

Power of Play: How Playing Affects Cooperation Skills



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Tayebeh Sohrabi*

Memorial University of Newfoundland

Abstract

This study examined the effects of group games on female elementary students' cooperation skills. Two classes of elementary female students were assigned as an experimental or a control group. The study used a quasi-experimental method for the evaluation and comparison of cooperation development and administered the Measurement of Competitive-Cooperative Attitudes (Martin & Larsen, 1976) to gather data. A T-test was done to examine the hypothesis. A pre-test was performed to measure cooperation skills development and see whether they are comparable. Then, the experimental group played the selected group games, while the control group continued the previous curriculum. A middle test was conducted after 6 weeks. There were no meaningful differences between the groups. As it was predicted that time would be a factor that affected the results, the program continued for another 6 weeks. Finally, a post-test was conducted, revealing that group games can increase cooperation skills ($p < 0/05$).

Keywords: social skills, cooperation skills, elementary students, group games, individual games

* tsohrabi@mun.ca

This article investigates the effects of group games on children's cooperation skill development. Cooperative skills are one of the most practical types of social skills in modern society (Victoria et al., 2018). The development of these skills is considered a fundamental social process (Marwell & Schmitt, 2013). Cooperation is defined as "acting together, in a coordinated way at work, leisure, or in social relationships, in the pursuit of shared goals, the enjoyment of the joint activity, or simply furthering the relationship" (Argyle, 2013, p. 15). Previous studies demonstrate that the ability to establish positive relationships and cooperate with peers is associated with higher self-esteem and self-confidence (Hemmeter et al., 2006). However, experiencing difficulties in interacting and cooperating with peers can result in behavioural and emotional problems, academic failure, bullying, social isolation, peer rejection, drug abuse, depression, and antisocial behaviour (Campbell et al., 2000; Chari et al., 2013; DeRosier, 2004; Eisenberg et al., 2005; Howes, 2000; Johnson et al., 2000; Snyder, 2001).

Regarding the importance of cooperation skills, some interventions are needed to enhance children's skills. One of these possible methods can be using group-games as a way of teaching. Children learn many necessary social-emotional skills they use to integrate, cooperate, and express their feelings to others through play (Rye, 2008). Van Oers (2013) believes that play can facilitate children's evolution and developmental processes. Van Oers (2013) also argues that socialization increases throughout the first years of life through play. These findings are supported by researchers such as Kollbrunner and Seifert (2013), who argue that childhood is the best time for teaching adaptive behaviour and skills, including social skills through play. As Bond (1986) states, learning through play provides a direct personal experience, and it has more important effects than watching someone else's experience. He suggests that play is an exciting and rewarding method of teaching social skills because of the way children use social interaction within groups. Through play, children take on different roles and learn from their peers and social surroundings. As a result, children become more competent and begin to regulate their thoughts and behaviours. Play, including group- and individual-based games, are a part of almost all children's and adolescents' lives. Although children are self-centred in the first years of their life (Piaget, 1962), the social atmosphere of group games can provide an opportunity for practising social skills, developing attitudes and skills such as cooperation and responsibility, and gaining familiarity with concepts such as individual and social rights. Educators can design, implement, and guide educational activities in meaningful and authentic ways by considering the importance of play in children's lives. Given the variety of types of play and the curriculum requirements, group games can be used to enhance various social skills.

Although many studies have examined the effects of play on various dimensions of social skills, such as cooperation, communication, and turn taking, most of these studies have been done with children who have disabilities, such as autism spectrum disorder (Jin et al., 2016; Mpella et

al., 2019; White et al., 2007). As a result, scant research has examined the effects of group games on typically developing children or children who do not have any exceptionalities. This study focused on the effects of group games on the development of elementary students' cooperation skills in Tehran, Iran.

