4. Students' Interrelationships and Sex

Students' perception of classroom environment is connected to students' sex (Henderson, Fisher & Fraser, 1995; Wong & Fraser, 1994; Baker (cited in Levine & Donitsa-Schmidt, 1996), Darom, Ritz & Avrahami (cited in Levine & Donitsa-Schmidt, 1996), Lawrenz (cited in Wong & Fraser, 1994), Giddings & Fraser (cited in Wong & Fraser, 1994), Fraser, Giddings & McRobbie (cited in Wong & Fraser, 1994) and Slavin (cited in Levine & Donitsa-Schmidt, 1996). Female students tend to perceive classroom environment in a more positive way than male students, according to Baker (cited in Levine & Donitsa-Schmidt, 1996), Darom, Ritz & Avrahami (cited in Levine & Donitsa-Schmidt, 1996); Lawrenz (cited in Wong & Fraser, 1994), Giddings & Fraser (cited in Wong & Fraser, 1994, Fraser (cited in Wong & Fraser, 1994), Giddings & McRobbie (cited in Wong & Fraser, 1994) and Slavin (cited in Levine & Donitsa, 1996).

Female students are also inclined to perceive student interrelationships as supportive, Slavin argue (cited in Levine & Donitsa, 1996) that promote friendship and team work, Fisher & Fraser state (cited in Wei & Elias, 2011). Another study that shows how male and female students' perception of their actual classroom environment differ, is conducted in a chemistry laboratory classroom where female students perceive their class as more integrated than male students. Yet, male and female students' perceptions of cohesion in their actual classroom environment were comparable (Wong & Fraser, 1994).

There are also sex differences regarding students' preferences in the classroom learning environment. Boys are prone to prefer more friction, competition and differentiation, while girls apt to prefer social agreements (Byrne, Hattie & Fraser, 1986). The finding that boys prefer more competitiveness, while girls favour social accordance, correspond with previous research by Owens and Staton (cited in Byrne, Hattie & Fraser, 1986). The sex differences were shown to be stable between the age groups: 12-13, 14-15 and 16-17 (Byrne, Hattie & Fraser, 1986). Female students also preferred a more integrated and cohesive classroom environment than male students (Wong & Fraser, 1994).

On the other hand there are studies that show no significant sex differences in students' perception of class interrelationships. The proportion of upper secondary school students who have at least one close friend in their class is 92 % and there are no significant sex differences in the results. The part of upper secondary school students who at least once a month perceive that no one wants to socialize with them at school is 1 % and there are no significant sex differences in their responses (Statistics Sweden, 2012). Statistics Sweden regularly perform surveys concerning living conditions of children in Sweden where students aged 10-18 are interviewed.

2.2. Theoretical Perspective and Central Analytical Concepts

The present study is deductive and has an educational and social psychological perspective. It is based on group dynamic theory (Granström, Jern, Näslund & Stiwne, 1998). The explanatory value of this theoretical perspective is considered being high, as students' perception of class interrelationships will be viewed, analysed and described through concepts derived from an extensive theory about different aspects of groups and how they function that has been developed during the latest century. This theoretical perspective provides the concept, students' perception of class interrelationships within several different aspects and offers an analytical depth that would have been difficult to find if another theory had been used. The scope of the present study could be considered narrow, as it solely is directed towards student-student interrelationships, but besides the depth it also brings breadth within this specific aspect, as it covers most of the central elements within group dynamic theory.

Former studies have concluded that concepts as: affiliation (Trickett & Moos, 1974), cohesion

(Haertel, Walberg & Haertel, 1981; Clément, Dörnyei & Noels, 1994; Wong & Fraser, 1994), integration (Wong & Fraser, 1994), friction and cliquishness (Haertel, Walberg & Haertel, 1981) are related to students' learning environment, but it is essential to use a greater variety of group dynamic concepts to reach a more specific and profound analysis. Concepts as affiliation and cohesion risk being vague. The usage of more precise concepts, should make it easier to apply knowledge about groups into teaching practise. However, it is understandable that research within classroom environment uses more general concepts to investigate students' perception of class interrelations, as this concept in several studies is used as one among various others that are explored.

The main source (Granström, Jern, Näslund & Stiwne, 1998) consists of small group research and has mainly a general perspective on groups. It is used as the group dynamics among students in a class, share some fundamental aspects with how groups function in general. Yet, students at upper secondary school is a specific population and the general group dynamic theory has therefore been complemented by group dynamic theory specifically oriented towards adolescents at upper secondary school. A minor part of the main source bears references to work teams (Jern, 1998). Some of the studies in this part, have been referred to in the present study, as they are considered being relevant and applicable to the educational context.

2.2.1. What is a Group?

The definition of a group could and should be viewed in a relativistic way and depend on the context and purpose in which it is viewed (Agazarian & Peters, 1981). Group processes involve a visible and an invisible aspect. The visible perspective represents a concrete level where the group is seen as a unit delimited in time, space and number of members. The group has certain demographic features concerning the individuals or the group as a whole. It can be described with explicit norms, roles and goals. From this perspective a group can be defined as consisting of minimum two individuals, regardless of whether there are any observers or not, irrespectively of whether the members experience that they have anything in common or not and whether they want to belong to the same unit. This group aspect could be described from three different angles: the individual, the interpersonal and the whole-group viewpoint. Within the individual angle, the members are looked on as equipped with experiences, personalities and self-concepts. Their communication could be observed by studying what separate members say and do. The focus is on what is happening within the individual. The interpersonal angle views the group as a network of interactions, rather than isolated units and the group is considered directed by its social structure. Even though members don't talk they are involved in an exchange with other members of the group, as no utterance and no actions are also considered communication. This exchange contains ordinary group processes as the distribution of roles, status and power. The intention is to study the members' interplay. The whole-group angle regards the group to be one unit. Its attributes are more or less shared by the members, but may not be agree on by outsiders. The group is often defined by how it differs from other delimited groups. The target is to describe common themes in groups and their picture of themselves in connection to other groups (Agazarian & Peters, 1981).

The invisible perspective composes a metaphoric level where the group is considered indefinite and can have different meanings (Agazarian & Peters, 1981). The group can be described by implicit norms, roles and goals. From this perspective a group can be defined as comprising one individual and up to a mass of people who share the same goal. This group aspect could be described from the same three angles that were mentioned above: the individual, the interpersonal and the whole-group viewpoint. The individual angle represents an approach where the individual have internalized significant others from various times and situations who could be present or absent and living or dead. It implies that the individual can be included in many different groups in his/her mind. Within the interpersonal angle, both significant others and important patterns of interaction are seen as

internalized, meaning that they are unconscious and automatized and affect every exchange between individuals on two levels simultaneously, on the one hand, through what is observable and on the other hand, through inner dialogues. The whole-group angle considers the group both a composition of interrelated individuals and an independent unit in itself. This implies that the members could have perceptions of the group that differ from their experiences of the different members that it consists of. The group is depicted as a whole and no parts can be discernible and separated from it (Agazarian & Peters, 1981).

The groups in the present study are visible in the sense that they are definite, delimited and share the demographic characteristics of being students at upper secondary school and in the same age, but they are also invisible in the sense of having implicit norms, roles and goals. The groups are investigated from a visible and individual angle, as the students' individual perceptions are examined. According to the visible perspective, individuals hold experiences, personalities and self-concepts that certainly influence their perceptions, but that is not taken into account in the present study. Neither is the invisible interpersonal perspective considered, although significant others and important patterns of interaction surely are internalized i.e. unconscious and automatized and thereby influence the individuals' perception and interaction with others. When the group is viewed as an intra-psychological or interpersonal phenomenon, its importance for the individual's psychological development is emphasized. The individual develops through interactions with others and integrates models for relationships to relate to later on and brings the early needs in relation to important others into new situations. Through relationships self-concept and self-reliance are developed (Stiwne, 1998). This definitions used in the present study, makes it easy to discover some aspects of groups, but are a barrier against other perspectives of groups.

2.2.2. Group Dynamic Theory

There are several different factors that influence how well groups function and some of them are: Norms, Roles, Conflicts, Communication, and Cohesion (Granström, Jern, Näslund & Stiwne, 1998), Individual Attraction to the group and Group Integration (Carron, Widmeyer & Brawley, 1985; Blanchard, Poon, Rodgers & Pinel, 2000), Relatedness (Deci & Ryan, 2000; Ng, Lonsdale & Hodge, 2009)

2.2.2.1. Group Norms

Norms are shared and unwritten roles. They are mutual expectations and thereby they strongly regulate social interaction and are basic aspects within all social structures (Jern, 1998). Norms can be divided into two different categories, injunctive and descriptive norms. Injunctive norms imply individuals' perceived approval and disapproval by the group of others who they wish to be affiliated with. As individuals want to be approved of, they try to act in a way that they believe others approve of. Injunctive norms involve evaluation, while descriptive norms don't. Descriptive norms are reflections of individuals' perceptions of others' behaviour. Individuals observe how people around them act and thereby gain insight into what behaviours that are socially accepted in certain situations. The individuals try to imitate the behaviour of the group (Randazzo & Melinda, 2017).

Norms, can be caused by an authority who influences the other group members, formed through negotiations between the members of the group or by observation of what other group members appreciate, Opp (cited in Granström, 1998) states. Norms are mostly expressed implicitly and describe what behaviours that are accepted and not in a certain social context (Jern, 1998). Individuals quickly adjust their norms and frame of reference according to the group (Jern, 1998). It is suggested by Heap and presented by Wheelan (cited in Jern, 1998) that Norms are developed through four phases: individual self-manifestation, group opposition, group acceptance and change

of the norm system.

Groups develop means of implicit and explicit discipline and punishment for the group members who break the norms (Jern, 1998). Norms direct how rewards and punishments should be distributed in the group, reduce the risk for conflicts, express the group's core values and regulate the group's relations with others outside the group, according to Levine & Moreland (cited in Jern, 1998). Furthermore, the individual's choice of behaviour is simplified as it consists of available alternatives that function as road signs showing group members the way to behave and that structures the social interaction and make others' reactions predictable and meaningful, Forsyth (cited in Jern, 1998) argues, something that probably reduce group members' anxiety (Jern, 1998). Norms also contribute to the degree of cohesiveness in the group, Argote (cited in Granström, 1998) plea. It is also assumed that the group's norm system enhance the group members' motivation and engagement (Jern, 1998).

2.2.2.2. Group Roles

A Role is a collection of different expectations that the group members have on the behaviour of a group member with a certain position of status and importance for the group, according to Hare (cited in Jern, 1998). Roles appear both through the other group members' expectations and from the group members' perception of what is expected from the role. Role performances are partly unconscious and it is suggested that they are a result of collective group processes, Jackson & Schuler (cited in Granström, 1998) argue. Individuals are in fact free to choose either to conform to the behaviour in the group or not, but the human need of belongingness is strong (Baumeister & Leary, 1995) and specially among adolescents who tend to be more dependent on their peers than of adults and authorities.

While Norms describe what behaviours that are acceptable and not acceptable in a group as a whole, the group members' roles define the individuals' behaviour in a group and their mutual relationships. Consequently, Roles describe and define behaviours on the individual level and Norms describe and define behaviours on the group level. Roles are the expected behaviour of a group member and Norms adjust the group member's behaviour (Jern, 1998).

In most groups different social roles are developed. There are formal and informal roles. Formal roles are connected to the status and position of a certain professional role, while informal roles are directed by needs and expectations of the individuals in the group. Roles that are based on group members' personal needs are called ego-directed or individual roles (Jern, 1998). They tend to be more constant for different situations and may also be idiosyncratic (eccentric) and can therefore disturb the groups functioning, Lennéer-Axelson & Thylefors (cited in Jern, 1998) claim.

Roles are closely linked to status and are not equally valued. It is common that the leader role has the highest status (Jern, 1998). The distribution of roles that occur early in the group development may be irrational and based on clothing, body structure and sex. The group roles: The Scapegoat, The victim and The Clown, could be a result of irrationally constructed groups. The role of the scapegoat appears when members of a group are unable to integrate both positive and negative qualities into a coherent self-image and instead project and transfer traits and attributes on a third party, Wells (cited in Granström, 1998) claims.

Later on in the group development, when cohesion and security has increased, a more realistic negotiation of group roles, personal preferences and competence could take place (Jern, 1998). It is important that group roles are connected to the group members' skills and abilities, Steiner (cited in Jern, 1998) argues.

Role conflicts occur when the group role that is imposed by others is not acquired and accepted by

the individual group member. This form of opposition against the group member's motivation, identity and engagement may reduce cohesion in the group. Role conflicts and vagueness regarding the roles are assumed to result in tension and decreased satisfaction, according to Kemery, Bedeian, Mossholder & Touliatos (cited in Jern, 1998). The risk for role conflicts is greatest when the group is newly formed (Jern, 1998).

Roles can be described implicitly as well as explicitly and represent different functions in the group (Jern, 1998). One function of the different roles is the division of responsibility for different psychological tasks in the group (Granström, 1998). There are task-oriented roles and relational-oriented roles, Bale (cited in Granström, 1998) states. Roles can be positive-negative, dominant-submissive, serious-expressive and conformative and non-conformative, Couch (cited in Granström, 1998) declares. According to Hogg (cited in Jern, 1998) roles ease the work group's function by reflecting the division of work, directing how the group members are related to each other and providing the group members with definitions of themselves and belongingness to the group. Even-though the group roles in a class do not mirror the division of work, they may show students' interrelations and offer the group members self-definitions and a sense of belongingness to the group. An individual's belongingness to different demographic groups (sex, family, socio-economic background, ethnicity, culture, religion, region and nation) influences values, attitudes, emotions and behaviour The belongingness to demographic groups have also an impact on individuals dominance, passivity, degree and frequency of participation, affective expressions and perception, conscience and scruples, Wheelan (cited in Jern, 1998) states. Consequently, both the individual and the different groups the individual belongs to, are important to understand students' class interrelationships.

2.2.2.3. Conflicts

Norms and roles can cause conflicts in the group, due to members' violation of norms and the competition for certain roles (Granström, 1998). The members of the group have two contradictory goals, to keep the group together (cohesiveness) and to oppose ideas and values that do not correspond with the groups' opinion (conformity) (Granström, 1998). A strong group identity, makes it easier for the members to solve conflicts, according to Kramer & Brewer (cited in Granström, 1998).

2.2.2.4. Communication

The groups' communication pattern is developed when the group is formed and is hard to change later on. It affects leadership, group moral, problem solving efficiency, cohesion and group interaction, Wheelan (cited in Jern, 1998) claims. A centralized communication hinders complex problem solving and reduce group members' satisfaction, while a decentralized communication supports complex problem solving and increase group members satisfaction which results in a stronger cohesion, Wheelan (cited in Jern, 1998) argues.

To achieve an agreement around goals, norms and communication in a work team, the group members' background, values and status cannot be too different (Jern, 1998). It is possible that also students in a class need to have similar background, values and status to reach agreements about norms and communication. Teachers may be able to support the formation of a learning environment where students have similar status and values, but obviously they cannot change the students' background. However, students at different educational programs at upper secondary school may be relatively equal regarding values and background and possibly also status, as they have selected the same educational track, indication common goals and interests.

