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Running head: BUFFERING EFFECTS OF GROUP INTERACTION

The Potential Buffering Effects of Group Interaction on  
Emotional Responses to Differential Outcomes

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A thesis submitted to the Faculty of Graduate Studies and Research in partial  
fulfillment of the requirements of the degree of Master of Arts in Educational  
Psychology, specialization in School/Applied Child Psychology

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## Abstract

The present research examined the buffering effects of group interaction on emotional responses to both relative success and relative failure in developmentally relevant domains. In Study 1, 192 children and adolescents, in grade 4 and grade 10, from mixed-sex schools participated. In Study 2, 173 participants in grades four, five and ten were recruited from same-sex schools. Participants were given a questionnaire, consisting of schematic drawings of children and adolescents in interindividual and intergroup contexts, to assess their perceptions about how their typical same-sex peers feel when they are experiencing relative success or failure. Results indicated that both male and female participants at all grade levels, in both samples, judged their typical same-sex peers to feel better when experiencing relative success when they were a member of a group that was outperforming another group than when they were individually achieving greater success than another individual. In the sample consisting of participants from same-sex schools they also reported more positive feelings when experiencing relative failure in a group context than in individual interactions. Discussion centers on the implications for achievement and performance in educational contexts.

## Résumé

Cette recherche examine l'effet tampon de l'interaction en groupe sur les réactions émotionnelles au succès relatif ainsi qu'à l'échec relatif dans des domaines qui correspondent au développement des enfants. Dans la première étude, 192 enfants et adolescents (4<sup>ième</sup> année et Secondaire 4) d'écoles mixtes ont participé. La deuxième étude se composait de 173 participants (4<sup>ième</sup> année, 5<sup>ième</sup> année et Secondaire 4) d'écoles non-mixtes. Les participants ont reçu un questionnaire avec des illustrations schématiques des enfants et adolescents dans des contextes inter-individu et inter-groupe. L'objectif de ce questionnaire était d'examiner leurs perceptions de comment se sentent leurs pairs de même sexe lorsqu'ils ressentent le succès ou l'échec relatif. Les résultats indiquent que les participants des deux études (garçons et filles de tous niveaux scolaires) trouvaient que leurs pairs de même sexe jouissaient plus d'un succès relatif lorsqu'ils étaient membres d'un groupe gagnant par rapport à un autre groupe que lorsque la réussite était individuelle par rapport à un autre individu. L'échantillon de participants venant des écoles non-mixtes démontre ces mêmes sentiments quant à l'échec relatif. La discussion se concentre sur les implications pour la réussite et la performance dans des contextes reliés à l'éducation.

## The Potential Buffering Effects of Group Interaction on Emotional Responses to Differential Outcomes

Differential success is an inherent part of our educational system. In domains such as academics, sports, and the peer group there are always children who are more successful or less successful than others. Social comparison plays a fundamental role in the formation of children's self-esteem and self worth (Harter, 1990). Where children stand relative to others, whether it be academically, athletically, or socially, can have an enormous impact on how they view themselves.

There is much reason to believe that the peer social contexts in which relative successes and failures occur have a significant impact on how children feel. Research has consistently demonstrated that interactions between two individuals are very different than interactions between two groups of individuals. The dynamics between individuals interacting have been found to be tense and conflict is actively avoided (Bales and Borgatta, 1955). In contrast, interactions between groups tend to heighten feelings of antagonism and expression of negativity is tolerated (Sherif, 1966). Studies that have compared these two peer social contexts directly find that intergroup interactions are more competitive than interindividual interactions (for a review, see Schopler & Insko, 1999).

Due to these markedly divergent interactional contexts, it seems reasonable to assume that children and adolescents' own affective responses and personal feelings of well-being would differ depending on the social context in which competition occurs, especially when there are differential outcomes. Given the tension and conflict avoidance

that occurs in dyadic interaction, children may feel badly when differential success does occur. Membership in groups, in contrast, may be a protective factor, buffering feelings of negative affect that may arise in dyadic competition.

Educators have long theorized that intergroup competition is educationally preferable to interpersonal competition “because teams tend to handle winning and losing more constructively than do individuals (Johnson & Johnson, 1994, p. 167).” However, to date, it appears that no research has been conducted investigating this empirically. This study proposes to compare competition in interindividual versus intergroup peer social contexts with children and adolescents, in developmentally appropriate domains to determine whether children and adolescents feel more positively about themselves in a group as compared to a dyad when experiencing differential status.

#### Individual Interactions

Bales and Borgatta (1955) were the first researchers to empirically investigate the relationship between group size and behavioral interactions. From this study the dynamics that occur in dyadic or interindividual interactions can be elucidated. In their study they recruited male undergraduates students that were unacquainted with one another and assembled them in groups of two, three, four, five, six or seven people. Four groups were formed of each condition, yielding a sample size of 24 groups. The groups met on four separate occasions for a duration of 40 minutes each session. The groups were instructed to discuss a human relations case; specifically, the task required them to discuss a conflict involving an administrator in his organization, and someone who was guilty of a rule infraction. They were required to discuss the behavior of the individuals, and were charged with the task of attaining a group solution for the dilemma. The

conversations were then analyzed to obtain percentages of occurrences of various linguistic forms. The resultant discourses revealed discrepant styles of interaction between groups of two (i.e., dyadic interaction) and the larger groups of varying sizes. Specifically, interactions between two individuals were characterized by displays of tension. In addition, the groups of two had fewer disagreements, and less antagonism as well as markedly more agreements than groups of larger sizes. In contrast, when the participants were discussing the conflict in a group, there was far less tension, more disagreements and more antagonism.