Theoretical Framework

Recently, social researchers have investigated the effects of play on the development of various social skills (Stone & Stark, 2013). Amongst these works, Vygotsky's theory of social development is the best known. Social constructivism, as derived from Vygotsky's (1980) sociocultural theory of learning, is the theoretical perspective of this study. Social constructivism argues that students can, with help from others, grasp concepts and ideas that they cannot understand on their own. Vygotsky (1980) suggested that the community plays a crucial role in the process of meaning-making. Vygotsky (1967) argues that social development occurs first by observing other people's behaviours, listening to them, and then trying to imitate them. Learning through play provides first-hand experiences for children that are not comparable with other kinds of teaching methods. Through play, children engage in first-hand experiences as opposed to other methods in which students receive guidance from a teacher.

Therefore, educators can adapt the best teaching method to help children's skills acquisition. Scaffolding, with its link to Vygotskian sociocultural theory, describes how the adaptive and temporary support provided by a more competent person such as an educator, by using several techniques (e.g., modelling, bridging, developing metacognition) in learning contexts, can help younger individuals reach the zone of proximal development (Gonulal & Loewen, 2018). Educators who adopt social constructivism perspectives not only observe children's exploration and discovery but also guide young students as they approach problems, encourage them to work in groups, prompt them to think about issues, and cooperate and support them through encouragement and advice. The construction of social meanings, therefore, involves intersubjectivity and shared understanding among individuals—including peers and early childhood educators (Stern, 2005). Social meanings and knowledge are shaped and evolve through cooperating within groups (Gredler, 1997; Prawat, 1995).

Research Question and Hypothesis

The study's research question is: Do group games contribute to the development of social skills in the field of cooperation? The study hypothesizes that there is a positive relationship between group games as a teaching method and elementary students' social skills development in the field of cooperation.

Methodology

This empirical study used a quasi-experimental design with a pre-test, middle-test, and post-test. It was designed to examine the effects of group games on the cooperation skills of female

elementary students in two classrooms. The pre-test was administered to determine whether these two groups are comparable and whether there was a meaningful difference between the two groups. The results revealed no statistical differences. The experimental group played the selected group games for 6 weeks, while the control group continued its regular curriculum for the same time (two sessions of 60 minutes per week). It is noteworthy that the group games discussed here are physical in nature, rather than primarily cognitive (e.g., group puzzle solving). The instruction for the control group in this grade included both individual and group games, but there was more emphasis on individual games, especially when the weather was not appropriate for outdoor activities and students needed to stay in the classroom. Students also engaged in individual activities to prevent them from making noise and interrupting other classes. The main difference between two groups is that even though sometimes the control group played a group game, they did not play a group game designed specifically to develop cooperation skills. Also, according to teachers, when they were behind schedule for some courses (such as mathematics, science, or literature), they used the time allocated for this course for teaching, which is equivalent to losing the opportunity for group games.

A middle test was conducted after 6 weeks. The result of the pre-test and middle test of each group was compared. Also, the middle test of the two groups were compared. There were no meaningful differences between the middle tests of the two groups. Also, the pre-test and the middle tests of each group were not statistically different. As it was predicted that time would be a factor that affected the results, to reduce its effect, the program continued for another 6 weeks. After 12 weeks, a post-test and a covariance test that used SPSS at a significant level ($p < 0/05$) was administered to compare the mean results of the experimental and control groups.

Some group games that are popular in Iran (e.g., volleyball, relay races) and games that rely on balance and speed were selected to examine the effects of group games on cooperation skills development. Group games are supposed to create a space for practising social skills such as cooperation skills. A specialist physical education teacher and researcher mediated the play activities for the experimental group. To prevent the possibility that the control group would not “try hard” in the Measurement of Competitive-Cooperative Attitudes (CCAS), we tried to ensure that the control group girls did not know they were receiving a “second best” set of activities. To do this, two classes that were located on two separate floors were chosen, and we tried to keep secret which class would be involved in the experimental or control group as well as the differences between the two class programs.