2.2.2.5. Group Integration

The concept, Group Integration, has been used to assess cohesion in sport psychology and group research (Carron, Widmeyer & Brawley, 1985). Cohesion is a concept that is difficult to define and operationalize. It is suggested that cohesion is a process in which a collection of individuals create a relational system that is characterized by mutual support and similar behaviour. According to Wheelan (cited in Jern, 1998), cohesion is the result of the group members' attraction to the group, interpersonal attraction, group moral, group efficiency, methods for conflict resolution and the group leaders ability to give the group feedback at the right time. The weighting of these factors differ during the group's various developmental phases, Wheelan (cited in Jern, 1998) claims. The factor regarding group efficiency is not applicable on student classes, as several assignments at school imply individual performances, but the other factors are transferable to the classroom setting. Wheelan (cited in Jern, 1998) also refers to the leader's opportunity to support cohesion. Within a school context the leader may be either an informal leader among the students or a teacher.

The extent of cohesion varies between groups, but also within groups over time and in different contexts (Jern, 1998). Initially, the group members' mutual similarity and the extent to which the group members appreciate the values and activities of the group, contribute most to the cohesion in the group, but a group leader who gives the group positive response also reinforces cohesion. Strong cohesion both is caused by and contribute to conformity at the early stages of group development, Wheelan (cited in Jern, 1998) states. Group's cohesion must therefore be balanced to prevent destructive conformity and that can be achieved by avoiding closure, dominating leadership and by promoting tolerance for external stress, Janis & Mann; Callaway, Marriott & Esser; Mooorhead & Montanari (cited in Jern, 1998) argue. During later stages in the group's development, the ability to handle conflicts is more important (Jern, 1998).

Concerning groups within the professional life, the function of a work team is influenced by its relations to other groups and the organizations that they are included in (Jern, 1998). It is possible that these results can be applied to students in school classes and their relations to students in other school classes and the organization in which they are included. Furthermore, individuals in groups at work has social and emotional needs when they deal with frustration that is caused by work related tasks and socially related issues at work. If these needs are ignored and the individual's rational performance at work is overestimated, the consequences will be: illness, absenteeism, destructive decisions and irrational behaviour, Moxnes argues (cited in Stiwne, 1998). Similarly, dissatisfied social and emotional needs among students, in the sense of destructive class interrelations, are related to students' health (Statistics Sweden, 2012), absenteeism (Hirata & Sako,1998; The Authority for Youth Policy and Civil Affairs, formerly The Youth Board (cited in The National Agency for Education, 2014)), dropping out form school and problematic behaviour (Black, Grenard, Sussman and Rohrbach; Dornbusch, Erickson, Laird and Wong; Henry and Slater; Takakura, Wake and Kobayashi (cited in Kim & Kim, 2013)) claim. During the 1950' and 60' the school of human relations criticized the rational models of maximized productivity and advocated the setting of goals and the social interrelations as fundamental factors to maximize efficiency within the work force (Jern, 1998). Group efficiency comprises performance and viability. Viability means satisfaction, participation and a will to cooperate. It should also include cohesion, co-ordination of group members, mature communication, problem solving competence and clear norms and roles, Sundström, De Meuse & Futrell (cited in Jern, 1998) advocate.

Strong cohesion increases the group's productivity, Evans and Dion; Greene; Littlepage, Cowart and Kerr (cited in Jern, 1998) state and strong norms of performance enhance cohesion that in turn improve productivity, Stogdill and Hare (cite in Jern, 1998) plea. However, according to Sundstrom, De Meuse & Futrell (cited in Jern, 1998) cohesion increases group performances only given that the norms of performance are high and that efficient methods for decision-making exist. Previous research confirm that cohesion is related to student achievement (Fraser & Walberg, 1981; Haertel,

Walberg & Haertel, 1981; Fraser & Fisher, 1982; Byrne, Hattie & Fraser, 1986; Baek & Choi, 2002). To the best of the present study's author, Norms of performance and decision-making among upper secondary school students have not yet been investigated in relation to cohesion. Students' Norms of performance may be related to students' performances at school and it is possible that cohesion function as a mediating variable in this context.

Cohesion consists both of group and individual dimensions (Whitton, Richard & Fletcher, 2014) and has previously been measured through the Group Environment Scale, GES (Carron, Widmeyer & Brawley, 1985). The GES is based on a hierarchical model of cohesion for sport teams (Carron et al., 1985) and consists of Group Integration – Social (closeness, similarity and unit related to social aspects) and Individual Attraction to the Group - Social (individuals perception of social interactions in the group) (Blanchard et al., 2000; Whitton et al., 2014). Studies have shown that group cohesion is positively related to attendance (Corneya & Mc Auley, 1995; Spink & Carron, 1994). Interventions to improve the cohesion dimensions, Social Group Integration and Social Individual Attraction to Group, have a positive affect on attendance (Spink & Carron, 1993). Through measurement of the concept cohesion in the Group Environment Questionnaire, GEQ, it has also been possible to predict absenteeism and lateness (Spink & Carron, 1992) and dropout behaviours (Carron et al., 1988; Spink & Carron, 1993). As the factor loadings for the multilevel model were stronger for the group dimension than the individual dimension, cohesion is assumed to be a group-dimensional construct. It is therefore recommended that more emphasis is put on the group dimensions (Whitton et al., 2014), which has been taken into account in the present study.

2.2.2.6. Relatedness

The dimension, Relatedness, was measured through the subscale, Relatedness, within the Basic Needs Satisfaction in Sport Scale, BNSSS (Ng, Lonsdale & Hodge, 2009), which has been derived from The Self-Determination Theory, SDT, (Deci & Ryan, 2000). This dimension measures an individuals relationships with others and implies the extent of connectedness, mutual care giving and belongingness experienced together with others and the community. It reflects how emotionally close the members in a group perceive themselves being (Deci & Ryan, 2002). This subscale was selected because it measured the perception of the interrelationships between participants in a group and uses items about the reciprocal relationships between students. It was also chosen as it provides a more valid measurement, since it has been developed during a long time.

Yet, the phenomenon, group, is contradictory. Groups are important to build and maintain our identity and self esteem, but on the other hand they can cause de-individuation (i.e. loss of identity and responsibility due to the anonymity in a group), exploitation, demoralization and destruction of capacity for work. Groups can provide support, rest and health, but simultaneously cause stress, crisis and individual breakdown. The individual has two contradictory needs, the longing for social community opposed to the fear of others and the wish to be alone, Stiwne (cited in Stiwne, 1998) concludes.

2.2.3. Students' Group Dynamics at Upper Secondary School

The social environment has a considerable impact on the individual. As individuals we are adaptive to our social environment, Bronfenbrenner and Cairns and Gottlieb (cited in Farmer & Xie, 2007) state. Classrooms and schools form miniature societies that both influence students' social opportunities and limit their ability for substantial behavioural changes, Roseth, Pelligrini, Bohn, Van Ryzin & Vance; Hawly, Johnson, Mize, McNamara & Vance; Putallaz, Grimes, Foster, Kupersmidt, Coie & Dearing; Kileya-Jones, Coztanzo, Malone, Quinlan & Miller-Johnson and Cillessen & Mayeux; Garner, Bootcheck, Lorr & Rauch (cited in Farmer & Xie, 2007) argue. To create a positive learning environment, it is crucial to support a formation of positive and

constructive class interrelationships by preventing destructive group elements.

Regarding prevention of verbal and physical aggression, it is important to observe factors beyond the specific student behaviour, student characteristics and student social network, and also view the interaction pattern in the classroom and school structure, Farmer, Xie, Cairns & Hutchinset (cited in Farmer & Xie, 2007) claim to understand how all students within the school are involved (Farmer & Xie, 2007). The general interactional dynamics influence social values and behaviours at a school, Farmer; Rodkin & Hodges and Sutherland, Carter, Farmer, Hoover & Kostewicz (cited in Farmer & Xie, 2007) state. The social hierarchy of the class, interactional dynamics and social values and norms, both on class level and on school level, needs to be studied, Farmer; Hymel, Wagner & Butler and Rodkin & Hodges (cited in Farmer & Xie, 2007) argue. Interventions for individual aggressive students tend not to result in sustainable effects, as the social context may support this type of behaviour and hinder behavioural change, according to Farmer; Hymel, Wagner & Butler and Rodkin & Hodges (cited in Farmer & Xie, 2007).

Different group climates impact group spontaneity and the extent of aggressive behaviour, according to Lewin, Lippitt & White (cited in Trickett & Moos, 1974). Verbal and physical aggression have several different functions in the social dynamics of the classroom. Student who are informal leaders may use aggression as a way to influence their peers and maintain high social positions while victimized students may react aggressively to prevent themselves from attacks in the future. Yet, both parts are socially vulnerable, Adler & Adler; Estell, Farmer & Cairns; Evans & Eder; Salmivalli & Nieminen (cited in Farmer & Xie, 2007) claim. In this classroom environment non-aggressive students tend to become more tolerant towards aggression, may support bullying behaviour or even take part in bullying to protect their social status or reduce the risk of being exposed to bullying themselves, Adler & Adler and Evans & Eder (cited in Farmer & Xie, 2007 argue). When bullying is supported by several students within a class, it involves the social community of a class, Pepler, Craig & Roberts and Salmivalli, Lagerspetz, Bjorkqvist, Osterman & Kaukiainen (cited in Farmer & Xie, 2007) state.

Aggressive students with social problems tend to be less motivated, more inclined to disrupt other students, more prone to suffer from academic difficulties and failures at school, to a greater extent drop out of school and have negative relationships with teachers, Farmer, Estell, Leung, Trott, Bishop & Cainrs; French, Conrad & Turner; Ladd & Burgess; Wentzel & Asher (cited in Farmer and Xie, 2007) claim. Victims of aggressive students may suffer from a lack of motivation for school work, have few social relations, high absenteeism and perceive academic difficulties, Buhs, Ladd & Herald; Perren & Alsaker; Schwartz, Gorman, Nakamoto & Toblin (cited in Farmer & Xie, 2007) claim. Students who experience being excluded by their peers and are victimized have a low academic self-concept that contribute to reduced motivation and to achievement problems, Buhs (cited in Farmer & Xie, 2007 argues. Students who often are victimized not only tend to have few friends, they are also used as scapegoats by their peers, Adler & Adler; Evans & Eder, 1993 and Salmivalli, Lagerspetz, Bjorkqvist, Osterman, & Kaukiainen (cited in Farmer & Xie, 2007) advocate. This is a disadvantage, as friendship could protect these individuals from chronic victimization and associated negative developmental consequences, Hanish, Ryan, Martin & Fabes; Hodges, Boivin, Vitaro & Bukowski; Malcom, Jensen-Campbell, Rex-Lear & Waldrip (cited in Farmer & Xie, 2007) claim.

Students create behavioural norms through social comparisons with other members of their closest peer group or within their social context, Killya-Jones, Coztanzo, Malone, Quinlan & Miller-Johnson (cited in Farmer & Xie, 2007) suggest. Students who are aggressive and socially marginalized are prone to form friendships with other socially marginalized students who teachers perceive as less socially competent, Estell, Farmer, Pearl, Van Acke & Rodkin; Estell, Farmer, Pearll Van Acker & Rodkin; Farmer, Leung, Pearl, Rodkin, Cadwallader & Van Acker; Farmer, Estell, Bishop, O'Neal & Cairns; Farmer, Estell, Leung, Trott, Bishop & Cairns (cited in Farmer &

Xie, 2007) state and these students tend to perceive the aggressive students as cool, Rodkin (cited in Farmer & Xie, 2007) argues. Consequently, these students' closest peer group characterizes and supports less socially competent behaviour and may look at aggression as a way to achieve high social status roles. It may be difficult for these students to change the interaction pattern that is connected to their social position, Farmer, Xie, Cairns & Hutchins and Hymel, Wagner & Butler (cited in Farmer & Xie, 2007) point out. Even though when these students try to develop social skills, it could be difficult, as there may be social forces that maintain the destructive aggressive behaviour (Farmer & Xie, 2007).

2.3.　　Research Problem and Aim

The aim of the present study is to explore and describe how upper secondary school students' perceive different group dynamic dimensions of the interrelationships in their class and to analyse how and to what extent these perceptions are related to School Satisfaction, Absenteeism and Achievement and Sex.

2.3.1.　　Research Questions

1) Are the students' perception of group dynamic aspects of the interrelationships in their class, related to School Satisfaction, Absenteeism and Achievement?
2) Are there sex differences in how students perceive the the group dynamic aspects of the interrelationships in their class?

2.4.　　Sources

Previous research has been searched for in the data bases: ERIC and Educational Research Complete. The following key words have been used when the searches were conducted: interpersonal relations, peer relations, student relations, student interaction, student-student relationships, classroom environment, classroom climate, classroom management, classroom dynamics, high school and upper secondary school. In addition, the different expressions for students' interrelationships have also been used in combination with School Satisfaction, Absenteeism, attendance, Achievement, performance and Sex. Mainly peer reviewed articles have been selected and only articles about students' interrelationships and students' interrelationships in relation to students' School Satisfaction, Absenteeism, Achievement and Sex have been included in the present study, as it aims at investigating the relations between students' perception of class interrelationships and students' School Satisfaction, Absenteeism, Achievement and Sex.

# 3.	Method

The present study is a deductive, quantitative, cross-sectional, questionnaire-based survey. Firstly, it investigates students' perception of their class interrelationships from a group dynamic perspective. Secondly, it examines whether these student perceptions are related to students' School Satisfaction, Absenteeism, Achievement and Sex. The data collection instruments that have been used in this study are: a questionnaire consisting of three scales (Class Interrelationship Scale, School Satisfaction Scale and Sex), absent records and grade documents, provided from principals and teachers at the schools participating in the study.

## 3.1.	Variables, Dimensions, Concepts and Procedural Definitions

The present study comprises 5 variables: Students' Class Interrelationships, Students' School Satisfaction, Absenteeism, Achievement and Sex. The concept, Students' Class Interrelationships, consists of six group dynamic aspects that have been operationalized through the separate dimensions: Norms, Roles, Conflicts, Communication, Group Integration and Relatedness. The concept, Students' Class Interrelationships, is defined in the subsection below, 3.1.1., 'The Development of the Class Interrelationship Scale'. The operationalization of the concept, Students' Class Interrelationships, is described through the six group dynamic dimensions in section 3.1.3, 'Class Interrelationship Scale Dimensions'. A number of different scales have been used in order to measure these dimensions and they are presented in the same section. The concept, Students' School Satisfaction, is explained and operationalized in section 3.1.4., in which its specific scale is defined. The concept, Absenteeism, is clarified together with its procedural definition in section 3.1.5. The concept, Achievement, is defined and its procedural definition expressed in section 3.1.6. The variable, Sex, is defined in section 3.1.7. The following sections, 3.1.1., 3.1.1.1. and 3.1.2. describe the development of The Class Interrelationship Scale, while section 3.1.2.1. presents the modified Class Interrelationship Scale.