Bales and Borgatta theorized that the interaction in a dyad is different from that in a group because for the interaction to continue the individuals must convey more agreement with one another. There is no third party to act as a mediator of any disagreements that may occur. Due to the nature of dyads, the individuals continually fear alienating one another. "Consequently, each person is under pressure to behave in such a way that the other will not withdraw and will continue to cooperate even though he may have to yield a point . . . The dominant person is thus under pressure to avoid the implication of superiority, and to persuade the other by gentle and self-effacing means. The low rates of showing disagreement and antagonism are reasonably associated with the necessity of a gentle, persuasive approach" (p. 502).

Following each of the meetings, the groups were administered questionnaires in which they were required to make qualitative ratings regarding the encounters (Slater, 1958). From these findings and his observations, Slater concluded that "the tendency of small group members to respond with greater frequency to somewhat rose-colored bromides, springs not from satisfaction but from inhibition and constraint . . . from an

unwillingness to tolerate the thought that even normal conflicts and dissatisfaction might arise in the group” (p. 134). He went on to say that in individual interactions the members will “avoid such conflicts by frequent manifestations of agreements” (p. 134). Hence in dyadic interactions “one is, in a sense, walking on eggs” (p. 135).

This study demonstrates the affective characteristics specific to dyadic interactions. However, this study was limited in that the sample consisted of entirely male undergraduate students. In addition, although they compared interactions between individuals and larger size groups, they did not look at the behavior of two groups interacting with one another, and how this differs from the conciliatory nature of interpersonal interaction.

#### Intergroup Interactions

Sherif (1966) aimed to study experimentally intergroup relationships through a series of experiments with boys at summer camps to elucidate the factors that characterize these interactions. In one of these experiments he divided 22 unacquainted Oklahoma city boys, ages 11 and 12 into two groups, took them to a boy scout camp in separate buses and put them in camp sites about a half-mile apart from each other. The boys were selected to control for previous acquaintances, emotional instability, and differences in background or physical appearance. The sample consisted of stable, white, Protestant families from a middle socio-economic background. The boys were unaware that they were participating in an experiment.

For the majority of the first week, the two groups of boys were unaware of the other’s existence. The groups of boys engaged in typical camping activities for example preparing meals, building a rope bridge, and camping out. The activities were constructed

to optimize cooperative behavior and to facilitate the formation of close interdependent groups. The groups called themselves the “Rattlers” and the “Eagles” which served to further establish the boys into two distinct groups.

The next step was to investigate the dynamics that ensue when members of two groups interact with one another. The researchers manipulated the circumstances so that the Rattlers “happened” to discover the Eagles on their baseball field. The camp staff then “agreed” to allow the two groups to engage in a tournament of competitive activities, for example, baseball, touch football, tug of war and cabin inspections. Prizes were to be rewarded to the winning group.

The resultant interactions were marked by hostility and antagonism. The boys engaged in name calling, flag burning, cabin ransackings, and even fistfights. They referred to their rivals as “stinkers,” “cheats” and “sneaks.” At the same time they referred to their own group as “brave,” “tough,” and “friendly.” The groups expressed such contempt for each other that they refused to even participate in pleasant activities (e.g., eating or movies), if their “enemy” was present.

Sherif also wanted to test the hypothesis in his study that the groups will tend to overestimate their own achievements and underestimate the achievements by members of the other group. To test this hypothesis, he utilized the “bean toss game.” The goal of the game was to collect the largest number of beans that were on the ground. The beans were collected in a bag that prevented the individual from being able to keep track of how many he had collected. The boys were then briefly shown the number of beans supposedly collected by each group member; in reality 35 beans were shown. Each boy was required to write down an estimate of how many beans they thought each boy had

collected. The results revealed that on average the boys overestimated the number of beans collected by their own group, and underestimated the other group's performance. Interestingly, the group that had won the previously played game had an even greater tendency to overestimate their own performance, although this effect was also seen for the losers. Hence, competition in a group seems to foster positive feelings with regard to one's performance.

In sum, intergroup interactions appear conducive to serious competitive behavior and seem to facilitate negativity and hostility. Emotional expression is tolerable in this social context unlike in dyadic interactions where conflict appears to be actively avoided. In addition, as seen in Sherif's camp, intergroup interactions also seem to bolster how the individuals feel about themselves, as evidenced by the tendency to overestimate one's performance, even after losing. This study however, failed to compare the two peer social contexts, intergroup and interindividual, directly. In addition, the study was limited to an all boy sample in a setting far removed from every day life.