Statistical Population and Sampling

The population of this experiment comprised female students in elementary schools in Tehran, Iran. Female students were chosen for this study because Iranian schools are segregated, and the researcher benefited from convenience sampling, as girls' schools were more approachable for the female researcher (Speak et al., 2018). Clustered sampling was used to choose

participants. Of the 21 school districts in Tehran, the researcher chose District 18, from which one school was randomly selected. Afterward, of the five elementary school grades at this school, two classes from Grade 5 were chosen, as this grade is considered a crucial stage in the Iranian school system (students enter junior high school after Grade 5, where they are expected to show more advanced cooperation skills).

All participants were 10 years old. According to the schools, all girls were typically developing. No meaningful differences in the mean scores of the two groups in the pre-test described in the following pages were found. Then, the classes, each of which had 32 students, were divided into a control group and an experimental group. Random sampling was used to make the experimental and control groups comparable in terms of relevant control variables, such as linguistic skills. The control group continued its routine program, which included both individual and group games, and the experimental group played designed group games.

Data Gathering and Analysis

Martin and Larsen's (1976) CCAS was translated into Persian and used to examine if group games had any effects on the development of cooperation skills in elementary students. The CCAS scale has 28 items that measure attitudes toward competition-cooperation (see Appendix). These 28 items are divided into one of five areas: (a) an aggressive orientation, (b) fascist tendencies, (c) a work ethic orientation, (d) a power orientation, and (e) an independence orientation. The aggressive orientation factor focused mainly on items reflecting achievement at the expense of others. Fascist tendencies primarily involved the concept that losers are inferior persons, and the best way to achieve goals is to use force. The work ethic factor dealt with the idea of working harder than others to achieve goals. Power orientation focused on statements that supported the concept of using pressure to achieve goals and feelings of personal power whenever successful. Independence orientation dealt with the concept of working alone to complete tasks.

The individual completing the scale is a self-reporting instrument. Participants chose a score for each item (1 = completely disagree to 5 = completely agree). An overall score above 82 shows a high-level cooperative attitude, and a score lower than 52 shows a low cooperative attitude. The validity and reliability of the CCAS are outlined and discussed by Martin and Larsen (1976), who conclude that the scale is of sufficient quality to be recommended for research and screening purposes. The validity and reliability of the measurement were tested in previous studies (e.g., Newby & Klein, 2014; Schwalb & Schwalb, 1995). Further, although some other measurements examine communication skills development, the CCAS was chosen because it was used in previous studies in Iran; for example, Shahrabi et al. (2006) estimated the validity of this measurement at 0.9, and its reliability at 0.8.

At first, the CCAS was conducted to establish a baseline and to examine whether the two groups were comparable. A 2-month (12 sessions) treatment plan was administered to study its effects on students' social skills in the field of cooperation. After six sessions, the CCAS was applied again to establish control of the time/maturation effects. The final administration of the test was done in Session 12 to test the hypotheses. A T-test was performed on the students to compare the experimental and control groups; it tested the equality of the means before and after applying the intervention. The same test was used to examine the time/maturation effects on the student.

Findings

To test the hypothesis "There is a positive relationship between group games as a teaching method and the improvement of elementary students' social skills in the field of cooperation", a seven-stage process was used, which is described below.

Stage 1

Comparison of the pre-tests of the control and experimental groups revealed no statistical difference between the two groups. Table 1 shows the results of this comparison.

Table 1

Comparison of Control Group and Experimental Group Pre-Tests

Group	<i>n</i>	<i>X</i>	<i>s</i>
Experimental group	33	75.36	12.19
Control group	33	69.27	17.05

Table 2

Test to Compare Means of the Two Groups

Students' T-test	<i>df</i>	P-value	Mean difference
0.822	64	0.100	6.09

Statistics revealed that there were no meaningful differences between the pre-tests of the control and experimental groups. Therefore, these two groups are comparable.

Stage 2

A middle test was administered after the six sessions of playing the selected group games to attempt to understand the importance of time and its effect on the students' cooperation skills development. Then, the middle test of the control group was compared with its pre-test.

Table 3

Comparison of Control Group Pre-Test and Middle Test

Group/test	<i>n</i>	<i>X</i>	<i>s</i>
Control group pre-test	32	71.45	13.503
Control group middle test	32	14.710	14.710

Table 4

Test to Compare Means of Control Group Pre-Test and Middle Test

Students' T-test	<i>df</i>	P-value	Mean difference
-0.295	30	0.770	935

There was no meaningful difference between the pre-tests and the middle tests of the control group.