### 3.1.1.	The Development of The Class Interrelationship Scale

The concept, Students' Class Interrelationships, comprises students' interaction in classrooms, corridors, common rooms, dining halls, gymnasiums, changing rooms, other premises at school and on school yards. During students' interaction verbal and non-verbal communication is expressed consciously or unconsciously.

Measures of students' perception of the six group dynamic aspects of their class interrelationship were performed. The reason why students' perception was used, instead of the teachers' perception or observations, is that the focus of the present study is students' perception in relation to the variables: School Satisfaction, Absenteeism, Achievement and Sex. It is also the students' perception that is the determining factor of student behaviour Fraser & Walberg, 1981). Another motive for the collection of the students' perception, instead of teachers' perception is because students' perception covers students' experiences both within and outside the classroom. Other grounds for choosing the students' perception, rather than observations, is that students' perception provide perceptions gained for several school days, in contrast to data from a few occasions, which would have been the case if observations had been used. Another rationale for selecting students' perception is that they involve collected judgements from students of a whole class, in comparison to the number of student perception that it would have been possible to gain through individual interviews. It is stated that perceptual measures of students' classroom environment are able to explain significantly more of the variance in student learning outcomes than other methods, Rosenshine and Fiedler (cited in Fraser & Walberg, 1981) argue.

To measure students' perception of class interrelationships with group dynamic concepts a pilot

study was performed. It included 18 students (10 male students, 7 female students and 1 students' sex was not stated) from the same class, who studied at a higher education preparatory program at an upper secondary school in the south of Sweden. It was a cross-sectional survey with a mixed method design. The measurement instrument was a questionnaire, including 12 open-ended questions, 21 statements and 3 background questions. All items in the questionnaire were developed from group dynamic theory (Granström, Jern, Näslund & Stiwne, 1998). The open-ended questions were used to gain information about what group dynamic aspects of class interrelationship that upper secondary school students found engaging, either positively or negatively. The purpose of the statements were to test the phrasing and function of the items. The students were asked to answer the statements along a 5-point-scale starting with the alternative "Principally none of us" to "Almost all of us". The aim of the background questions were to collect data about the students' sex and investigate how students' goals differed through questions about whether the wanted to work or study further and what profession they wished to have.

It was found that some students described decision-making in their class as persuasive and therefore an item about persuasion prior decision-making in the class was included in the questionnaire that was used in the present study. Other issues that students found important and that were mentioned in the students' responses to the open-ended questions, were already included among the statements in the pilot questionnaire and consequently no new items were added to the questionnaire of the present study. All of the close-ended statements in the pilot questionnaire were transformed to the questionnaire that was used in the present study. The open-ended questions were reworded into statements and made less abstract. During the data collection the students asked for clarification of certain items and in their written responses it was evident that some items were vague or could be interpreted in different ways. Before these items were included in the questionnaire of the present study, they were rephrased, split up into different and more specific items, reformulated in a more concrete way to clarify the content, limited different interpretations of the items to improve construct validity.

3.1.1.1. Original Scale

The concept, Students' Class Interrelationships, was in the present study measured through the Class Interrelationship Scale that was created by the author of this study. Initially it comprised 39 items that were divided into 8 group dynamic dimensions: Norms (6 items), Roles (5 items), Conflicts (2 items), Communication (2 items), Tolerance (3 items), Individual Attraction to the group (4 items) and Relatedness (15 items). After data collection, the items were correlated with the other items within each dimension and the items with few or low correlations with the other items within each dimension were discarded (no. 1, 4 (reversed coding), 5, 8, 9, and 17), to improve scale validity, resulting in the number of items being reduced to 33. The original scale including the discarded items are displayed in 'Original Questionnaire' (Appendix D), but the data the discarded items generated, was eliminated from the data set before any analysis were performed.

3.1.1.2. Factor Analysis

Several Factor Analyses (Principal Component Analyses) were conducted. Missing values were treated through a pairwise exclusion of cases. From the results of the first analysis 8 components emerged. Items with weak relationships to the underlying components were rearranged into other components and items that were moderately and strongly related to the underlying component were retained. The rearrangement of the items were performed through a balanced consideration between theoretical assumptions and Factor Analyses results to improve the division of items into dimensions and thereby increase construct validity. Totally 18 items were reorganized into other components. The last Principal Component Analysis retained 7 components, but as one of them composed few and low item loadings, it was decided to keep only 6 of the components.

Subsequently, SPSS, was told to retain 6 components. The components were named according to the main content of the items loading on them: Component 1 (Norms), Component 2 (Relatedness), Component 3 (Group Integration), Component 4 (Conflicts), Component 5 (Communication) and Component 6 (Roles). The loading on the 6 components are presented in 'Pattern Matrix' (Appendix F) and 'Structure Matrix' (Appendix G). The division of items into dimensions in the original scale before the Factor Analyses were conducted and in the modified scale after the Factor Analyses had been performed are presented in "Dimensions of the Original and the Modified Scale (Appendix C).

3.1.1.3. Modified Scale

The modified scale contain 6 dimensions and a detailed descriptions of each dimension are found in the introductory section. All the items of the Class Interrelationship Scale were phrased in Swedish and formulated in a positive way, according to what constitutes constructive class interrelationships. The students rated each item on a 5-point-scale by expressing their extent of agreement (1 = completely disagree to 5 = totally agree) including the neutral option, 'Don't know'. The item wording and the answering scale are shown in 'Original Questionnaire' (Appendix D)

The scores were calculated by adding the students responses on the answering scale, 1-5, for the items that they had responded to within each dimension. Then the students' average scores for each dimension were computed, to equalize the differences in the number of items between the dimensions. The students' scores were only calculated for each dimension and not summarized into a total sum of scores for the whole scale, due to the research aim of investigating students' perception of the group dynamic aspects of class interrelationships as a multidimensional concept consisting of different group dynamic aspects, rather than as a unidimensional concept. Another rationale behind this procedure is that it has been confirmed in a large number of studies that the concept, students' perception of class interrelationships, is related to: students' School Satisfaction, Absenteeism, Achievement and Sex, hence it is more interesting to study how students' perception of the different group dynamic aspects in their class are related to these variables. All individual student scores were aggregated and not calculated separately for each class, as the purpose of the present study is to examine the relation between students' perception of the group dynamic aspects of their class interrelationships and the students' School Satisfaction, Absenteeism, Achievement and Sex. The intention is not to compare the generated data within or between the student classes.

3.1.2. Class Interrelationship Scale Dimensions

The concept, Students' Class Interrelationships, have been operationalized through the following six dimensions: Norms, Roles, Conflicts, Communication, Group Integration and Relatedness.

3.1.2.1. Norms

The dimension, Norms, was measured through 4 items. An example of an included item is: 'In my class, we are allowed to look, dress, behave and be precisely as we want to, as long as we don't treat anybody else disrespectfully'. High scores on this dimension, indicate that the students perceive the class interrelationships to be characterized by tolerant norms.

3.1.2.2. Roles

The dimension, Roles, was measured through 3 items. An example of an included item is: 'In my class all classmates have the same status in the sense of power and influence'. High values on this dimension, imply that the students perceive the class interrelationships to reflect equality regarding the status of their different social roles.

3.1.2.3. Conflicts

The dimension, Conflicts, was measured through 4 items. An example of an included item is: 'In my class there are no power struggles'. High points on this dimension, suggest that the students perceive the class interrelationships as containing a minimum of friction and conflicts.

3.1.2.4. Group Integration

The dimension, Group Integration, was measured through 5 items and 3 of them were derived from sub scales within the Group Environment Scale, GES (Carron, Widmeyer & Brawley, 1985) that later were modified (Spink & Carron, 1994) and 2 of them originated from Group Dynamic Theory (Granström, Jern, Näslund & Stiwne, 1998). The included GES-items, 33 and 35, belong to the GES dimension, Group Integration - Social, (closeness, similarity and unit related to social aspects) and the GES-item 34 originates from the GES dimension, Individual Attraction to the Group - Social, (individuals' perception of social interactions in the group), (Blanchard et al., 2000; Whitton et al., 2014). Even though the GES-item no. 34 was regarded measuring Individual Attraction to Group, it was included within this dimension, Group Integration, with reference to the results of the Principal Components Analysis. The rational for adding the GES-items (Carron et al., 1985) to this scale was that the other group dynamic items (Granström et al., 1998) were specific and did not cover the general concept of cohesion i.e. Group Integration. As it is an important factor in the perception of group dynamic, it was included in the scale of the present study. The GES-items have also been added to the scale because they have been tested and adjusted frequently in previous research and accordingly improve scale validity.

The GES-items (Carron et al., 1985) have been adjusted for use in a school context and negatively worded items have been reversed (item no. 1, 3, 7, 11, 13 and 17), not to impose negative thoughts on students. One example from each sub scale of how the items have been reworded are: 'I do not enjoy the social interaction occurring in this group' (ATG-S, no. 1) that has been changed into: 'I appreciate the social interaction in my class.' (no. 32, reversed) and 'Members of our group do not stick together outside of exercise class' (GI-S, no. 17) that has been modified into: 'The classmates in our class socialize outside of school.' (no. 33, reversed). High points on this dimension, Group Integration, demonstrate that the students perceive the class interrelationships to be cohesive.

3.1.2.5. Communication

The dimension, Communication, was measured through 6 items and 5 of them were acquired from Group Dynamic Theory (Granström et al., 1998) and 1 of them (no. 32) stem from the sub scale within GES named Individual Attraction to Group - Social, that was considered measuring Individual Attraction to Group, but was placed within this dimension, Communication, due to the results of the Principal Components Analysis and because its content of interaction theoretically fitted well into this dimension. It has been included in the scale because it complements the other more specific items by measuring students' appreciation of the social interaction in their class at a more general level and also for the reason that it has been used in former studies, which is favourable for the scale validity. An example of an included item is: 'In my class we talk to each other in a respectful way'. High scores on this dimension, Communication, signal that the students perceive the class interrelationships defined by favourable communication.

3.1.2.6. Relatedness

The dimension, Relatedness, was measured through 11 items and 5 of them were collected from the sub scale, Relatedness, within the Basic Needs Satisfaction in Sport Scale, BNSSS (Ng, Lonsdale & Hodge, 2009). The motivation for using these items is that they are theoretically relevant for the study of students' interrelationships and have been applied before in measuring the concept,

Relatedness, thus support construct validity. The items have been modified though, to assess Relatedness within the school setting and one example of the adjustments that have been made is for the item 'I have close relationships with people in my sport.' that was rephrased into: 'I have close relationships with the classmates in my class.' The 5 items from the BNSSS have been included in the sub scale "Relatedness" together with 6 other related items.

Within the dimension, Relatedness, the students were also asked to answer two question (no. 30 and 31) that were obtained from the sub scale Children's Relations to Other Students and Adults at School, within the Scale of Children's Perceptions of School (Statistics Sweden, 2016; 2017). The questions: "How do you like your class?" (Statistics Sweden, 2017) and "Do you have any close friend in your school class?" (Statistics Sweden, 2016) were integrated into this dimension, Relatedness, as a result of the Principal Components Analysis. They have also been in included in the scale because they are in line with the theoretical assumptions of the concept, Relatedness and have been used and revised several times previously. Consequently, they are believed to be valid. The question about class satisfaction also contribute to the dimension by measuring the concept from a more generally perspective than the other items. The students were asked to answer the question by circling one of five fixed response options ("Not good at all", "Not so good", "Don't know", "fairly good" and "Very good") and state whether they had any close friend in their class by selecting one of the following five answering alternatives ("No", "Yes, one", "Don't know", "Yes, two" and "Yes, three or more").

Included in the dimension are also 2 items phrased: 'Some of my best friends are in this class.' (no. 36) and 'For me, this class is one of the most important social groups to which I belong.' (no. 37) created by Carron et al. (1985) that were assumed to measure Individual Attraction to Group, but were added within this dimension, Relatedness, on account of the results from the Principal Components Analysis and because the students' individual attraction to their class is assumed to be related to their perceived relatedness.

Another item that was incorporated within this dimension was 'A lot of friendships have been made in this class.' (no. 44) within the dimension, Relationship, the sub scale, Affiliation, and The Actual Classroom Environment Scale, ACES, (Moos & Trickett, 1974). This item was suggested measuring affiliation, but was placed within this dimension, Relatedness, because it was indicated by the Principal Components Analysis and owing to friendship and support suggestingly being viewed as concrete signs of Relatedness. The concept, Affiliation, measures the nature and the intensity of students' interrelationships in the classroom environment and more specifically the level of friendship, extent of help and support being offered and enjoyment of cooperation. High scores on this dimension, Relatedness, was interpreted as students perceiving the class to be closely connected.

3.1.3.   School Satisfaction

In the present study, students' School Satisfaction is considered a one-dimensional concept and is more specifically directed towards belongingness to school. This concept was measured through the Sense of School Belonging, SSB scale (PIRLS, 2016), that consists of five items. The SSB scale (PIRLS, 2016) measures the degree of security and safety that the students perceive at school, to what extent students perceive that they fit into their school community, how much they like being at school and to what degree they are proud of their school. It also includes how students perceive teachers' fairness at their school. These items were selected due to them investigating School Satisfaction from a foundational perspective, being adjusted to the school context and previously tested and modified (PIRLS, 2016).

All items were formulated as positive statements and the students were asked to state their degree of agreement to them. Their original answering scale was changed from a 4-point-scale ranging from

'Disagree a lot' to 'Agree a lot' into a 5-point-scale spanning from 'Completely disagree' to 'Totally agree' including the indecisive option, 'Don't know'. Students who generally agreed with these statements, were believed to be inclined to feel belongingness to a greater extent than students' who tended to disagree with the statements and who were prone to perceive belongingness to a minor degree.

3.1.4. School Absenteeism

Students' absenteeism refers, in the present study, to students' total absence consisting of absence that is applied for in advance, pre-registered and approved of and absence that is not applied for in advance, not pre-registered, not approved of and considered as truancy.

School Absenteeism, was measured through the students' absence records from August 2017 to January 2018. For each individual student the absence time that was approved of was added together with the absence time that was not approved of. The sum was divided by the total lesson time that was multiplied with 100, resulting in the total absence in percent. Absence was calculated in hours.

The grounds for this procedure is that there is no fixed amount of lesson time for the school year, only a minimum amount of lesson time that students at vocational programs (2 430 lessons) and higher education preparatory programs (2 180 lessons) are guaranteed (Skollagen 2010:800). The principals themselves determines the number of lessons that they would like to provide for each course and also the distribution of lessons during the school year (SFS 2012:402). It leads to schools providing different amounts of lesson time. Another cause to this practice is that students themselves are responsible for registering approved absence at some schools, which may lead to the risk that the responsibility is misused.