#### Comparisons Between Competition in Groups and Individuals

To develop a greater understanding of how interactions between individuals differ from interactions between groups, these two contexts must be compared directly. There have been numerous studies investigating these two social contexts; competitive behavior has been the focus of this research (see Schopler & Insko, 1999, for a review). Not surprisingly, this line of research has revealed that competition is greater between groups than between individuals. This effect of greater amounts of competitive responding with interactions between groups as compared to individuals has been termed "the



discontinuity effect” (Brown, 1954). The phenomenon has been observed over different paradigms and variations.

The typical experiment utilizes mixed-motive situations, such as the Prisoner’s Dilemma game in which participants choose responses based on matrix outcomes defined in monetary terms. The choices occur after the entities (individuals or group representatives) have communicated about a strategy. The matrices are arranged so that selecting a competitive response allows for a greater reward by either exploiting the others’ cooperation, or protecting themselves from exploitation. However, if both entities cooperate and trust each other, they receive larger rewards than would be gained by both selecting competitive moves due to the fact that mutual cooperation has a higher joint payoff than mutual competition.

These experiments have manipulated whether an individual is playing the game against another individual or if a group of people is playing the game against another group of people. The results consistently demonstrate that when groups are playing the game they are more likely to make competitive moves versus cooperative moves. This effect is seen over different variations of this game for example: varying the group size (Insko et al., 1987), the type of contact between the groups or individuals (Insko et al., 1987), the monetary values of the outcomes (Schopler, Insko, Graetz, Drigotas, & Smith, 1991), and the numbers of trials (Schopler et al., 1991).

Intergroup interactions are clearly more competitive than interindividual interactions. It is logical to theorize that this observed difference in competitive behavior between groups as compared to between dyads is partially due to the fact that individuals feel more positively when competing in this type of social context. These studies

however, have not investigated the accompanying affective responses to differential success in these competitive contexts (but see Nesdale & Flessner, 2001, for an exception). Further, these studies have utilized paradigms that are fairly contrived and may lack ecological validity. In addition, the samples have consisted primarily of undergraduate males and females, and have never been conducted with children or adolescents.

### Interindividual Competition and Affective Responses

One recent experiment sought to empirically investigate the emotional responses that accompany differential success in a competitive situation (Linders, Simpson & Benenson, 2001). Children in kindergarten and grade 4 were videotaped playing three separate games against another same-sex friend: a memory game, a spatial game, and a motor game. The outcomes of the games were manipulated by the researcher so that each child experienced relative success (i.e., won the game), relative failure (i.e., lost the game), and equal success (i.e., tied the game). The order of the games and the outcomes were counterbalanced with sex and grade level. A barrier was placed between the children to ensure that the children believed the outcomes. The children's reactions once the game had been completed and the winners had been announced, were coded for observed discomfort. In addition, the children were interviewed upon completing of the three games about their affective reactions in response to each of the competitive outcomes (winning, losing, and tying). Results revealed that children displayed significantly more discomfort when they won or lost the game than they displayed when they tied. In addition, the children reported significantly more happiness when they tied in the competition than when they won or lost.

These results seem to suggest that children may be uncomfortable with competition with one other person. However, this study did not compare competition in this social context to competition in intergroup relations. Nevertheless, these findings support the premise that the less competitive behavior witnessed in dyadic interactions may be due to the accompanying negative affect. These results clearly indicate that children feel better and are less uncomfortable when the competitive outcomes are ones of equality as oppose to either relative success or relative failure.

Competition in school contexts however do not often provide the opportunity for equal outcomes, and differential success is standard. This study did not investigate the pertinent domains in which competition actually occurs in educational contexts.

#### Intergroup Competition and Affective Responses

One line of research has sought to experimentally investigated group interactions and the accompanying affective responses towards one's own group versus another group (for an example see Tajfel & Billig, 1974). Tajfel and Turner (1979) formulated Social Identity Theory from these experiments and observations, which asserts that individuals have a drive to belong to groups, and derive pleasure and self-esteem enhancement from membership in groups that are comparatively superior. By evaluating ourselves partly by our group membership, seeing our own group as superior helps us feel good about ourselves. When our group has been successful, we identifying more strongly with it, thereby increasing our own positive feelings about ourselves. Hence, people will tend show favoritism to their own group and perceive themselves as being similar to the other members. The typical experiments utilized a minimal group paradigm and even find these

results with groups assigned randomly or on some irrelevant attribute (i.e., favoring one artist over another) (Tajfel & Billig, 1974).

There have been limited studies conducted applying this theory to children. However, three recent studies investigated whether children's affective and cognitive responses are affected by group membership (Bigler, 1995; Bigler, Jones, & Lobliner, 1997; Nesdale & Flessner, 2001).

In two of these studies (Bigler, 1995; Bigler, Jones, & Lobliner, 1997), the researchers utilized the minimal group paradigm with children, ages 6 to 11, who were attending a four week summer school program. The children were assigned to one of two differing groups that were characterized by color assignment (i.e., yellow group, blue group). As the children engaged in everyday school activities, teachers were told to continuously emphasize the color group affiliations and to organize their classrooms by these colors. For example, teachers would ask children to perform tasks such as lining up at the door for lunch, by their color groups or to do cooperative work in their groups. The teachers were explicitly instructed not to encourage competition or make overt comparisons between the two groups. In the control group, the teachers were instructed to make no references to the color groups. Results were consistent with Social Identity Theory. Those children whose teachers used the color dichotomies were more likely to display preferences favoring their own group compared to those in the control condition; they perceived more variability between the groups and rated their own group more positively than the other group. In addition, they viewed less variability within their own group compared to controls, indicating that the members of their group were more similar with regard to positive traits.