Stage 3

Stage 3 compared the pre-test and the middle test of the experimental group in the field of cooperation.

Table 5

Comparison of Experimental Group Pre-Test and Middle Test

Group	<i>n</i>	<i>X</i>	<i>s</i>
Experimental group pre-test	32	75.40	12.563
Experimental group middle test	32	65.70	11.995

Table 6*Test to Compare Means of Experimental Group Pre-Test and Middle Test*

Students' T-test	df	P-value	Mean difference
2.826	29	0.008	935

There was no meaningful difference between the pre-tests and the middle tests of the groups. The analysis showed that there was not a statistically meaningful difference between the pre-test and middle test of the experimental group.

Stage 4

Stage 4 compared the middle test of the two groups.

Table 7*Comparison of Control Group and Experimental Group Middle Tests*

Group	n	X	s
Experimental group	32	60.55	20.109
Control group	32	68.55	20.946

Table 8*Test to Compare Means of the Two Groups*

Students' T-test	df	P-value	Mean difference
-1.583	64	-188	-8.000

The middle tests of the control group and the experimental group were not meaningfully different. While time was not the only variable measured, it was determined that after 6 weeks, not enough data had been collected to establish time as an independent variable. Therefore, to understand the importance of time on the children's cooperation skills development, the program continued for another six sessions.

Stage 5

Stage 5 compared the pre-test and the post-test of the control group in the field of cooperation.

Table 9*Comparison of Control Group Pre-Test and Post-Test*

Group	<i>n</i>	<i>X</i>	<i>s</i>
Control group pre-test	29	71.21	13.94
Control group post-test	29	669.28	15.123

Table 10*Test to Compare Means of the Two Groups*

Students' T-test	<i>df</i>	P-value	Mean difference
0.452	28	0.655	1.93

The statistics revealed that there was not any meaningful difference between the pre-test and the post-test of the control group, and the routine curriculum did not have any effect on cooperation skills.

Stage 6

Stage 6 compared the pre-test and the post-test of the experimental group in the field of cooperation.

Table 11*Comparison of Experimental Group Pre-Test and Post-Test*

Group	<i>n</i>	<i>X</i>	<i>s</i>
Experimental group pre-test	31	75.40	12.56
Experimental group post-test	31	54.47	9.733

Table 12*Test to Compare Means of Experimental Group Tests*

Students' T-test	<i>df</i>	P-value	Mean difference
7.163	29	0.000	20.933

The hypothesis was proven. There was a meaningful difference between the pre-test and the post-test of the experimental group. Group games affected the cooperation skills of the students.

Stage 7

Stage 7 compared the post-test of the experimental group with the post-test of the control group for the approval or rejection of the hypothesis.

Table 13

Comparison of Experimental Group and Control Group Post-Tests

Group	<i>n</i>	<i>X</i>	<i>s</i>
Experimental group post-test	33	50.33	16.188
Control group post-test	33	61.97	24.479

Table 14

Test to Compare Means of the Two Groups

Students' T-test	<i>df</i>	P-value	Mean difference
3.424	64	0.026	2

The analysis showed that there was a statistically significant difference between the post-tests of the experimental and the control groups, and the hypothesis was proven. Group games affected the students' cooperation skills development.

Discussion

This study aimed to identify the effects of group games on the cooperation skills of elementary school students. The CCAS instrument was used as a measure of social skills acquisition in the field of cooperation. According to the findings of this study, the experimental group showed meaningful improvements in cooperation skills when exposed to designed group games for 12 weeks. These differences between the control and experimental groups were meaningful after 12 sessions and on the post-test. But when a middle test was conducted after six sessions, there was no meaningful difference identified between the pre-test and the middle tests of each group nor between the middle tests of the control and experimental groups in terms of the development of cooperation skills. Although time was not the only variable that was controlled, the importance of time for the development of children's cooperation skills was specified.