One principal, some of the teachers and a few of the students of school no. 1 pointed out that some of their absence records were inaccurate, as a result of some students having changed school after the school year had begun and thereby they had been registered as absent in the absence report system on their present school before they arrived there, but they may have attended lessons during this period of time at their former school. It has been taken into consideration by dividing the absent time by the total amount of lesson time that the student has attended.

3.1.5. School Achievement

The variable, Achievement, measured all the students' grades in foundation courses and program specific courses including languages that had been issued during and at the end of the students' first year of upper secondary school. The students' total grade value was calculated by summarizing the students' grade values according to the following procedure: A = 20, B = 17.5, C = 15, D = 12.5, E = 10, F = 0. The sum, i.e. the students' total grade value, was then divided with the total credits of the courses that the students had studied at their educational program during the first year at upper secondary school, to equalize the grade value with the length of the courses (Antagning.se, n.d.). Most courses comprise 100 credits (studies during approximately 10 months) or 50 credits (studies during approximately 5 months). Detailed information about educational programs, subjects and courses in the Swedish upper secondary school is provided in Appendix B.

3.1.6. Students' Sex

The categorical variable, Students' sex, were divided into three categories that were dummy coded, two binary categories, woman and man and one non-binary category called "other".

3.2. Measures

3.2.1. Scale Validity

This section include variable validity, dimension validity and correlation between dimensions.

3.2.2. Variable Validity

The selected data collection method for the present study is adequate and the inter-rater reliability is considered being satisfactory. The test-retest reliability is naturally low, as the perception of group dynamic dimensions is not static over time. The internal consistency reliability is acceptable, but the principal component analysis displayed several cross-loadings, suggesting that the discriminant validity of the group dynamic dimensions are unsatisfactory and therefore need to be improved. The principal component analysis also showed that the items of the Class Interrelationship Scale were accounted for by more than one component, indicating that the concept, Class interrelationship, is a multidimensional concept and the one-dimensional measurements of affiliation within the Actual Classroom Environment Scale (Moos & Trickett, 1974) is inadequate. The component loading of the items varied from weak to strong and most of them were positive, hence the correlation between each item and the different group dynamic dimensions are insufficient. Subsequently the construct validity is low and the scale dimensions require further modification.

The items in the Students' Sense of School Belonging Scale (PIRLS, 2016) presents acceptable Cronbach's Alpha reliability coefficients. The principal component analysis shows that the percentage of variance among the scale items that is accounted for by the first principal component is high and the component loading of each item is strong and positive, suggesting that the relation between each item and the scale is adequate (PIRLS, 2016).

The variables, School Satisfaction, Absenteeism and Achievement are significantly, positively and slightly related to each other and it is assumed that they measure different concepts, which is favourable for scale validity and does not imply problems with multicollinearity. For future investigations, the measurement instrument should be improved and refined by removing the following items with low extraction values in the table of commonalities and low factor loadings or no factor loadings at all (item no. 42) to gain a more efficient and precise scale: 10 (extraction value: .444), 39 (extraction value: .391), 42 (extraction value: .393) and 44 (extraction value: .447). The Class Interrelationship Scale is not satisfactory in its present form and needs substantial revision to achieve adequate validity.

3.2.3. Dimension Validity

The subscales of the Group Environment Questionnaire, GEQ, from which the Group Environment Scale (Carron, Widmeyer & Brawley, 1985) was derived, showed good test-retest reliability and internal consistency (Blanchard et al., 2000). In addition, it has been found that the GEQ has adequate discriminant validity and internal reliability, Courneya and McAuley (cited in Blanchard et al., 2000) claim. The Group Environment Scale also provides multilevel factorial validity. The reason why more of the items regarding Group Integration have been used, than the items concerning Individual Attraction to the Group, is that the factor loadings are stronger for the items on group level compared to them on individual level. Cohesion is assumed to be a construct on group-level and it is therefore accentuated that analyses and interpretations should be conducted on group-level (Whitton & Fletcher, 2014). The Actual Classroom Environment Scale shows satisfactory internal consistency reliability and discriminant validity (Fisher & Fraser, 1983). The Basic Needs Satisfaction in Sport Scale (Ng, Lonsdale & Hodge, 2009) demonstrates content and factorial validity, internal consistency and test-retest reliability of its subscale scores. However, items of subscales that originate from the sport context, GES (Carron, Widmeyer & Brawley, 1985)

and BNSSS (Ng, Lonsdale & Hodge, 2009) and have been adjusted to the school setting, need to be further examined to find out whether they are valid and reliable indicators also in the school setting. As the items from the scales: GES, ACES and BNSS were translated from English to Swedish, there is a risk that the content of the items has not been exactly conveyed and that the students' cultural background affect the results.

The correlation between the items were moderate for the dimension, Norms, that has a mean of r = .528 and range from r = .429 to r = .750 at the significance level < .01 and the dimension, Roles, that has a mean of r = .462 and range from r = .389 to r = .562 at the significance level < .01, the dimension, Conflicts, that has a mean of r = .408 and range from r = .338 to r = .449 at the significance level < .01, the dimension, Communication, that has a mean of r = .481 and range from r = .331 to r = .678 at the significance level < .01 and the dimension, Relatedness, that has a mean of r = . 433 and range from r = .150 to r = .662 at the significance level < .05. The correlations between items were low for the dimension, Group Integration, that has a mean of r = .334 and range from r = .179 to r = .537 at the significance level < .05. Dimensions, correlational strength, correlation mean, range of correlation coefficients and significance level are presented in table 1.

Table 1: Dimensions, Correlations and Significance Level

Dimensions	Relational Strength	**M** of *r*	**Range of** *r*	*p*
Norms	Medium	.528	.429 - .750	< .01
Roles	Medium	.462	.389 - .562	< .01
Conflicts	Medium	.408	.338 - .449	< .01
Group Integration	Low	.334	.179 - .537	< .05
Communication	Medium	.481	.331 - .678	< .01
Relatedness	Medium	.433	.150 - .662	< .05

The items within the dimensions, Norms, Roles, Conflicts, Communication and Relatedness are significantly, moderately and positively correlated, but the items within the dimension, Group Integration are significantly, slightly and positively correlated, indicating that most of the items fit well within their dimensions, which generally is positive for scale validity. One suggestion for future research is to rearrange item no. 20 that in the present study was placed within the dimension, Communication. It should have been included within another dimension, possibly Conflicts, Roles, Relatedness, Group Integration or a new dimension. Through further theory and scale development, a better solution will be found than in the present study.

3.2.4.   Correlations between Dimensions

The correlations between all the dimensions are too high and need to be improved. They have a mean of r = .474 and range from r = .346 to r = .580 at the significance level < .01. The dimension, Norms, is significantly, positively and moderately correlated with Roles (r = .502; p < .01). In addition, Norms are significantly, positively and moderately correlated with Conflicts (r = .482; p < .01), Communication (r = .563; p < .01), Group Integration (r = .400; p < .01) and significantly, positively and slightly correlated with Relatedness (r = .362; p < .01).

Roles are significantly, positively and moderately correlated with Conflicts (r = .520; p < .01) and Communication (r = .584; p < .01) and significantly, positively and slightly correlated with Group Integration (r = .385; p < .01) and Relatedness (r = .351; p < .01. Conflicts are significantly, positively and moderately correlated with Communication (r = .533; p < .01) and significantly,

positively and slightly correlated with Group integration (r = .346; p < .01) and Relatedness (r = .369; p < .01). Communication is significantly, positively and moderately correlated with Group Integration (r = .580; p < .01 and Relatedness (r = .554; p < .01). Group Integration is significantly, positively and moderately correlated with Relatedness (r = .577; p < .01). Correlated dimensions, correlational strength, correlation coefficients and significance level are displayed in Table 2.

Table 2: Cross Dimensional Correlations

Dimensions	Dimensions	Relational Strength	*r*	*p*
Norms	Roles	Strongly positive	.502	< .01
Norms	Conflicts	Moderately positive	.482	< .01
Norms	Communication	Moderately positive	.563	< .01
Norms	Group Integration	Moderately positive	.400	< .01
Norms	Relatedness	Slightly positive	.362	< .01
Roles	Conflicts	Moderately positive	.520	< .01
Roles	Communication	Moderately positive	.584	< .01
Roles	Group Integration	Slightly positive	.385	< .01
Roles	Relatedness	Slightly positive	.351	< .01
Conflicts	Communication	Moderately positive	.533	< .01
Conflicts	Group Integration	Slightly positive	.346	< .01
Conflicts	Relatedness	Slightly positive	.369	< .01
Communication	Group Integration	Moderately positive	.580	< .01
Communication	Relatedness	Moderately positive	.554	< .01
Group Integration	Relatedness	Moderately positive	.577	< .01

Norms are significantly, positively and moderately related to Roles, Conflicts, Communication and Group Integration, while significantly, positively and slightly correlated with Relatedness. Roles are significantly, positively and moderately correlated with Conflicts and Communication, while significantly, positively and slightly correlated with Group Integration and Relatedness. Conflicts are significantly, positively and moderately correlated with Communication and significantly, positively and slightly correlated with Group Integration and Relatedness. Communication is significantly, positively and moderately correlated with Group Integration and Relatedness. Group Integration is significantly, positively and moderately correlated with Relatedness. The moderate relation between: Norms & Roles, Norms & Conflicts, Norms & Communication, Norms & Group Integration, Roles & Conflicts, Roles & Communication, Roles & Group Integration, Conflicts & Communication, Communication & Group Integration, Communication & Relatedness and Group

Integration & Relatedness indicate that there is no clear discrepancy between the concepts, signals dimensional overlaps and that the concepts to a considerable degree measure the same concepts, which is negative for scale validity. There may be underlying variables that cause these highly correlated dimensions. The weak relation between: Norms & Relatedness, Roles & Relatedness, Conflicts & Group Integration and Conflicts & Relatedness, indicate that these dimensions to a great extent measure different concepts, which is advantageous for scale validity.

3.3. Participants

The selection of participants was accomplished through a convenience sample. An invitation to participate in the study was sent through mail to 32 upper secondary schools situated in the southern part of Sweden, including both municipal schools and independent schools with public funding (charter schools) as well as schools with vocational programs and higher education preparatory programs. Of these upper secondary schools, 9 were interested in taking part in the study, but 5 of them withdrew as they found the administration involved too time consuming and 2 of them had principals and teachers for vocational programs who would have liked to let their students take part in the study, but their students were not available during the period of data collection, due to workplace training. The remaining two schools chose to invest time and effort into their participation.

The selected sample consisted of 216 students and the loss of participants was 27 (13 %) students due to absence at the time of data collection (26 students) and declination to participate (1 student), resulting in a total number of 189 (88 %) participants. School no. 1 participated with 130 students (68,8 %) and school no. 2 participated with 59 students (31,2 %). The students who chose to take part in the study were located in four separate school buildings. Approximately 250 students belonged to building 1-3 and almost 600 students belonged to building 4. The students of the study sample studied four different higher education preparatory programs: Business Management and Economics Program (86 students, 45,5 %), Natural Science Program (22 students, 11,6 %), Social Science Program (58 students, 30,7 %) and Humanities Program (22 students, 11,6%). In the division of students into educational programs, one student was missing, due to that it was not possible to identify this information from the students grade document.

All educational programs in the Swedish upper secondary school last three years. The students' were aged 17-18, studied their second year at upper secondary school and belonged to seven classes with a number of students ranging from 22 to 31, with a mean of 27. Six of the classes were homogeneous regarding educational direction and one of them were heterogeneous including students from all four of the educational programs mentioned above. Students were considered having a diverse multi-cultural and socio-economic background. Of the total number of participants, 189, 123 (65,1 %) were female students, 60 (31,7 %) male students, 2 (1,1 %) non-binary students and 4 (2,1 %) students did not state their sex. The non-binary students' scores were not included in the analyses including the students' sex, as it would not be meaningful, from a statistical perspective, for such a limited number of students, but these students' responses were included in all other analyses.

The partial loss of the sex variable was 4 student responses due to 4 (2 %) participants of 189 not stating their sex. The responses of these 4 students, where included in all analysis apart from those involving the variable "Sex". The partial loss of the variable describing educational program was 1 response due to 1 (1%) participant of 189 belonged to the class including students from four different educational programs and did not have any grades registered to identify the students' educational program. This students' scores were included in all analysis that were carried out.

The sample was drawn from a population of upper secondary school classes and considered

concrete groups that were limited in time, space, number of members and some demographic characteristics as age and study orientation. They share the goal of completing their educational program. The main objective was to study the metaphorical level including the students' perception of implicit norms, roles and goals. The present study investigate groups from the concrete individual and interpersonal perspective with the awareness of the metaphorical individual and interpersonal perspective.

3.4. Procedures

This section contain data collection and data analysis.

3.4.1. Data Collection

Prior to data collection, information in Swedish was sent to the principals about the study's purpose, data collection procedure, how the students anonymity would be protected and how the result would be presented. The questionnaires were numbered in advance and the principals were asked to provide grade and attendance records for all the students. The principal of the second school asked if it was possible to list the students' absent percent and compute their Comparative Grade Value and that was accepted. The students were not asked to sign informed consents, as that could be considered violating the assurance of anonymity from the students' perspective. Instead the students verbal consents and their active action of filling in the questionnaire were an assurance of them being willing to participate in the study. Written permissions from the students' parents were not needed as all the participating students were above 16 years of age.

The same information that was distributed to the principals, was also given orally, in Swedish, to the students at the time of data collection. In addition, the students were given the oral information in writing (Appendix A) and it was emphasized that the participation in the study was voluntary and anonymous, that there were no right or wrong answers to the questionnaire and that the students contributed to the results in the best way by being as honest as they possibly could. Moreover, the students were told that their questionnaires were numbered to make it possible to connect each student's responses with their grade and absence records, in case the staples would fall off and still protect their integrity. Furthermore, the students were requested to put their material into a box, where it was kept in a random order that would make it impossible to figure out which questionnaire that was submitted by whom. When the students had been given the oral information, they were offered the same information written down in Swedish, on the cover sheets that were attached to the questionnaires.

The students filled in the questionnaires during their scheduled lessons and in classrooms that they were familiar with. In two classes that were visited at school no. 1, the teachers distributed the grade and absence records to the students. Together with the teachers, the author of the present study removed the students' names and identification numbers from their records and attached them to their questionnaires with a staple. Before visiting the third class at school no. 1, time had allowed preparation of the material by the principal and the author of the present study. The questionnaires had been attached to the grade and absence records. In addition, the identifying information had been cut of to 80 %, leaving the students' names to make it possible to deliver the material to the intended student. The students were then asked to tear off the whole paper strip that contained their personal information, before their material was attached to their questionnaires. In the fourth class visited at school no. 1, the teacher distributed the grade and absence records to the students, who were informed that they would be asked to separate their personal details from these documents before they were attached to their questionnaires.

In the classes that were visited at school no. 2, the principal provided a list of the students' absence

and grades, where the students' identification details had been omitted and replaced by a random number from 1-32 and 1-33 in the two classes. The questionnaires where then numbered accordingly and the principal administered them.