In these studies, the teachers were explicitly told not to enhance competition between the groups. Previous research has demonstrated that when comparison between groups is emphasized, in-group biases is enhanced (Vaughan, Tajfel, & Williams, 1981). However, these studies failed to investigate the effect of the relative status of these groups on affect and cognitions. That is, what are the emotional responses of children when their group is doing better or worse than a comparison group?

One recent study sought to empirically test this question (Nesdale & Flessner, 2001). In their study they recruited a sample of White, Australian, lower-middle-class boys and girls ages 5 to 6 and 8 to 9. The researchers arbitrary assigned the children to groups that differed in their drawing abilities. Half of the children were told that they were an “excellent drawer” and half were told that they were “good drawers.” This constituted the status manipulation.

The children were then asked on a Likert scale, how much they liked their own group and the other group and the degree to which they thought they were similar to the members of their own group and the other group. Results indicated that regardless of status, all of the children liked their in-group more than a comparison out-group. In addition, in both the high status and low status conditions, children rated themselves as more similar to the members of their own group compared to the other group.

The protective factor against negative emotionality that being a member in a group may afford individuals can be inferred from these studies. Children report greater feelings of similarity to the members of their own group regardless if they are achieving relative success or failure. It seems reasonable to infer therefore that group membership may ameliorate negative feelings that may arise during competition. However, these

studies did not compare the social context of groups to the social context of dyads. That is, they did not investigate if children feel better with intergroup competition, whether they be achieving relative success or relative failure, than interindividual competition. In addition, they did not look at the realistic competitive domains that children experience everyday. Moreover, although the self-esteem enhancing qualities of groups can be inferred from the greater feelings of similarity and in-group biases produced, they did not assess directly individual children's own personal feelings of well being when experiencing relative success and failure.

The purpose of the current study therefore, was to compare children and adolescents' emotional responses to both relative success and relative failure in interindividual versus intergroup competition in naturally occurring situations. The goal was to assess these reactions in areas of students' lives that are relevant to them, specifically, in domains in educational contexts in which competition naturally occurs. To accomplish this, students in grades 4 and 10 were recruited to act as observers of their same-sex peers. A questionnaire was formulated requiring the participants to report how they perceived typical children and adolescents to feel when achieving relative success or failure in interindividual, and intergroup competition. It was hypothesized that the students would report that their typical classmates experience more positive feelings when relative success is being experienced with a group in comparison to another group than when an individual is doing better than another individual. In addition, it was hypothesized that more positive feelings would also be reported when relative failure is being experienced with a group in comparison to another group than when an individual is doing worse than another individual.

## Method

### Participants

A total of 192 participants from grade 4 (47 boys, 44 girls; mean ages: 9 years, 10 months), and grade 10 (55 boys, 46 girls; mean age 16 years, 1 month) participated in the study. They were recruited from four elementary schools and two high schools located in six suburban districts in the greater Montreal area. The children were from lower to middle socio-economic status backgrounds and the majority were Caucasian. All participants were fluent in English.

### Materials

The participants were given a questionnaire assessing their feelings regarding competition in different peer social contexts (see Appendix A). The questionnaire was divided into two main sections. The first section assessed children's and adolescents' perceptions of the degree to which typical students their age want to achieve in three domains: athletics, academics, and social. These domains have been shown to be important to both children and adolescents of both sexes, and are three of the most important areas of their lives for the development of their self-concept (Harter, 1990). This served as a baseline measure to ensure that the selected domains were in fact areas in which they thought that success was important.

There were two variables assessed by the second part of the questionnaire, context (i.e., individual competition versus group competition) and relative success versus relative failure. The main variable of interest, context, was administered to all the participants. All children received questions assessing their perceptions of emotional

responses towards competition between two same-sex individuals as compared to between two same-sex groups of individuals.

The second variable of interest, relative success versus failure, was assessed through two separate versions of the questionnaire. In one version the participants were asked about how a same-sex child or adolescent would feel if the individual was relatively more successful than another individual or if the individual and his or her group were relatively more successful than another group (relative success). In the second version, the participants were asked about how a same-sex child or adolescent would feel if the individual was less successful than another individual or if the individual and his or her group were relatively less successful than another group (relative failure). Lastly, three separate domains (athletics, academics, and social) were assessed to ensure results were not specific to one domain. Once again, these domains were chosen as they have been shown to be important to both children and adolescents of both sexes (Harter, 1990).

There were two versions of each of the questionnaires to ensure that the order of the questions (interindividual versus intergroup) did not influence the results. For both the relative success and the relative failure conditions, the order of the presentation of the context variable (i.e., individual competition versus group competition) was counterbalanced across sex and grade level. Further, at each grade level in each school, at least one class completed the relative success version and one class completed the relative failure version to prevent confounding response with school.