The findings of this study expand upon the results of previous studies (Chen & Rubin, 2011; Craig et al., 2016; Halle et al., 2014; Hildmann & Hildmann, 2009; Hromek & Roffey, 2009; Koenig et al., 2009; Sohrabi, 2019; Vidoni & Ulman, 2012; Vidoni & Ward, 2009). This experiment corroborates the findings of Hromek and Roffey (2009), who argue that play is a powerful method for developing social and emotional learning, such as cooperation, in children. Also, the findings of this study are in line with the results of the study by Hildmann and Hildmann (2009) who examined the impact of initiative games in an educational setting on the growth of social and personal competence in children over age 3; they concluded that games as a teaching method promote social and personal skills.

In comparison to physical group games, video games have been found to affect social skills development adversely. The result of a study by Zamani et al. (2010) indicated that children who played fewer computer games had a higher level of social skills in comparison with children who played computer games for a long time. Kovess-Masfety et al. (2016) also assessed the association between time spent playing video games and social skills; their study revealed that increased video game usage is associated with decreases in peer relationship problems, which can affect social skills development, including cooperation skills. Problems may arise when video game playing is excessive (Shi et al., 2019).

Also, following the assumptions of Lau and Ho (2017, as cited in Lau, 2018), the natural association between children, play, and the willingness to have fun with others makes play an ideal method for teaching various dimensions of social skills. Also, Huizinga (2014) believed play absorbing the player intensely and utterly is accompanied by a feeling of tension, joy, and consciousness, making it interesting for children. Lau and Ho state that the learning that occurs through play and free exploration make play an important learning activity in the classroom (as cited in Lau, 2018). Also, Gao and Hall (2019) argue that “play provides children with safe environments that allow them to learn and practice those important skills such as social and emotional skills, cognitive skills, motor skills, as it fully engages children intellectually, emotionally, physically, verbally, and socially” (p. 103). The commonality among these studies is that learning occurs through a social context. Also, learning through play helps children to have an active role in their increasing awareness about rules and others’ attitudes rather than the passive role of only watching others’ experiences. This creates a situation for practising, learning, and developing social skills such as social understanding, awareness of other individuals’ customs and cultures, cooperation, and empathy. As Hinkley et al. (2018) suggest, children’s social skills learning occurs through their everyday play because play provides opportunities for interaction, conversation, communication, cooperation, and conflict management.

Positive cooperation skills are critical for children’s success at school and in adulthood; they need to be practised with others successfully, and group games can provide opportunities for

this practice. As Chen and Rubin (2011) and Halle et al. (2014) argue, social skills development occurs in the context of relationships with others. Group games can provide good opportunities for children to practise their social skills, as they are situations involving only friends and acquaintances, with no strangers being involved (Sohrabi, 2019). However, there is a counter argument that competition increases motivation for learning more than cooperation (Jones, 2004). Although research indicates that competition among for some high-grades students can increase academic performance, many young students are less motivated under these conditions (Meese et al., 2006).

Moreover, during the school years, children noticeably expand their cooperation skills, as school is the first social community they enter. This time can set the stage for further success in school and life. Educators can create opportunities for practising these skills by creating a situation in which students can cooperate instead of engaging in individual activities. Furthermore, children learn from imitation through group games. Therefore, the educational experience is greatly significant for children's development, and educational authorities need to employ the most effective teaching methods, such as designing formal group games. Formal games structures are rule-based, and the games are shaped according to what the designer intends to convey, as well as what the player hopes to gain (Reynolds & Chiu, 2013). As Hong et al. (2017) state, the learning group approach facilitates children's development in relationships, cooperation, and play skills.