When the data collection was accomplished the principals, teachers and students were thanked for their time and efforts with a minor symbolic gift.

3.4.2. Data Analysis

Firstly, the relation between the determinant, Sex, and the Students' perception of the six different group dynamic dimensions of class interrelationships were inquired into by the use of the Statistical Package for the Social Sciences (IBM SPSS Statistics, version 25). Means and standard deviations were calculated, analysed and compared through Independent-samples t-tests. More precisely, the descriptive analyses comprised students' responses of their perception regarding the six group dynamic dimensions of class interrelationships split into the two sex categories, male and female students. The mean difference between male and female students' scores for each group dynamic dimension were analysed through t-tests.

Secondly, the relations between the Students' perception of the six different group dynamic dimensions of class interrelationships and the three variables: School Satisfaction, Absenteeism and Achievement were examined through bivariate correlations. Thus, all the measurements that involved the concept, Students' Perception of the Class Interrelationships, implied calculations with each of the six group dynamic dimensions separately. Missing values were treated through a pairwise exclusion of cases. Thirdly, the relation between the variables: School Satisfaction, Absenteeism and Achievement were performed and fourthly, multiple linear regression analyses were conducted. Missing data was dealt with through a listwise deletion of cases.

3.5.   Research Ethics

The data collection, the data processing and the dissemination of data, do not include any information that can be connected to any of the participants, according to the ethical guidelines (Cöster, 2014; Vetenskapsrådet, 2017). To perform the present study, some sensitive information about the students' sex, their absent records, their grade documents and their perception of their class' interrelationships, were necessary to collect to perform the study. The expected results would not have been achieved in any other way that could have protected the participants' personal integrity more. An alternative data collection method was considered that would have implied that the students estimated their average absence in percent and stated all their grades or their average grade level, but that would have lead to more measurement errors and the results would consequently have been more unsure. The purpose of calculating the students' total time of absence (approved and not approved absence), dividing it by the total lesson time and multiplying it with 100 to gain their total absence in percent in combination with adding all the students' grade values and dividing them by the total credits of the courses that they had attended, was to make the measurements more accurate. The data collection instrument was constructed to be as easy and quick to complete as possible and took 10 minutes to fill in, but the information, preparation, administration and collection of all the material, implied that the students who participate in the study missed out on lesson time. It would have been desirable if a certain amount of time was preserved for research etc., to prevent students from losing the lesson time that they are guaranteed. The data collection also took time from' principles duties and teachers' planning time and lesson time.

4. Results

This section comprises the descriptive results of the present study including students' perception of the group dynamic aspects in their class interrelationships and the statistical analyses of bivariate correlations between students' perception of the group dynamic aspects in their class interrelationships and their School Satisfaction, Absenteeism and Achievement. It also contains correlations between the variables, School Satisfaction, Absenteeism and Achievement. In addition, it presents multiple linear regression analyses of variables and dimensions.

4.1. Descriptive Results

4.1.1. Sex Differences in Perception of Class Interrelationships

Means and standard deviations of the generated data were calculated, compared and analysed for each group dynamic dimension. The mean differences between male and female students' perception of classroom interrelationships were not significant for any of the six group dynamic dimensions. It indicates that the perception of classroom interrelationships are the same for male and female students in the population from which the sample data was drawn. Mean differences, standard deviations, t-values and significant levels for how male and female students perceived the group dynamic dimensions of class interrelationship are presented in Table 3.

Table 3: Mean Differences in Male and Female Students' Perception of Class Interrelationship

Dimensions	<u>M</u>		S.D.		*t*	*p*
	Male	Female	Male	Female		
Norms	4.042	4.092	.719	.856	*t* (181) = .388	*p* = .698
Roles	2.950	2.919	1.038	1.022	*t* (181) = -.194	*p* = .847
Conflicts	3.358	3.556	.880	.885	*t* (181) = 1.418	*p* = .158
Communication	3.548	3.547	.744	.939	*t* (181) = -.009	*p* = .993
Group Integration	2.679	2.610	.587	.734	*t* (181) = -.640	*p* = .523
Relatedness	3.762	3.889	.719	.835	*t* (181) = 1.004	*p* = .317

4.2. Statistical Analysis

4.2.1. Correlations Between Class Interrelationships and School Satisfaction

The students' perception of the group dynamic dimensions: Norms, Roles, Conflicts, Communication, Group Integration and Relatedness was significantly, positively and moderately correlated to the variable, School Satisfaction. The dimensions, Communication and Relatedness were most strongly associated with School Satisfaction. The relation between students' perception of the group dynamic dimensions of Class Interrelationship and the variable, School Satisfaction are presented in Table 4.

Table 4: Correlations Between Class Interrelationship Dimensions and School Satisfaction

Dimensions	r	p
Norms	$r = .539$	$p < .01$
Roles	$r = .397$	$p < .01$
Conflicts	$r = .455$	$p < .01$
Communication	$r = .630$	$p < .01$
Group Integration	$r = .474$	$p < .01$
Relatedness	$r = .634$	$p < .01$

4.2.2. Correlations Between Class Interrelationship and Absenteeism

The students' perception of the group dynamic dimensions of Class Interrelationship was not not significantly correlated with the variable, Absenteeism. The relation between students' perception of the group dynamic dimensions of Class Interrelationship and the variable, Absenteeism are displayed in Table 5.

Table 5: Correlations Between Class Interrelationship Dimensions and Absenteeism

Dimensions	r	p
Norms	$r = -.094$	$p = .198$
Roles	$r = -.134$	$p = .066$
Conflicts	$r = -.125$	$p = .086$
Communication	$r = -.133$	$p = .068$
Group Integration	$r = -.007$	$p = .926$
Relatedness	$r = -.075$	$p = .307$

4.2.3. Correlations Between Class Interrelationship and Achievement

The students' perception of the group dynamic dimensions of Class Interrelationship, Communication and Relatedness, were significantly, positively and slightly correlated with the variable, Achievement, but it was not significantly correlated with any of the other dimensions of Class Interrelationships. The relation between the group dynamic dimensions of Class Interrelationship and the variable, Achievement, are shown in Table 6.

Table 6: Correlations Between Class Interrelationship Dimensions and Achievement

Dimensions	r	p
Norms	$r = .088$	$p = .238$
Roles	$r = .011$	$p = .882$
Conflicts	$r = .091$	$p = .223$
Communication	$r = .221$	$p < .01$
Group Integration	$r = .071$	$p = .344$
Relatedness	$r = .245$	$p < .01$

4.2.4. Correlations Between School Satisfaction, Absenteeism and Achievement

To inquire into whether School Satisfaction, Absenteeism and Achievement are related and if there are any overlap between them, bivariate correlations were carried out and their Pearson correlation coefficients are presented in Table 7. School Satisfaction is significantly, negatively and slightly correlated to Absenteeism and significantly, positively and slightly correlated to Achievement. Absenteeism is significantly, negatively and slightly correlated to Achievement.

Table 7: Correlations Between Variables

	School Satisfaction	Absenteeism	Achievement
School Satisfaction			
Absenteeism	$r(189) = -.189, p < .01$		
Achievement	$r(181) = .283; p < .001$	$r(181) = -.252; p = .001$	

4.2.5. Regression Analyses between Dimensions and Variables

To further study the relation between the Students' perception of the group dynamic dimensions of Class Interrelationship and School Satisfaction, Absenteeism and Achievement, multiple linear regression analyses were conducted to discover possible trends in the data. Hypothesising that the relation between students' perception of the group dynamic dimensions of Class interrelationship were causing an affect in the variables: School Satisfaction, Absenteeism and Achievement, the following results were found. The students' perception of the group dynamic dimensions of Class Interrelationship accounted for 54.4 % ($p < .01$) of the variance in their perceived School Satisfaction. The students' perception of the group dynamic dimensions, Roles, Communication and Relatedness, had a significant affect on their School Satisfaction. The students' perception of the group dynamic dimensions of Class Interrelationship accounted for 0.2 % ($p = .380$) of the variance in the students' Absenteeism. The students' perception of the group dynamic dimensions of Class Interrelationship accounted for 7.6 % ($p < .01$) of the variance in the students' Achievement. The students' perception of the group dynamic dimensions, Communication and Relatedness, had a significant affect on Achievement. The regression analyses results for the variable, Sex, was not significant. Unstandardised coefficients of the regression analyses are presented in Table 8.

Table 8: Unstandardised Regression Coefficients for Dimensions and Variables

Variables	Group Dynamic Dimensions											
	Norms		Roles		Conflicts		Communication		Group Integration		Relatedness	
	ß ß	*p*	ß	*p*	*ß*	*p*	ß	*p*	ß	*p*	ß	*p*
School Satisfaction	.214	*p* < .01	.308	*p* < .01	.062	*p* = .246	.231	*p* < .01	-.018	*p* = .815	.393	*p* < .01
Absenteeism	-.149	*p* = .834	-.846	*p* = .066	-.533	*p* = .410	-.982	*p* = .216	1.187	*p* = .191	-.319	*p* = .680
Achievements	-.126	*p* = .588	.023	*p* = .882	-.088	*p* = .679	.544	*p* < .05	-.493	*p* = .090	.657	*p* < .01
Sex	-.022	*p*= .853	.045	*p*=.768	-.137	*p*=.297	-.002	*p*=.985	.066	*p*=.517	-.120	*p*=.309

However, the causal relations may have the opposite direction, resulting in completely different results. Future intervention studies are required to investigate the causal links between the students' perception of the group dynamic dimensions and School Satisfaction, Absenteeism, Achievement and Sex.

5.   Discussion

5.1.   Sex Differences

Over all there were no significant sex differences in the students' perception of the interrelationships in their class and that is consistent only with previous findings that specifically regard the students' perceived friendship in their relationships with their classmates (Statistic Sweden, 2012), but contradictory to conclusions by other researchers (Byrne, Hattie & Fraser, 1986; Henderson, Fisher & Fraser, 1995; Wong & Fraser, 1994; Baker (cited in Levine & Donitsa-Schmidt, 1996); Darom, Ritz & Avrahami (cited in Levine & Donitsa-Schmidt, 1996); Lawrenz (cited in Wong & Fraser, 1994); Giddings & Fraser (cited in Wong & Fraser, 1994); Fraser, Giddings & McRobbie (cited in Wong & Fraser, 1994) and Slavin (cited in Levine & Donitsa-Schmidt, 1996)).

The reason why the results of the present study shows no sex differences in students' perception of the different group dynamic dimensions in their class, in contrast to previous research (Byrne, Hattie & Fraser, 1986; Henderson, Fisher & Fraser, 1995; Wong & Fraser, 1994; Baker (cited in Levine & Donitsa-Schmidt, 1996); Darom, Ritz & Avrahami (cited in Levine & Donitsa-Schmidt, 1996); Lawrenz (cited in Wong & Fraser, 1994); Giddings & Fraser (cited in Wong & Fraser, 1994); Fraser, Giddings & McRobbie (cited in Wong & Fraser, 1994) and Slavin (cited in Levine & Donitsa-Schmidt, 1996), may be due to the sample in the present study consisting of 31,7 % male students and 65,1 % female students. It is reasonable to question whether the results would have been different if the sample had consisted of 50 % male students and 50 % female students.

As the present study is believed to be the first study that investigate students' perceptions of their class interrelationships from a wide range of group dynamic aspects, future research with similar focus is required to clarify whether there are any sex differences in students' perception of the group dynamic aspects of Class Interrelationship, to either confirm or reject the results of the present study.

5.2.   School Satisfaction

Students' perceived interrelationship was positively related to School Satisfaction, in the sense of School Belongingness, which match former results (Trickett & Moos, 1974; Haertel, Walberg & Haertel, 1981; Baumeister & Leary, 1995; Kim & Kim, 2013; Crosnoe, Cavanage & Elder (cited in Kim & Kim, 2013); Moody & White (cited in Kim & Kim, 2013); Glew, Fan, Katon, & Rivara (cited in PIRLS, 2016); Mishna, Cook, Gadalla, Daciuk, & Solomon (cited in PIRLS, 2016); Tokunaga (cited in PIRLS, 2016); Juvonen (cited in Abdollahi & Noltemeyer, 2018); Shook & Clay (cited in Abdollahi & Noltemeyer, 2018) and Spiridon & Evangelia (cited in Abdollahi & Noltemeyer, 2018)). Thus, caution is required concerning these results as the students' contentment with their Class Interrelationship and their school life in the present sample, may have arose because individuals, who take part in activities with a common goal, tend to form a strong interpersonal connection (Granström et al.1998, ; Field, 1981) and the shared interest increases their satisfaction with the context where it occurs (Kim & Kim, 2013). It implies that students' at upper secondary school, who have chosen their educational track, may be inclined to perceive their class interrelationships and school life as fairly good, as they have a common interest and similar goals for their future careers.

All dimensions of Class Interrelationships was moderately and positively correlated to School Satisfaction. However, the results of the present study differ from previous research which shows that students' perception of the social relations in their class are strongly related to School Satisfaction (Trickett & Moos, 1974; Haertel, Walberg & Haertel, 1981; Baumeister & Leary, 1995; Kim & Kim, 2013; Crosnoe, Cavanage & Elder (cited in Kim & Kim, 2013); Moody & White

(cited in Kim & Kim, 2013); Glew, Fan, Katon, & Rivara (cited in PIRLS, 2016); Mishna, Cook, Gadalla, Daciuk, & Solomon (cited in PIRLS, 2016); Tokunaga (cited in PIRLS, 2016); Juvonen (cited in Abdollahi & Noltemeyer, 2018); Shook & Clay (cited in Abdollahi & Noltemeyer, 2018) and Spiridon & Evangelia (cited in Abdollahi & Noltemeyer, 2018)). The reason why the relation between students' perception of Class Interrelationships and School Satisfaction was weaker in the present study compared to previous studies, may be due to: chance, measurement errors, the small sample size in the present study, that a different measurement instrument has been used, cultural differences between the sample of this study and the previous ones and that the sample of the present study does not include students at vocational programs. The present study only comprises students on higher education preparatory programs and that is a disadvantage. According to previous research, students on vocational programs state that they perceive a greater extent of School Life Satisfaction compared to students on higher education preparatory programs (Kim & Kim, 2013). The grounds for the results of the present study may be that students on higher education preparatory programs perceive less Satisfaction because the atmosphere among them are more competitive than among students at vocational programs, as students on higher education preparatory programs compete individually, to a greater extent than students on vocational programs, to enter different university programs and courses. Yet, both students from vocational programs and higher education preparatory programs need to be included in future research to gain a representative sample of the upper secondary school student population. The discrepancy between the students' perception of Class Interrelationships and School Satisfaction in the present study and previous research may also have been caused by students in this sample being relatively content with their Class Interrelationship and their school lives, resulting in a smaller variance of their School Satisfaction, causing weaker correlations.