### Procedure

A certificate of ethical acceptability for research involving human subjects was first obtained in the Faculty of Education at McGill University (see Appendix B). Written



letters explaining the study were sent to principals of each of the schools. Following agreement with the principals to conduct the study, consent forms were sent home for the parents to sign and only those students who received parental consent were eligible to participate in the study (see Appendix C).

The author administered the questionnaire. The researcher entered a classroom and explained that she was interested in the kinds of social situations that are most important to children and adolescents. Specifically, participants were told that she was interested in how their fellow students respond emotionally when they are competing against one individual as compared to when they are a member of a group and competing against another group. All participants were told that the questionnaire was not an evaluation, and that their honest opinions would be valued. All questionnaires were completed anonymously: No names were collected; students' desks were separated before the study began, and no talking was allowed during the administration of the questionnaire. The questionnaire was administered to the class as a whole and took approximately 10 minutes to complete. The researcher read aloud the introduction and sample questions as well as section one of the questionnaire. The participants completed section two independently. All questions were at an appropriate reading level and the researcher was available to help if needed. Children and adolescents who did not have permission to participate were either instructed to engage in other work or were taken to the library during the administration of the questionnaire.

To introduce the questionnaire, participants were given a schematic drawing of a same-sex individual and were told to imagine that the drawing depicted was a typical boy

or girl their age. The students were then asked to respond to two practice questions to allow them to become familiar with the scales.

### Section One: Desire to Achieve

The first set of questions examined how much the participants thought that typical boys and girls wanted to do well in each of the three domains. On the top of the page, the participants were presented with a schematic drawing displaying a typical same-sex individual. They were told that “we would like to know what activities a typical boy or girl cares about.” They were then reminded that the drawing represented a typical boy or girl their age. For each domain, participants were asked to report on a 7-point scale how much they thought that the typical boy or girl wanted to do well in that area (1 = Doesn't Want to At All through 7 = Wants to Very Much). The three domains were sports, academics, and making friends. For example, in the domain of sports, the question stated “How much do you think that he (she) wants to do well in sports?”

### Section Two: Typical Emotional Responses to Relative Success or Failure in Interindividual Versus Intergroup Contexts

In the second section of the questionnaire, participants were given two pages. On one page was a picture of two same-sex individuals standing next to one another. One of the individuals was highlighted. On another page they were shown a schematic drawing of two groups of individuals, with five in each group. Participants were then told that the target individual who was highlighted was a member of one of the groups but not the other.

The participants were asked to respond to three questions about the interindividual context and three questions about the intergroup context. The three

questions referred to the athletic, academic, and social domains. The participants who received the relative success versions of the questionnaire were asked to indicate how a typical same-sex individual would feel if he or she were doing better in each of the three domains than the other individual on a 7-point scale (1 = Very Unhappy through 7 = Very Happy). For example, for the domain of sports, "Suppose that he (she) was doing better in sports than his (her) friend. How would he (she) feel?" Then, the participants were asked how they would feel if his or her group was doing better in the three domains than the other group on a 7-point scale (1 = Very Unhappy through 7 = Very Happy). For example, for the domain of marks, "Suppose that his (her) group was getting better marks than the other group. How would he (she) feel?"

The participants who received the relative failure questionnaire were asked to indicate how a typical same-sex child or adolescent would feel if he or she was doing worse in each of the three domains than the other individual on a 7-point scale (1 = Very Unhappy through 7 = Very Happy). For example, in the domain of peer relationships, "Suppose that he (she) was doing worse at making friends than his (her) friend. How would he (she) feel?" Then, the participants were asked how they would feel if his or her group was doing worse in the three domains than the other group on a 7-point scale (1 = Very Unhappy through 7 = Very Happy). For example, "Suppose that his (her) group was worse at making friends than the other group. How would he (she) feel?"

## Results

### Section One: Desire to Achieve

In part one, in which participants made ratings as to how much they thought that typical boys and girls wanted to do well in each of the three domains, means were obtained for the three