The analyzed data showed that group games are an important factor in children's cooperation skills. This finding is consistent with the results of Yildiz et al.'s (2018) study, which found that group games can lead to higher academic achievement, more positive attitudes towards school, and higher permanent learning levels compared to traditional teaching methods. Being a member of social groups creates rights and responsibilities for all members. While exercising these rights, taking responsibility as well as communicating with their peers, children learn cooperation while talking to each other and expressing their feelings through the games. As Liu et al. (2015) state, improvement in children's social skills was noted following the intervention. Children's competence in group games was positively correlated with their social acceptance. Jean Piaget (1962) similarly underscores the significance of games for children's social and cognitive development. Ultimately, the findings support the importance of early social intervention in classrooms as a practical method of preparing students for school life and appropriate cooperation skills.

The results of research done with children who have mental or physical health issues (particularly autism) revealed that group games affected children's social skills growth in various dimensions, such as cooperation, communication, and taking turns (Coplan et al., 2010; Goldstein et al., 2014; Jung & Sainato, 2015; Kasari et al., 2016; Mpella et al., 2019; Plavnick &

Dueñas, 2018). Although these studies' results might not be generalized to other children, their findings demonstrate the role of group games in educating children in various mental and physical situations. Mpella et al. (2019) examined the effects of a theatrical play program on social skills development for young children who have autism spectrum disorders. Their findings revealed that the theatrical play program is a creative program that can be used as an appropriate educational strategy to teach social skills and self-confidence in a structured environment such as school. Craig et al. (2016) suggest that social skills training programs such as game-based programs can be an appropriate method for improving children's various social skills and behaviour. Also, Jafari et al.'s (2011) study of the effect of play therapy on the behavioural problems of maladjusted children found that attention deficits in hyperactive children were reduced after play therapy, and play therapy had significant effects on the behavioural problems of children who received the intervention. Reporting on the impacts of group games and play therapy on children with behavioural disorders, Hatami et al. (2012) found a positive correlation between play therapy and the reduction of cooperation disorders.

Teaching social skills is a complex endeavour and highlights the significance of pedagogy and teacher skills. Social and emotional learning may focus not only on acquiring subject-specific knowledge and skills but also in changing or developing values, beliefs, attitudes, and everyday behaviours (Roffey, 2008). Children's social skills develop in the context of interacting with their peers; however, these days elementary school-age children have fewer opportunities out of school to interact freely with peers and thus develop social competence (Burdette & Whitaker, 2005). According to this study's findings, it can be argued that group games as a teaching method should be given due attention, as it creates an opportunity for children to interact, maintain, and develop their social skills.

Limitations and Recommendations

Every research study has limitations that affect their findings and interpretations. In this study, some restrictions will be discussed in terms of their potential impact on the study's outcomes. This study investigated the social skills development of female elementary students. One limitation that needs to be considered is that this study's population is limited to female students. Iranian schools are segregated, and the researcher chose female elementary schools and used convenience sampling. Moreover, a limitation of the study is the significance level, which refers to the probability of rejecting the null hypothesis when it is true. In this study, a significance level is 0.05: It indicates a 5% risk of concluding that a difference exists when there is no actual difference. Another limitation of this study is that the study participants were only Grade 5 students. However, it is hoped that replicating this study or one that is similar will be possible in the future. Future researchers should replicate the study with both sexes, different age groups, and groups of students from different grades so that the results can be generalized

to all children in other settings, which would also contribute to a better understanding of the study.

This study also provides some suggestions for further research. The present research has focused mainly on one aspect of social skills. Therefore, a recommendation is that new studies should be done on other social skills issues (such as communication, problem-solving, and turn-taking) to examine the effects of group games. Furthermore, although numerous studies have examined the effects of group games on various social skills, most of them involved children who have disabilities, such as autism. There is a dearth of research in this area on typically developing children. Hence, further studies on this group of children will lead to a better understanding of their development. Also, regarding study methods, future investigations may benefit from making use of the other relevant instruments to corroborate or improve upon the CCAS findings. Furthermore, the use of qualitative research methods, especially interviews with one or more of the categories of teachers, principals, students, and parents, is recommended for further research.

Also, this study advocates for the increased use of game-based learning in schools and suggests that educators should consider teaching cooperation skills through group games to create attractive and exciting learning opportunities for children. Play is highly beneficial for children, and many subjects in elementary school can be taught through it. It is recommended that teachers employ group games in their lessons to aid students in their social skills development.