Another cause of Class Interrelationship only being moderately correlated to School Satisfaction is that the teacher-student relationship may influence students' School Satisfaction more than the mutual relationships between peers. According to previous research, students' social relations with peers, teachers and parents are strongly related to students' School Life Satisfaction, but the student-teacher relation was found to be the most prominent factor in this respect, both on the individual level and on school level (Kim & Kim, 2013). It is claimed that teachers shape students' attachment to school. Their social and emotional support raise students' school satisfaction and their attachment to school that consecutively promotes students' achievements and social development (Hallinan, 2008). By supporting students socially as well as emotionally, teachers not only enhance students' School Life Satisfaction, they also prevent school bullying and create a positive social environment among students (Kim & Kim, 2013). PIRLS (2016) uses the concept, School Satisfaction, in the sense of School Belongingness as a one-dimensional concept, but as it involves four different aspects (attraction to school, safety at school, belongingness to school and teacher fairness), it may be better to measure this concept multidimensionally, as that could improve scale validity.

While previous research only states that School Satisfaction is strongly associated with students' perception of Class Interrelationships, the results of the present study presents the strength of the relations between students' perception of different group dynamic aspects of Class Interrelationship and School Satisfaction. The examined group dynamic aspects of Class Interrelationship: Norms, Relatedness, Group Integration, Conflicts, Communication and Roles were found to be moderately associated with School Satisfaction. The group dynamic dimensions, Communication and Relatedness, were most strongly related to School Satisfaction. There are limited previous research to relate to and more research is therefore needed to examine these relations. To the best of this author's knowledge, the only former studies that have been conducted of students' perception of group dynamic aspects and its relation to School Satisfaction have investigated the aspects, cohesion and friction (Haertel, Walberg & Haertel, 1981; Clément, Dörnyei & Noels, 1994 and Wong & Fraser, 1994). Cohesion has in the present study been measured through the dimension, group integration, and friction has been measured through the dimension, conflicts. Students'

perception of cohesion and friction, in relation to School Satisfaction, show significant, positive and strong relations (Haertel, Walberg & Haertel, 1981; Clément, Dörnyei & Noels, 1994 and Wong & Fraser, 1994) and the results of the present study corresponds with them. The practical implications of the results from the present study, is yet contingent, as the present study cannot identify causal relations. Students' perceived interrelationship with their classmates may be important for their School Satisfaction and their belongingness to school or vice versa. It may be beneficial for students' School Satisfaction if teachers focus on improving the above mentioned group dynamic aspects and in particular, Communication and Relatedness, but causal analyses are necessary to investigate the causes and effects in these relations. As students' School Satisfaction is related to students' well-being, perception of safety, quality of life (Kim & Kim, 2013), health (Baumeister & Leary, 1995), motivation (Kim & Kim, 2013; Allen & Bowles (cited in Abdollahi & Noltemeyer, 2018; Ma (cited in Abdollahi & Noltemeyer, 2018), academic hardiness (Abdollahi & Noltemeyer, 2018), achievement (Boesel (cited in Kim & Kim, 2013)), educational experiences, future life experiences (Epstein & Mc Partland (cited in Kim & Kim, 2013)) and negatively associated to problematic behaviour and dropping out of school (Black, Grenard, Sussman and Rohrbach; Dornbusch, Erickson, Laird and Wong; Henry and Slater; Takakura, Wake and Kobayashi (cited in Kim & Kim, 2013) claim), it is crucial to make efforts to increase the knowledge of whether students' perception of different group dynamic aspects affect School Satisfaction.

5.3.   Absenteeism

No dimension of Classroom Interrelationship is significantly associated with Absenteeism, giving the impression that these concepts are not related. The results is inconsistent with previous research claiming that a positive social environment created through favourable student interrelations, prevents the negative consequences of absenteeism (The National Agency for Education, 2012 and Svenska kommuner och landsting, 2013).

An explanation why Class Interrelationship was not significantly related to Absenteeism, could be that the principals and teachers at the schools that took part in the present study were well aware of the importance of favourable student interrelationship and thereby may have emphasized them in their school culture, resulting in students stating relatively high scores on perceived Class Interrelationship, regardless of their absence. Students' absence may also be associated with other factors than how students' perceive the class interrelationship, for example psychosocial problems that are related to the individual student and the student's family (Svenska kommuner och landsting, 2013) or school related problems that concern other aspects of the school environment than students' interrelationship, as teacher support, task orientation, order and organization, rule clarity (Trickett & Moos, 1974) and inefficient school policies of students' Absenteeism lacking early and supportive actions. As the results of the present study contradicts previous findings, it needs to be further examined whether there are any relation between students' perception of their Class Interrelationships and Absenteeism. It is an urgent issue as the consequences of low achievement (Skolinspektionen (cited in Skolverket, 2014)), drop-outs (Skolinspektionen and Skolverket (cited in Skolverket, 2014)), unemployment (Skolverket, 2014), psychological illness, drug abuse, delinquency (Skolverket, 2016) are severe individual and societal problems. Absenteeism needs to be further investigated, to give all students a positive experience of school and good preconditions to form an active professional and societal life.

5.4.   Achievement

According to the results of the present study, only the group dynamic dimensions, Communication (regardful communication) and Relatedness (emotional closeness of group members), were significantly associated with Achievement and the relation was slightly positive. To the best of this

author's knowledge the relation between Communication and Achievement has not been studied before. It is possible that the students' perception of the communication as being regardful in their class, reflects an atmosphere that may be perceived as safe and with a minimum of verbal and physical aggression, that may create favourable conditions for student achievement, but yet is unknown as the present study is not able to state any causal relations. The positive relation between Relatedness and Achievement corresponds with previous research conducted with students who studied obligatory vocational education courses. It is claimed that students' perception of class relatedness, is related to students' intrinsic motivation and Achievement (Lazarides, Rohowski, Ohlemann & Ittel, 2016). Students' perception of relatedness in their class is also associated with students' behavioural engagement, that in turn is related to Achievement. Students' behavioural engagement functions as a mediating variable between Achievement and students' perception of Relatedness (Mikami, Ruzek, Hafen, Gregory, Allen, 2017). The reason why the dimensions, Relatedness only was weakly and positively correlated to Achievement compared to other studies may be because students' behavioural engagement operated as a moderating variable, but was not measured as in previous research (Mikami, Ruzek, Hafen, Gregory, Allen, 2017) studying the relation between Achievement and students' perception of Relatedness, mentioned above. The weak relations between the group dynamic dimensions, Communication and Relatedness, and Achievement. It may also be due to the sample not including students at vocational programs. Yet, these relations require further investigation.

According to the present study, the dimensions, Group Integration (cohesion=the connection group members perceive to each other and to the group as a whole) and Conflicts (friction) are not linked to Achievement and these results do not harmonize with earlier findings, arguing that the dimension, Cohesion, is positively connected to Achievement and the dimension, Friction (conflicts), is negatively correlated with Achievement (Haertel, Walberg & Haertel, 1981; Clément, Dörnyei & Noels, 1994). A possible reason why the dimensions, Cohesion and Friction were not related to Achievement, is that the questionnaire may have been difficult to answer as it included items regarding students perception of their Class Interrelationship as a whole unit, while the students' perception of the social environment may have differed between different subgroups. It may have caused that the students stated how they perceived the class on average based pm the different subgroups or their responses may have been more or less associated with different subgroups depending on the content of the item. It is also conceivable that class cohesion and class friction may not be associated with students' achievements, but that the cohesion and friction in the subgroups may have more relevance for students' As the results of the present study contradicts previous findings, the relation between the group dynamic dimensions, Group Integration and Conflicts, and Achievement contradict previous findings. Furthermore, the relation between Cohesion, Friction and Achievement may not necessarily be linear. The relation need to be further studied. It is evident that the relationships between these variables need to be further studied.

The present study did not reveal any correlations between the dimensions, Norms and Roles, and Achievement. One cause may be that the items belonging to the dimension, Norms, were hard to respond to, as there are both conscious and unconscious aspects of Norms and therefore they are difficult to study only through a questionnaire. Observations and interviews would have been a good complement. Another reason that the relation between Norms and Achievement was not significant, is that the items included in the dimension, Norms, were focused on tolerance and not on the students' perception of their satisfaction with them. An explanation why the dimension, Roles and Achievement were not significant, may be that the items measuring Roles were more directed towards the tolerance and equality of different roles in the class, than the students' perception of the satisfaction with them. Moreover, according to theory, Roles are never equal (Jern, 1998). To the best of this authors´'s knowledge, these dimensions, Norms and Roles, have not previously been investigated in relation to achievement and learning. It is recommended that they are further examined.

Several studies advocate that students' perception of class interrelationship in general is related to Achievement (Haertel, Walberg & Haertel, 1981; Fraser & Walberg, 1981; Fraser & Fisher, 1082; Byrne, Hattie & Fraser, 1986; Clément, Dörnyei & Noels, 1994; Baek & Choi, 2002; Lazarides, Rohowski, Ohlemann & Ittel, 2016; Mikami, Ruzek, Hafen, Gregory, Allen, 2017), but the present study only demonstrates that Achievement is significantly, positively and slightly related to students' perception of the group dynamic dimensions, Communication and Relatedness. Although the relations are weak, they are still important, as they may provide possible ways besides others to improve students' learning environment, if students' perception of group dynamic aspects affect achievement. The reason behind the weak relations between Achievement and the students' perception of the dimensions, Communication and Relatedness, in their class and the fact that Achievement was only related to the dimensions, Communication and Relatedness and not to any of the other group dynamic dimensions that were measured in the present study (Norms, Roles, Conflicts and Group Integration), may be that the students' perception of the group dynamic dimensions were collected during their second semester of their second year at upper secondary school, while their grade documents were issued at the end of the first and second semester of their first school year. Consequently, the students' achievements belong to their previous school year and their perception of the group dynamic dimensions emanates from the current school year. There may have been a significant and strong relation between the students' grades and the perception of different group dynamic dimensions in their class during year one, but as their perceptions of these group dynamic dimensions were not measured until a year later, they may well have changed as group dynamics clearly refers to changeable processes. It is possible that the students' perception of the different group dynamic dimensions in their class were different at the end of year one compared to at the end of year two. Hypothesizing that the perception of group dynamic dimensions affects achievements, the reason to the results may also be owing to the effect of classroom environment on achievement being indirect rather than direct, influencing students learning attitudes and behaviour first, before affecting students' achievements (Cheng, 1994), but this is only a speculation, as the causal relation is contingent.

The results regarding the relation between students' perception of different group dynamic dimensions and Achievement may also have occurred because of chance, the small sample size in this study, different measurement instruments and cultural differences between the samples. In addition, it is likely that students' achievement may be more dependent on the interrelationships between students and teachers, rather than the mutual relations between students. Furthermore, students' individual characteristics, previous school experiences, socio-economic background and parents' educational level are factors that are also related to students' achievement. It is possible that students' perception of Class Interrelationship has a moderating affect on the relation between the above mentioned variables (students' individual characteristics, previous school experiences, socio-economic background and parents' educational level) and Achievement, School Satisfaction and Absenteeism. Future research is suggested to examine whether students' perception of class interrelationships may function as a moderating variable in the relations between these variables. Furthermore, it cannot be excluded that students' perception of group dynamic dimensions in their class affect Achievement. More research on the causal link between students' perception of group dynamic aspects and Achievement is therefore recommended.

In the present study both classroom environment and school environment were explored in the same study, as suggested by Wong & Fraser (1994), but the focus is delimited to students' class interrelationships. Research within classroom environment frequently involve both teachers' relationship with students and and students' mutual relations. It is suggested that future studies continue including the teacher – student relation, as it is an influential factor regarding students' School Satisfaction, Absenteeism and Achievement.

To conclude, the results of the present study shows that there were no sex differences in the students' perception of class interrelationship. School Satisfaction was significantly, positively and

moderately correlated to all group dynamic dimensions, while Absenteeism was not significantly correlated to any of the group dynamic dimensions. Achievement was significantly, positively and slightly correlated with the group dynamic dimension, Relatedness and Communication, but not with any other group dynamic dimension. It suggests that students' perception of their Class Interrelationship to a certain extent is related to School Satisfaction, to a minor degree to achievement, but not at all to Absenteeism.

Hypothesizing causality, the multiple linear regression analysis proposes that students' perception of the different group dynamic aspects of class interrelationship accounted for 54.4 % ($p < .01$) of the variance in students' perceived School Satisfaction. The students' perception of the dimensions: Roles, Communication and Relatedness, are significantly correlated with Students' School Satisfaction. The multiple linear regression analysis also revealed that students' perception of the group dynamic dimensions of class interrelationship accounted for 0.2 % ($p = .380$) of the variance in the students' Absenteeism, but the results was not significant. Moreover, the multiple linear regression analysis showed that students' perception of the group dynamic dimensions of class interrelationship accounted for 7.6 % ($p < .01$) of the variance in students' Achievement. The students' perception of the dimensions, Communication and Relatedness, are significantly associated with Achievement. The regression analysis results for the variable, Sex, was not significant. The regression analyses should only be viewed as hypothetical results, as the focus of the present study is not causal. Neither is the direction of causation known and therefore it is possible that School Satisfaction, Absenteeism and Achievement may influence students' perception of group dynamic aspects in their class interrelationships.

5.5.   Implications

The present study indicates that students' perception of class interrelationships is significantly, positively and moderately related to School Satisfaction. The multiple linear regression analysis shows that these perceptions account for 54.4 % ($p < .01$) of the variance in students' School Satisfaction, but it is still not confirmed whether students' perception of group dynamic aspects of their class interrelationships influence their School Satisfaction, or if the causal link has the opposite direction. The only thing that is known both from previous research and the results of the present study is that the correlation between students' perception of perception of group dynamic aspects in their class is moderately to strongly associated with School Satisfaction. If students' perception of the group dynamic aspects in their class interrelationships affects School Satisfaction, teachers could be recommended to improve the social classroom environment by emphasizing the following group dynamic dimensions: norms, roles, conflicts, communication, group integration and relatedness. The group dynamic dimensions that are most strongly correlated to school satisfaction are: Communication and Relatedness. The dimension, Communication, implies regardful communication including respectful behaviour and it is already included in the curriculum and involved in teachers duties, to provide students with skills so that they can support a positive and democratic societal development.

The group dynamic dimensions, Communication and Relatedness are significantly, positively and slightly associated with Achievement. According to the multiple linear regression, students' perception of class interrelationships account for 7.6 % ($p < .01$) of the variance in students' Achievement, but as previously stated the direction of causality is not known and therefore it could only be hypothesized about. Although the relation is weak, it is still important to investigate, to change students' learning environment for the better. Nevertheless, it is not inconceivable that Achievement could be related to other group dynamic dimensions as: norms, roles, conflicts, group integration and relatedness. It is also possible that the relationships between Achievement and students' perception of group dynamic dimensions are influenced by a mediating or moderating variable, as for example, students' behavioural engagement (Mikami, Ruzek, Hafen, Gregory, Allen,

2017).