separate domains to provide a validity check; it was important to ensure that these three areas were in fact important to children in grade 4 and grade 10. A repeated measures analysis of variance (ANOVA) was conducted with the domains as the repeated factor and sex and grade as the independent factors. The effect of sex was non-significant,  $F(1, 188) = 2.21$ , n.s. There was a significant effect of grade  $F(1, 188) = 24.15$ ,  $p < .001$ . The grade 4 student felt that success in these three domains was more important ( $M = 6.48$ ,  $SD = .76$ ) than the grade 10 students ( $M = 5.92$ ,  $SD = .86$ ). There was also a significant interaction between sex and grade,  $F(1, 188) = 4.75$ ,  $p < .03$ . Success for their same-sex peers in general was more important for grade 4 girls ( $M = 6.70$ ,  $SD = .46$ ) than grade 10 boys ( $M = 5.96$ ,  $SD = .85$ ) and girls ( $M = 5.88$ ,  $SD = .88$ ) but not different from grade 4 boys ( $M = 6.28$ ,  $SD = .92$ ), Tukey,  $p < .05$ . There was also a significant effect of domain,  $F = 38.93$ ,  $p < .001$ . Students reported that their same-sex peers wanted to succeed academically ( $M = 6.43$ ,  $SD = .96$ ) to the same degree as they wanted to succeed socially ( $M = 6.43$ ,  $SD = 1.11$ ). However, success in athletics was less important ( $M = 5.70$ ,  $SD = 1.38$ ), Tukey's test,  $p < .05$ . In all of the domains, however, the means were high, indicating that children and adolescents feel that success is important in all areas. This effect of domain was qualified by a significant interaction between sex and domain,  $F(2, 376) = 3.01$ ,  $p = .05$ . Tukey's test,  $p < .05$ , however, demonstrated that none of these mean differences were in fact significant. In addition, there was a significant interaction of grade and domain,  $F(2, 376) = 9.55$ ,  $p < .001$ . Tukey's tests,  $p < .05$ , showed that in the domain of academics, grade 10 children ( $M = 6.14$ ,  $SD = 1.03$ ) cared less about success than grade 4 ( $M = 6.75$ ,  $SD = .75$ ) children; as well, in the domain of athletics, the grade 10 children ( $M = 5.26$ ,  $SD = 1.30$ ) cared less about success than the grade 4 children ( $M = 6.20$ ,  $SD = 1.30$ ); there was no difference between the two grade levels in desire for social success (grade 4,  $M = 6.51$ ,  $SD = 1.15$ ; grade 10,  $M = 6.37$ ,

$SD = 1.07$ ). The three-way interaction (sex X grade X domain) was not significant,  $F(2, 376) = 1.76$ , n.s.

### Section Two: Typical Emotional Responses to Relative Success or Failure in Interindividual Versus Intergroup Contexts

To assess how the participants felt about competition in the different peer social contexts, two separate repeated measures ANOVAs were conducted on first the relative success and then the relative failure versions of the questionnaire with sex and grade as the independent variables and social context as the repeated factor. Because domain was not of interest, all analyses were conducted by averaging responses across domains. For the first analysis, there was a significant effect of sex,  $F(1, 93) = 15.00$ ,  $p < .001$ . Overall, males reported that same-sex individuals their age feel better when achieving success ( $M = 5.28$ ,  $SD = 1.16$ ) than girls ( $M = 4.46$ ,  $SD = 1.12$ ). The effect of grade was not significant ( $F(1, 93) = 1.13$ , n.s.). This sex difference was qualified by a significant interaction between sex and grade,  $F(1, 93) = 11.02$ ,  $p = .001$ . When reporting about their same sex peers, girls in grade 4 ( $M = 3.96$ ,  $SD = 1.19$ ) reported that peers would feel significantly worse than the grade 4 boys reported for their same sex peers ( $M = 5.56$ ,  $SD = 1.28$ ); no sex difference was found between the grade 10 boys ( $M = 5.06$ ,  $SD = 1.02$ ) and girls ( $M = 4.93$ ,  $SD = .82$ ).

Consistent with the hypothesis, there was a significant main effect of context,  $F(1, 93) = 11.81$ ,  $p = .001$ . Both males and females at both grade levels reported that typical same-sex individuals their age would feel better when they were a member of a group that was doing better than another group ( $M = 5.09$ ,  $SD = 1.36$ ) compared to when they were individually doing better than another individual ( $M = 4.71$ ,  $SD = 1.28$ ). None of the other effects were significant (sex X context,  $F(1, 93) < 1$ , n.s.; grade X context,  $F(1, 93) = 1.08$ , n.s.; sex X grade X context,  $F(1, 93)$

= 1.24, n.s.). Table 1 presents the means and standard deviations for males and females at the two grade levels in both social contexts (see Table 1).

Table 1

Means and Standard Deviations for Males and Females in the Mixed Sex Schools:  
Degree of Positive Affect Regarding Relative Success in each Social Context

Grade		Individuals		Groups	
		<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>
4	Males ( <u>n</u> = 23)	5.20	(1.52)	5.91	(1.35)
	Females ( <u>n</u> = 22)	3.82	(1.32)	4.11	(1.27)
10	Males ( <u>n</u> = 29)	4.94	(0.93)	5.17	(1.25)
	Females ( <u>n</u> = 23)	4.78	(0.99)	5.08	(1.04)

The next analysis looked at how the participants believed same-sex peers would emotionally respond when they were performing relatively worse in the two peer social contexts. There was a significant effect of grade,  $F(1, 91) = 15.27$ ,  $p < .001$ . Participants in grade 4 reported that their same-sex peers would feel significantly worse (M = 2.12, SD = .87) than grade 10 children (M = 2.72, SD = .60). Contrary to the hypothesis, children and adolescents did not report that typical same-sex individuals their age would feel emotionally different when achieving relative failure in interindividual interactions as compared to intergroup interactions context,  $F(1, 91) < 1$ , n.s. None of the remaining effects were significant (sex,  $F(1, 91) < 1$ , n.s.; sex X grade,  $F(1, 91) = 1.44$ , n.s.; sex X context,  $F(1, 91) < 1$ , n.s.; grade X context,  $F(1, 91) = 1.00$ , n.s.; sex X grade X context,

$F(1, 91) < 1$ , n.s.). Table 2 presents the means and standard deviations for males and females at the two grade levels in both social contexts (see Table 2).