Conclusion

This study examined the effects of group games on the cooperation skills of female students in Grade 5 classrooms in an elementary school in Tehran, Iran. The findings build on previous studies, confirming that group games can be used to create a fun and motivating environment for practising and developing cooperation skills. Through group games, children provide insights into their perspectives of rules, routines, and experiences within the school setting. Also, children can learn cooperation skills by observing how other children cooperate through group games. Play provides children with the opportunity to examine their personal preferences within the games.

Results of this study indicate that group games as a teaching method should be given more attention in educational programs. I believe that cooperation skills instruction should be integrated into curricula as a primary outcome in physical education. As a curriculum, physical education is ideally suited and designed to facilitate the development of the cooperation skills that children will use throughout their lives.

Physical education teachers are crucial agents who can facilitate and promote cooperation skills development by setting up developmentally appropriate group games for their students. They can support children to understand both well-matched and mismatched understandings of cooperation skills and expectations of others. They can facilitate transitions to new skills by helping children develop an understanding of cooperation skills and values from one community to the next and apply them flexibly through group games.

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Appendix

Measurement of Competitive-Cooperative Attitudes

The survey consisted of the 28-item scale measuring attitudes toward competition-cooperation. A factor analysis gave five areas contributing to the total variance of the scale: an aggressive orientation (A), fascist tendencies (B), a work ethic orientation (C), a power orientation (D), and an independence orientation (E).

Directions: Below are 28 situations. Presume you have completely free choice. Indicate the percentage of your agreement in each type of situation. Indicate in the space at the left of the item what percent you agree. (1 = completely agree to 5 = completely disagree).

- _____ 1. People who get in my way end up paying for it.
- _____ 2. The best way to get someone to do something is to use force (B).
- _____ 3. It is alright to do something to someone to get even.
- _____ 4. I don't trust very many people (B, D).
- _____ 5. It is important to treat everyone with kindness (B, D).
- _____ 6. It doesn't matter who you hurt on the road to success (B, D).
- _____ 7. Teamwork is really more important than who wins.
- _____ 8. I want to be successful, even if it's at the expense of others (A, B).
- _____ 9. Do not give anyone a second chance (A, B, D, E).
- _____ 10. I play a game like my life depended on it (B, C).
- _____ 11. I play harder than my teammates (C).
- _____ 12. All is fair in love and war (A, B, C).
- _____ 13. Nice guys finish last (A, E).
- _____ 14. Losers are inferior (B).

- 15. A group slows me down (E).
- 16. People need to learn to get along with others as equals (E).
- 17. My way of doing things is best (B, E).
- 18. Every man for himself is the best policy.
- 19. I will do anything to win.
- 20. Winning is the most important part of the game.
- 21. Our country should try harder to achieve peace among all (C, D).
- 22. I like to help others (A).
- 23. Your loss is my gain (A).
- 24. People who overcome all competitors on the road to success are models for all young people to admire (A).
- 25. The more I win the more powerful I feel (D, E).
- 26. I like to see the whole class do well on a test (A, D).
- 27. I try not to speak unkindly of others (A, D).
- 28. I don't like to use pressure to get my way (D).

Scoring

Participants need to read each item carefully and pick up one score from the below scale to show their degree of agreement with the statement.

1 = completely agree	2 = agree	3 = so-so	4 = disagree	5 = completely disagree
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- The weights should be reversed for items number 5, 7, 16, 21, 22, 26, 27, and 28.
- To compute the total CCAS score, at first, each score needs to subtract from six, then add all gained scores. Finally, compare the result with the below table's scores.

Table of the Norms for CCAS Scores

Percentage		Results	
		Female	Male
Very low Level of Cooperation Attitude	15	80	83
low Level of Cooperation Attitude	30	72	76
Average Level of Cooperation Attitude	50	63	68
High Level of Cooperation Attitude	70	54	60
Very High Level of Cooperation Attitude	85	46	53

Source: Martin & Larsen (1976).