The cause of all the weak relations between achievement and students' perception of the group dynamic aspects of Communication and Relatedness, may also be due to that the calculations have been conducted with the individual student as the unit of analysis. It has been claimed that the relation between achievement and psychosocial environment becomes considerably larger when the whole class is used as the unit of analysis, rather than the student (Walberg (cited in Fraser & Fisher, 1982); Haertel et al., 1981; Fraser & Fisher, 1982).

For future studies it is recommended to collect students' grades and their perception of different group dynamic aspects in their class at the same time, be open for mediating or moderating variables, include measurements of students' behavioural engagement that has been shown to function as a mediating variable between Achievement and Relatedness (Mikami, Ruzek, Hafen, Gregory, Allen, 2017) and conduct longitudinal studies to see trends in the data over time.

Many teachers perceive themselves overloaded with work and cannot cope with another duty. The advantage with group dynamic work is that it will be beneficial both for the students and for the teachers, as it will be easier and more enjoyable to learn and teach, when destructive group dynamic elements are reduced and do not disturb teachers' or students' focus. A large number of articles have been written about how teachers can improve the social classroom environment between students, but more research is needed about how teachers can promote different group dynamic aspects in their classes.

For efficient implementation of group dynamic strategies, it is proposed that teachers, who teach a class, cooperate. It is also suggested that the group dynamic framework is presented to the students when they begin upper secondary school. This work should be more intense and concentrated during the students' first year of school, but needs consistent adjustments. To ensure that group dynamic work becomes a proactive process, it is recommended to include it in the curriculum. As the classroom and school organization is reflected in the classroom environment and the group dynamics of a class (Baek & Choi, 2002), it is suggested that schools become more aware of how organizational aspects at different levels in schools influence students' learning environment. Thus, further studies are required to reach this goal.

The only implication of the present study's results is that the relations between students' perception of group dynamic aspects need to be further investigated in relation to School Satisfaction, Absenteeism, Achievement and Sex. The causal relations between these variables are vital for teaching practise, especially the relations between School Satisfaction and Achievement and students' perception of group dynamic aspects in their class, as they were the most prominent in the results of the present study.

5.6.   Limitations and Recommendations

The research question has limited the selection of methods and the quantitative method has in turn affected the form of the data collection instrument, how the data has been processed, presented and what type of conclusions that have been drawn.

One concrete limitation is that the present study is grounded on a convenient sample. In the title of the invitation letter it was written: "Classroom Environment and School Satisfaction". It is likely that principals who found this study interesting and chose to invest time and efforts to participate in it, were engaged in students' class interrelationship and students' school satisfaction The students' responses may therefore reflect conscious work to promote these school aspects together with students' attendance and achievements at the participating schools. Other factor that may have distorted the results, is the small sample size, that the students' sex were not equally distributed in

the sample and that only students at higher education preparatory programs took part in the study due to practical inconveniences (workplace training) for students at vocational education programs that prevented them from participating. The sample is therefore not representative for the Swedish population of upper secondary students. More extensive research with randomly sampled data is needed to draw any conclusions about how upper secondary school students' perceive different group dynamic aspects in their class interrelationship and how these perceptions are related to students' School Satisfaction, Absenteeism, Achievement and Sex.

The group dynamic theory with its general assumptions have also influenced and limited the results through what content that was requested in the measurement instrument, how the questionnaire was structured, how the items were divided into dimensions, how the items were phrased and how the students' responses were limited to close-ended alternatives. Theory also affected how the data was processed and presented into certain dimensions and what conclusions that were drawn. Another divisions of items would for example have given different results.

Another limitation is that students' perception of class interrelationship not solely is based on students' current perception of the class interrelationship, but also on their individual characteristics, their previous experiences, and physical and psychological health aspects. It is recommended that future research within the same study investigate to what extent these factors and students' perception of class interrelationships, are related to School Satisfaction, Absenteeism, Achievement and Sex.

The subscale that measures School Satisfaction in the sense of School Belongingness is designed by PIRLS (2016) and has not been included in any pilot study conducted by the author of the present study. It composes one item about each individual aspect within School Belongingness: the extent of students' perception of liking school, feeling safe, perceiving belongingness, experiencing teachers' fairness towards them and being pride of their school). The concept School Belongingness is differentiated and it may be a disadvantage only to use one-dimensional measurements to examine the broad range of aspects that this concept consists of. It is also suggested that more items are used to measure each aspect of School Belongingness.

Despite these limitations, the results of the present study is important, as it, to the best of the author's knowledge, is the first study that thoroughly examines several group dynamic aspects that are used to analyse the relation between students' perception of their class interrelationship and School Satisfaction, Absenteeism, Achievement and Sex. It is evident that students' perception of different group dynamic aspects in their class interrelationships are related to School Satisfaction and Achievement, due to the results of the present study and previous research, but more research is need to investigate these relations more thoroughly including the relations to the variables, Absenteeism and Sex.

If teachers succeed in improving all of these group dynamic dimension, students social, emotional and intellectual development will be stimulated, their physical and psychological health will be enhanced, their school satisfaction, motivation and achievement increased, verbal and physical aggression reduced, dropouts, drug abuse and delinquency declined, positive attitude to education, educational hardiness and favourable educational experiences achieved and their quality of life and future life experiences improved, according to previous research (Baumeister & Leary, 1995; Andersson, Hamilton & Hattie, 2004; Farmer & Xie, 2007; Fraser & Walberg, 1981; Fraser & Fisher, 1982; Haertel, Walberg & Haertel, 1981; Byrne, Hattie & Fraser, 1986; Baek & Choi, 2002; Statistics Sweden, 2012; Kim & Kim, 2013; Svenska kommuner och landsting, 2013; Skolvetket, 2014; The National Agency for Education and The Schools inspectorate (cited in Skolverket, 2014); Lazarides, Rohowski, Ohlemann & Ittel, 2016; Abdollahi & Noltemeyer, 2018; Allen & Bowles and Ma (cited in Abdollahi & Noltemeyer, 2018); Benishek, Feldman, Shipon, Mecham, & Lopez (cited in Abdollahi & Noltemeyer, 2018)).

Admittedly, groups can set off destructive behaviours and be a threat to the individual, but with conscious efforts they can evidently develop into valuable educational resources contributing with social, emotional and intellectual support for students' development, provide a more efficient focus on learning and strengthen the democratic values in society as a whole.

We may hope that more research about students' perception of different group dynamic aspects of their class interrelationship in relation to School Satisfaction, Absenteeism, Achievement and Sex, would result in knowledge about whether any aspects within group dynamics are important to create a good learning environment for students, give students a positive perception of school and a classroom holding independent individuals within constructive groups, allowing diversity as well as providing unity, reducing school dissatisfaction in favour of satisfaction, decreasing school absenteeism to promote attendance and preventing school failure for the benefit of achievement.

6.　Conclusions

Students' perception of the group dynamic aspects of their class interrelationships showed no significant sex differences. However, all these student perceptions were significantly, positively and moderately related to School Satisfaction. The group dynamic dimensions that were most strongly correlated to School Satisfaction were: Communication and Relatedness. The multiple linear regression analysis revealed that students' perception of the group dynamic dimensions of class interrelationship accounted for 54.4 % ($p < .01$) of the variance in the students' perceived School Satisfaction, 0.2 % ($p = .380$) of the variance in the students' Absenteeism and 7.6 % ($p < .01$) of the variance in the students' Achievement. The students' perception of the group dynamic dimensions of their class interrelationships: Communication and Relatedness were significantly, positively and slightly associated with Achievement. The regression analyses results for the variable, Sex, was not significant.

The variables, School Satisfaction, Absenteeism and Achievement were significantly, positively and slightly related. It is assumed that they measure different concepts and do not imply problems with multicollinearity, which is favourable for scale validity. However, scale validity was not optimal and requires substantial improvement. Yet, the results of the present study contributes to previous research within classroom environment with its group dynamic perspective on students' perception of their class interrelationships in relation to School Satisfaction, Absenteeism, Achievement and Sex.

It provides a foundation of correlations between students' perception of group dynamic aspects in their class interrelationship and students' School Satisfaction to a larger extent and Achievement to a minor extent. For future research, longitudinal explanatory studies, including causal modelling, are recommended, that investigate students' perception of the group dynamic aspects in the present study and its relation to School Satisfaction, Absenteeism, Achievement and Sex.

7.   References

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A. Information About the Study

GÖTEBORGS UNIVERSITET   **STUDIE OM ELEVERS RELATIONER**
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Emma Frantzich Sörensen   2018-02-04

Information om studien

Syftet med studien är att undersöka hur gymnasieelever upplever relationerna med sina klasskamrater. Jag använder en enkät som kommer att delas ut vid olika gymnasieskolor. Du behöver inte skriva ned ett enda ord. Det är bara att ringa in det svarsalternativ som stämmer bäst med din åsikt. Enkäten tar ca. 5-10 minuter att fylla i. Det finns inga rätta eller felaktiga svar till den. Det är dina åsikter som är det centrala och de är mycket värdefulla för mig. Du bidrar på bästa sätt till resultatet, genom att besvara enkäten så ärligt som möjligt.

Ditt deltagandet i studien är frivilligt och anonymt. Du har rätt att avbryta din medverkan i studien när du vill, även om du har börjat fylla i enkäten och du kommer inte att behöva lämna någon information som gör det möjligt att identifiera dina svar.

Genomförande

Innan du börjar fylla i enkäten, kommer din lärare att dela ut betygsdokument (från förra läsåret) och närvarodokument (för detta läsår). Jag kommer att klippa bort namn och personnummer från dem, häfta ihop dem med din enkät och ge dem ditt enkätnummer. Detta gör jag för att kunna koppla ihop varje elevs enkätsvar med rätt betygs- och närvarodokument. Din anonymitet är fortfarande skyddad. Syftet med numreringen är också att säkerställa att varje elevs material kan särskiljas, även om några häftklamrar skulle lossna. När du har fyllt i hela enkäten, kommer du att få lägga den tillsammans med dina avidentifierade betygs- och närvarodokument i en låda som jag kommer att visa dig. Där samlas allt elevmaterial i en slumpmässig ordning och det kommer att göra det omöjligt att spåra de uppgifter som du lämnar.

Databearbetning och resultat

Det insamlade materialet, som elever från olika skolor lämnar, kommer sedan att sammanställas. Resultatet kommer att presenteras i statistisk form. Vid publiceringen kommer inga enskilda svar att kunna urskiljas. Vilka klasser eller skolor som deltar i undersökningen, kommer inte heller att anges, enligt de etiska riktlinjer som alla forskare måste följa. Den här studien är intressant både ur forskningssynpunkt och för dig som elev, eftersom enkäten gör dig mer medveten om relationerna i klassrummet.

Du är varmt välkommen att ställa vilka frågor du vill om studien. Om det dyker upp frågor efter mitt besök, får du gärna kontakta mig på tfn XXXX – XX XX XX

Till sist vill jag önska dig all lycka till med dina studier.

Med vänlig hälsning

Emma Frantzich Sörensen

B.   Educational Programs, Subjects and Courses

The courses within the upper secondary foundation subjects, have been settled by the Swedish Parliament and are studied by all students, (English, history, physical education and health, mathematics, science studies, religion, social studies and Swedish or Swedish as a second language) but vary in type, depending on which program that the students choose (National Agency of Education, 2011. The Swedish government has stated subjects that are specific to each program and the scope of them, the National Agency for Education has selected which courses that these program specific subjects should consist of (SFS 2012:745), and the organizer have concluded which of them that should be offered (SFS 2010:2039) and this has further increased the number of courses that are studied. In addition, the government has identified the courses that schools have to provide as individual options and the organizers have decided which of them that should be arranged (The Agency of Education, 2012).

As the grade documents were issued at the end of the students first year at upper secondary school, the students had by then only completed some of their courses within the upper secondary foundation subjects and a few of the courses within the program specific subject. According to the students' grade documents, it could be concluded that English 5, Social Science 1b and Swedish 1, have been studied within all the educational programs that were represented in the sample. Below the foundation courses and the program specific courses are shown in Table 1. The principal, some of the teachers and a few of the students of school no. 1 mentioned that some of the students' grades and grade documents were missing, due to some students having changed school at some point during the previous 5 months and therefore had not finished their courses.

Table 9: Courses on Educational Programs during First Year of School no. 1

Prog	Foundation Courses							Program Specific Courses					Tot Cred
	Eng5 100p	Hist1b 100p	Math1 100p	Rel1 50p	Scie1b 100p	Soc1b 100p	Swe1 100p	Bio1 100p	Bus1 100p	Che1 100p	Lang 100/ 200p	Law 100p	
Bus	X	X	1b			X	X		X		100	X	800
Hum	X	X	1b			X	X				200		700
Nat	X		1c			X	X	X		X	100		700
Soc	X	X	1b	X	X	X	X				200		750

Prog = Program
Tot Cred = Total Credits
Bus = Business Management and Economics Program
Hum = Humanities Program
Nat = Natural Science Program
Soc = Social Science Program
Eng5 = English 5
Hist1b = History 1b
Math1 = Mathematics 1
Rel1 = Religion 1
Scie1b = Natural Science 1b
Soc1b = Social Studies 1b
Swe1 = Swedish 1
Bio1 = Biology 1
Bus1 = Business Administration 1
Che1 = Chemistry 1
Lang = Language
Law = Private Law

Table 10: Courses on Educational Programs during First Year of School no. 2

Prog	Foundation Courses					Program Specific Courses				Total Credits
Course Credits	Eng5 100p	Math1b 100p	Scie1b 100p	Soc1b 100p	Swe1 100p	Bus1 100p	Geo 1 100p	Lang 100p	Law 100p	
Soc	X	X	X	X	X		X	X		700
Bus	X	X	X	X	X	X		X	X	800

Prog = Program
Bus = Business Management and Economics Program
Soc= Social Science Program
Eng5 = English 5
Math1b = Mathematics 1b
Scie1b = Natural Sience 1b
Soc1b = Social Studies 1b
Swe1 = Swedish 1
Bus1 = Business Administration 1
Geo1 = Geography 1
Lang = Language
Law = Private Law

C. Dimensions of the Original and the Modified Scale

Statements	Dimensions of Original SCI Scale	Dimensions of Modified SCI Scale
1. In my class we agree on the norms, i.e. unwritten rules and ideals of how we should look, dress, act and be.	Norms	Discarded
2. In my class we accept when classmates break unwritten rules and ideals of how we should look, dress, act and be, unless they do not treat anyone else disrespectfully.	Norms	Norms
3. In my class we may look, dress, act and be as we would like, as long as we do not treat anyone else disrespectfully.	Norms	Norms
4. In my class we may look, dress, act and be as we would like, even though we are disrespectful towards each other.	Norms	Discarded
5. In my class we respect the social roles that our classmates have in the class.	Tolerance	Discarded
6. In my class we respect that there are different personalities in the class.	Tolerance	Norms
7. In my class we respect differences.	Tolerance	Norms
8. In my class I do not feel pressured to conform.	Norms	Discarded
9. In my class all classmates have some kind of competence.	Relatedness	Discarded
10. In my class all classmates contribute with something positive.	Relatedness	Roles
11. In my class all classmates have the same status in the sense of power and influence.	Roles	Roles
12. In my class all classmates have the same opportunities to influence common decisions.	Roles	Roles
13. In my class there is no one who tries to convince me to vote in a certain way before voting in the class.	Roles	Conflicts
14. In my class we solve conflicts without anyone having to perceive themselves as a loser.	Conflicts	Conflicts
15. In my class there are no scapegoats.	Roles	Conflicts
16. In my class there are no power struggles.	Conflicts	Conflicts
17. I think that it is more important that there is a good social atmosphere in the class, than to do the school assignments.	Roles	Discarded