Table 2

Means and Standard Deviations for Males and Females in the Mixed Sex Schools:  
Degree of Positive Affect Regarding Relative Failure in each Social Context

Grade		Individuals		Groups	
		<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>
4	Males ( <u>n</u> = 24)	2.17	(1.12)	2.03	(0.90)
	Females ( <u>n</u> = 22)	2.12	(0.91)	2.15	(1.13)
10	Males ( <u>n</u> = 26)	2.81	(0.78)	2.95	(0.70)
	Females ( <u>n</u> = 23)	2.48	(0.68)	2.62	(0.79)

There exists evidence to suggest boys are more competitive in mixed-sex groups as measured by amount of resources obtained (Charlesworth & LaFreniere, 1983). However, when placed in same-sex contexts, girls are just as competitive as boys (Charlesworth & Dzur, 1987). Thus, there is reason to believe that within-sex competition may be heightened in same-sex schools, especially for girls. Study two was conducted to determine whether the same results would be found in same-sex schools.

## Study 2

### Method

#### Participants

A total of 173 participants from grades 4 and 5 (53 boys, 40 girls; mean age: 10 years 6 months), and grade ten (56 boys, 24 girls; mean age: 16 years, 1 month) participated in the study. Two grade levels (i.e., 4 and 5) participated in the study at the elementary level due to the smaller class sizes found at the same-sex schools. They were recruited from one all boys school and two all girls schools in Montreal, Quebec. There were a disproportionate number of male participants as compared to female participants due to the fact that the all boys school was larger than the all girl schools. The children were from upper middle to upper socio-economic status backgrounds and were from primarily Caucasian backgrounds. All participants were fluent in English.

#### Procedure

The procedure for Study 2 was identical to Study 1.

#### Results

##### Section One: Desire to Achieve

Again, a repeated measures ANOVA was conducted and means were obtained for the three domains at both grade levels to ensure that these domains were areas that these children desired to succeed in. The desire to succeed in each domain was analyzed with the domains as the repeated factor and sex and grade as the independent factors. The ANOVA yielded a significant effect for sex,  $F(1, 168) = 12.98, p < .001$ . Females ( $M = 6.49, SD = .56$ ) saw other same-sex peers as desiring to be successful across domains more than males ( $M = 5.96, SD = .93$ ). There was a significant effect of grade,  $F(1, 168) = 9.53, p = .002$ . Participants in grade 4 ( $M = 6.35, SD = .88$ ) perceived that their same-sex peers wanted to achieve more than grade 10 ( $M = 5.92, SD = .76$ ) students. There was no interaction between sex and grade ( $F(1, 168) < 1, n.s.$ ). There was a



significant effect of domain,  $F(2, 336) = 32.53, p < .001$ ). Children and adolescents reported that their typical peers prefer to succeed socially ( $M = 6.38, SD = 1.02$ ) and academically ( $M = 6.30, SD = 1.01$ ), more than athletically ( $M = 5.78, SD = 1.23$ ), Tukey's test,  $p < .05$ . Means were high in all domains however, indicating that success is important in all areas. None of the other effects were significant (grade X domain,  $F(2, 336) = 2.56, p = .08$ ; sex X domain,  $F(2, 336) = 2.94, p < .10$ ; sex X grade X domain,  $F(2, 336) = 2.87, p = .06$ ).

## Section Two: Typical Emotional Responses to Relative Success or Failure in

### Interindividual Versus Intergroup Contexts

In the same-sex schools, to assess how the participants felt about competition in the different peer social contexts two repeated measures ANOVAs were conducted for both versions of the questionnaire (i.e., relative success and relative failure) with sex and grade as the independent variables and peer social context as the repeated factor. Again, because domain was not of interest, all analyses were conducted by averaging responses across domains.

For the relative success analysis, there were no significant effects for sex,  $F(1, 85) < 1$ , n.s.; grade,  $F(1, 85) < 1$ , n.s.; and no interaction between sex and grade,  $F(1, 85) < 1$ , n.s. As in the mixed-sex schools, there was a significant main effect of context,  $F(1, 85) = 9.21, p < .005$ . Congruent with the hypothesis, males and females in both the elementary and secondary school samples reported that their same-sex peers would feel better when they were a member of a same-sex group that was achieving relative success ( $M = 5.23, SD = 1.33$ ) compared to another group than when they were individually more successful than another individual ( $M = 4.84, SD = 1.14$ ). None of the other effects were significant (sex X context,  $F(1, 85) = 2.26$ , n.s.; grade X context,  $F(1, 85) < 1$ , n.s.; sex X grade X context,  $F(1, 85) = 1.20$ , n.s.). Table 3 presents the

means and standard deviations for males and females at the two grade levels in both social contexts (see Table 3).