Statements	Dimensions of Original SCI Scale	Dimensions of Modified SCI Scale
18. In my class we talk with each other in a respectful way.	Communication	Communication
19. In my class we listen to each other.	Communication	Communication
20. In my class we act respectfully towards each other.	Norms	Communication
21. In my class there are no groupings.	Relatedness	Group Integration
22. In my class all classmates socialize with each other.	Relatedness	Group Integration
23. In my class we have a good cohesion.	Relatedness	Communication
24. In my class we have similar goals in life.	Relatedness	Communication

Statements	Variable of Original Scale	Variable of Modified Scale
25. I like being in school.	School Satisfaction	School Satisfaction
26. I feel safe when I am at school.	School Satisfaction	School Satisfaction
27. I feel like I belong at this school.	School Satisfaction	School Satisfaction
28. Teachers at my school are fair to me.	School Satisfaction	School Satisfaction
29. I am proud to go to this school.	School Satisfaction	School Satisfaction

Questions	Variable of Original SCI Scale	Dimension of Modified SCI Scale
30. How do you like your class?	Classroom Satisfaction	Relatedness
31. Do you have any close friend in your school class?	Classroom Satisfaction	Relatedness

Statements	Dimensions of Original SCI Scale	Dimensions of Modified SCI Scale
32. I enjoy the social interaction occurring in this class.	Individual attraction to group	Communication
33. Members of our class do not stick together outside of school.	Relatedness	Group Integration
34. I enjoy the social activities associated with this class more than other social events.	Individual attraction to group	Group Integration
35. Members of our class would like to spend time together after graduation.	Relatedness	Group Integration
36. Some of my best friends are in this class.	Individual attraction to group	Relatedness
37. For me, this class is one of the most important social groups to which I belong.	Individual attraction to group	Relatedness
38. In my lass, I feel close to other people.	Relatedness	Relatedness
39. I show concern for others in my class.	Relatedness	Relatedness
40. There are people in my class who care about me.	Relatedness	Relatedness
41. In my class, there are people who I can trust.	Relatedness	Relatedness
42. All my classmates are reliable, in the sense that they can preserve something that I have said in confidence to them.	Relatedness	Relatedness
43. I have close relationships with people in my class.	Relatedness	Relatedness
44. A lot of friendships have been made in this class.	Relatedness	Relatedness

45. Sex: □ Woman □ Man □ Other

Thank you very much for your participation.

D. Original Questionnaire

Instruction

1. Read the statements below.

2. Circle the response option that best suit your perception (scale 1-5).

3. There are no right or wrong, only your perceptions and they are very valuable to me.

Statements	Completely disagree	Slightly disagree	Don't know	Slightly agree	Totally agree
1. In my class we agree on the norms, i.e. unwritten rules and ideals of how we should look, dress, act and be.	1	2	3	4	5
2. In my class we accept when classmates break unwritten rules and ideals of how we should look, dress, act and be, unless they do not treat anyone else disrespectfully.	1	2	3	4	5
3. In my class we may look, dress, act and be as we would like, as long as we do not treat anyone else disrespectfully.	1	2	3	4	5
4. In my class we may look, dress, act and be as we would like, even though we are disrespectful towards each other.	1	2	3	4	5
5. In my class we respect the social roles that our classmates have in the class.	1	2	3	4	5
6. In my class we respect that there are different personalities in the class.	1	2	3	4	5
7. In my class we respect differences.	1	2	3	4	5
8. In my class I do not feel pressured to conform.	1	2	3	4	5
9. In my class all classmates have some kind of competence.	1	2	3	4	5
10. In my class all classmates contribute with something positive.	1	2	3	4	5
11. In my class all classmates have the same status in the sense of power and influence.	1	2	3	4	5
12. In my class all classmates have the same opportunities to influence common decisions.	1	2	3	4	5
13. In my class there is no one who tries to convince me to vote in a certain way before voting in the class.	1	2	3	4	5
14. 14. In my class we solve conflicts without anyone having to perceive themselves as a loser.	1	2	3	4	5

Statements	Completely disagree	Slightly disagree	Don't know	Slightly agree	Totally agree
15. In my class there are no scapegoats.	1	2	3	4	5
16. In my class there are no power struggles.	1	2	3	4	5
17. I think that it is more important that there is a good social atmosphere in the class, than to do the school assignments.	1	2	3	4	5
18. In my class we talk with each other in a respectful way.	1	2	3	4	5
19. In my class we listen to each other.	1	2	3	4	5
20. In my class we act respectfully towards each other.	1	2	3	4	5
21. In my class there are no groupings.	1	2	3	4	5
22. In my class all classmates socialize with each other.	1	2	3	4	5
23. In my class we have a good cohesion.	1	2	3	4	5
24. In my class we have similar goals in life.	1	2	3	4	5

Statements	Completely disagree	Slightly disagree	Don't know	Slightly agree	Totally agree
25. I like being in school.	1	2	3	4	5
26. I feel safe when I am at school.	1	2	3	4	5
27. I feel like I belong at this school.	1	2	3	4	5
28. Teachers at my school are fair to me.	1	2	3	4	5
29. I am proud to go to this school.	1	2	3	4	5

Questions					
30. How do you like your class?	Not good at all	Not so good	Don't know	fairly good	Very good
31. Do you have any close friend in your school class?	No	Yes, one	Don't know	Yes, two	Yes, three or more

Statements	Completely disagree	Slightly disagree	Don't know	Slightly agree	Totally agree
32. I enjoy the social interaction occurring in this class.	1	2	3	4	5
33. Members of our class do not stick together outside of school.	1	2	3	4	5
34. I enjoy the social activities associated with this class more than other social events.	1	2	3	4	5
35. Members of our class would like to spend time together after graduation.	1	2	3	4	5
36. Some of my best friends are in this class.	1	2	3	4	5
37. For me, this class is one of the most important social groups to which I belong.	1	2	3	4	5
38. In my lass, I feel close to other people.	1	2	3	4	5
39. I show concern for others in my class.	1	2	3	4	5
40. There are people in my class who care about me.	1	2	3	4	5
41. In my class, there are people who I can trust.	1	2	3	4	5
42. All my classmates are reliable, in the sense that they can preserve something that I have said in confidence to them.	1	2	3	4	5
43. I have close relationships with people in my class.	1	2	3	4	5
44. A lot of friendships have been made in this class.	1	2	3	4	5

45. **Sex:**   □ Woman   □ Man   □ Other

Thank you very much for your participation.

E. Factor Analysis Report

Data was checked for missing cases and mistakes in the data entering process. Missing cases have been excluded pairwise for the comparison of the mean for male and female students' perception of the different group dynamic dimensions regarding class interrelationships, for the Factor Analyses and the Bivariate Correlations, but they have been excluded listwise for the Regression Analysis.

As the data set met the criteria for Factor Analysis (Over-sentimental Measure of Sampling Adequacy, Bartlett's Test of Sphericity and correlation > .3), an Exploratory Factor Analysis (a Principal Components Analysis) was conducted to reduce the number of group dynamic dimensions within Class Interrelationship, that had been derived from theory. Missing data was dealt with through pairwise exclusion of cases. The distribution of the items into the dimensions differed, depending on whether the division of items were performed based on theoretical assumptions or analysis of the sample data. The rearrangement of the grouping of items into dimensions were therefore accomplished with consideration for both deductive and inductive methods to improve the factor validity of the Class Interrelationship Scale. According to the Principal Components Analysis, 7 components explained most of the variance in the data set (cumulative percent: 63.21).

The rotated 7-factor-solution presented the following items' factor loadings on the components: 7 items on component 1 (Norms), 9 items on component 2 (Relatedness), 4 items on component 3 (Group Integration), 6 items on component 4 (Conflicts), 7 items on component 5 (Communication), 5 items on component 6 (Roles) and 7 items on component 7 (Remaining items). As only 4 items loaded on component no. 3, a 6-component-solution was suggested to be optimal.

The Scree Plot showed that 2 components (Norms and Relatedness) explained most of the variance in the data set. The unrotated loadings displayed that component 1 (Norms) had the most and the strongest item loadings and suggested that the 5-component-solution is most appropriate. It was decided that 6 components were retained, as more components are an advantage when measuring different dimensions of class interrelationships. The total variance explained by the 6-component-solution was 60,12 (cumulative percent). The strength of the relationships between the components were > .3 for the following components: 1 (Norms) - 4 (Conflicts) and 2 (Relatedness – 3 (Group Integration). The correlation coefficients for the relationships between the components are demonstrated in the Pattern Matrix (Appendix C) and the Structure Matrix (Appendix D).

The rotated 6-factor-solution shows factor loadings on the 6 components with: 8 items on component 1 (Norms), 11 items on component 2 (Relatedness), 6 items on component 3 (Group Integration), 6 items on component 4 (Conflicts), 8 items on component 5 (Communication) and 3 items on component 6 (Roles). It also shows cross-loadings for 7 items (10, 12, 18, 20, 23, 30 and 33) that load on more than one component, indicating overlaps.. However, the table of communalities suggests that all the items fit reasonably well within their components. (IBM SPSS Statistics, version 25).

F. Pattern Matrix

Pattern Matrix[a]

	Component					
	1	2	3	4	5	6
7. In my class we respect differences.	,848			,351		
3. In my class we may look, dress, act and be as we would like, as long as we do not treat anyone else disrespectfully.	,791			,447	-,328	
6. In my class we respect that there are different personalities in the class.	,751					
2. In my class we accept when classmates break unwritten rules and ideals of how we should look, dress, act and be, unless they do not treat anyone else disrespectfully.	,735			,367		
36. Some of my best friends are in this class.	,412	,408	-,365			-,379
31. Do you have any close friend in your school class?		,782				
41. In my class, there are people who I can trust.		,778			-,339	
40. There are people in my class who care about me.	,368	,776	-,490		-,437	
43. I have close relationships with people in my class.		,769				
38. In my lass, I feel close to other people.		,760	-,370			
37. For me, this class is one of the most important social groups to which I belong.		,739				
44. A lot of friendships have been made in this class.		,664	-,476		-,351	
30. How do you like your class?	,576	,599	-,369		-,584	
39. I show concern for others in my class.	,332	,589	-,411			
34. I enjoy the social activities associated with this class more than other social events.	,389	,492	-,317		-,412	
21. In my class there are no groupings.			-,692		-,348	-,413

	1	2	3	4	5	6
22. In my class all classmates socialize with each other.			-,687			
35. Members of our class would like to spend time together after graduation.			-,676			-,300
33. Members of our class do not stick together outside of school.	,432	,501	-,599		-,386	
13. In my class there is no one who tries to convince me to vote in a certain way before voting in the class.	,422	,517	-,528			
16. In my class there are no power struggles.				,762		
15. In my class there are no scapegoats.	,327			,725	-,304	
14. In my class we solve conflicts without anyone having to perceive themselves as a loser.	,433		-,344	,701	-,385	
24. In my class we have similar goals in life.	,430			,678		
18. In my class we talk with each other in a respectful way.	,545			,550	-,710	
20. In my class we act respectfully towards each other.	,590			,486	-,699	
19. In my class we listen to each other.			-,407		-,693	
23. In my class we have a good cohesion.	,519			,462	-,688	-,363
32. I enjoy the social interaction occurring in this class.	,379	,410	-,593		-,649	-,368
11. In my class all classmates have the same status in the sense of power and influence.	,457	,505	-,455		-,605	
12. In my class all classmates have the same opportunities to influence common decisions.	,355			,346		-,799
10. In my class all classmates contribute with something positive.	,473			,545		-,666
42. All my classmates are reliable, in the sense that they can preserve something that I have said in confidence to them.					-,499	-,514

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 18 iterations.

G. Structure Matrix

Structure Matrix

	Component					
	1	2	3	4	5	6
7. In my class we respect differences.	,848			,351		
6. In my class we respect that there are different personalities in the class.	,791			,447	-,328	
3. In my class we may look, dress, act and be as we would like, as long as we do not treat anyone else disrespectfully.	,751					
2. In my class we accept when classmates break unwritten rules and ideals of how we should look, dress, act and be, unless they do not treat anyone else disrespectfully.	,735			,367		
42. All my classmates are reliable, in the sense that they can preserve something that I have said in confidence to them.	,412	,408	-,365			-,379
36. Some of my best friends are in this class.		,782				
41. In my class, there are people who I can trust.		,778			-,339	
38. In my lass, I feel close to other people.	,368	,776	-,490		-,437	
40. There are people in my class who care about me.		,769				
43. I have close relationships with people in my class.		,760	-,370			
31. Do you have any close friend in your school class?		,739				
37. For me, this class is one of the most important social groups to which I belong.		,664	-,476		-,351	
30. How do you like your class?	,576	,599	-,369		-,584	
44. A lot of friendships have been made in this class.	,332	,589	-,411			
39. I show concern for others in my class.	,389	,492	-,317		-,412	
22. In my class all classmates socialize with each other.			-,692		-,348	-,413

Item	1	2	3	4	5	6
34. I enjoy the social activities associated with this class more than other social events.			-,687			
21. In my class there are no groupings.			-,676			-,300
35. Members of our class would like to spend time together after graduation.	,432	,501	-,599		-,386	
33. Members of our class do not stick together outside of school.	,422	,517	-,528			
13. In my class there is no one who tries to convince me to vote in a certain way before voting in the class.				,762		
16. In my class there are no power struggles.	,327			,725	-,304	
14. In my class we solve conflicts without anyone having to perceive themselves as a loser.	,433		-,344	,701	-,385	
15. In my class there are no scapegoats.	,430			,678		
18. In my class we talk with each other in a respectful way.	,545			,550	-,710	
20. In my class we act respectfully towards each other.	,590			,486	-,699	
24. In my class we have similar goals in life.			-,407		-,693	
19. In my class we listen to each other.	,519			,462	-,688	-,363
23. In my class we have a good cohesion.	,379	,410	-,593		-,649	-,368
32. I enjoy the social interaction occurring in this class.	,457	,505	-,455		-,605	
11. In my class all classmates have the same status in the sense of power and influence.	,355			,346		-,799
12. In my class all classmates have the same opportunities to influence common decisions.	,473			,545		-,666
10. In my class all classmates contribute with something positive.					-,499	-,514

Extraction Method: Principal Component Analysis.

Rotation Method: Oblimin with Kaiser Normalization.