Table 3

Means and Standard Deviations for Males and Females in the Same Sex Schools: Degree of Positive Affect Regarding Relative Success in each Social Context

Grade		Individuals		Groups	
		<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>
4	Males ( <u>n</u> = 37)	4.93	(1.21)	5.02	(1.48)
	Females ( <u>n</u> = 20)	4.72	(1.29)	5.62	(1.40)
10	Males ( <u>n</u> = 19)	4.96	(1.06)	5.35	(1.16)
	Females ( <u>n</u> = 13)	4.56	(0.80)	5.08	(0.95)

The next analysis looked at how the participants believed other same-sex children and adolescents their age would emotionally respond when they were experiencing relative failure in the two peer social contexts. There was a significant effect of grade,  $F(1, 80) = 20.86$ ,  $p < .001$ . Specifically, overall the grade 4 students reported that typical same-sex individuals their age would feel worse when experiencing relative failure ( $M = 2.06$ ,  $SD = .74$ ) than the grade 10 students ( $M = 2.90$ ,  $SD = .64$ ). There was no significant effect of sex,  $F(1, 80) < 1$ , n.s., nor was there an interaction between sex and grade,  $F(1, 80) = 2.13$ , n.s. In contrast to the mixed-sex school, in the same-sex school, analysis revealed a significant main effect of context,  $F(1, 80) = 5.53$ ,  $p < .05$ . That is, consistent with the main hypothesis, participants reported that typical same-sex peers feel

better when they are a member in a group doing comparatively worse than another group ( $M = 2.63$ ,  $SD = .83$ ) than when as an individual, they are doing worse than another individual ( $M = 2.46$ ,  $SD = .96$ ). None of the other effects were significant (sex X context,  $F(1, 80) < 1$ , n.s.; grade X context,  $F(1, 80) < 1$ , n.s.; sex X grade X context,  $F(1, 80) < 1$ , n.s.). Table 4 presents the means and standard deviations for males and females at the two grade levels in both social contexts (see Table 4).

Table 4

Means and Standard Deviations for Males and Females in the Same Sex Schools: Degree of Positive Affect Regarding Relative Failure in each Social Context

Grade		Individuals		Groups	
		<u>M</u>	<u>(SD)</u>	<u>M</u>	<u>(SD)</u>
4	Males ( $n = 16$ )	1.85	(0.80)	2.17	(0.72)
	Females ( $n = 20$ )	1.95	(0.87)	2.25	(0.92)
10	Males ( $n = 37$ )	2.99	(0.84)	2.99	(0.73)
	Females ( $n = 11$ )	2.45	(0.67)	2.76	(0.52)

### Discussion

Results partially confirmed the hypotheses that children and adolescents would report that their same-sex peers feel better with intergroup competition than interindividual competition, regardless of their relative status (i.e., success or failure) across three relevant domains. Specifically, for both the mixed-sex school sample and the

same-sex school sample, children and adolescents reported that their typical same-sex peers would feel better when they were a member of a group that was outperforming another group than when they were individually achieving greater success than another individual. This effect was robust in that it was found both at the grade 4 and the grade 10 levels, as well as for both males and females. Interestingly, in the mixed school sample the grade 4 girls reported that their peers feel significantly worse when excelling compared to others in general, regardless of the context, than the boys in grade 4. It is unclear why this would be, however, it is possible that females in grade 4 may be undergoing a specific developmental stage at this time when social comparison is particularly salient. With regard to relative failure, however, these more positive emotional responses in a group peer context were only reported in the same-sex school sample. For these children and adolescents who attend schools in which all the students are the same sex, they believed that their same-sex peers would respond with more positive affect when they are a member of group doing worse than another group than when they individually are experiencing less success than another individual. The reason why the results in the relative failure condition are only present for the same-sex school sample and not the mixed-sex school sample is not clear. One explanation may be that the same-sex school context is more competitive overall than schools in which both sexes are present in the same class. This enhanced competitive mentality could foster a greater degree of negative emotions when one achieves relative failure. Therefore, in this particularly emotionally charged environment, the protective effect groups may afford individuals is present to an even greater degree.

Interestingly, a developmental trend was observed in both samples with regard to relative failure regardless of context. Children in grade 4 experience more negativity when they are experiencing lower status than the grade 10 students. An explanation for this difference may be that as children get older, they develop coping mechanisms to help mitigate the negative affect that results when one is experiencing relative failure, for example focussing on other areas of their lives in which success is experienced.

The hypothesis that children and adolescents will report that their same-sex peers experience more positive feelings when achieving relative success in a group peer social context than in an individual context was confirmed in the two samples. In the same-sex sample this buffering effect is also seen when children and adolescents are experiencing relative failure as well. Same-sex peer groups do appear to offer some sort of protective factor when children compete with one another in educational contexts. They feel better with differential outcomes in realistic settings, when they have a group with them. This effect is particularly pronounced when the result of the competition is relative success. These findings are buttressed by the fact that despite diversity in the samples, the effects are still present. Although the prediction that failure may be easier to justify when part of group may be somewhat evident, it is not obvious that individuals would report that their classmates would prefer to attain success as part of a group as opposed to individually. It is highly plausible to assume that success would be preferable individually because the achievement and glory do not have to be shared with others. In addition, satisfaction might be greater because the individual is able to attribute the success solely to his or her own abilities and effort. Yet, in both samples, participants reported that their same-sex peers would feel more positive emotions when experiencing success with a group.

These findings have particular significance for educational contexts. Given how uncomfortable children appear with inequality in dyadic competition (Linders, Simpson, & Benenson, 2001) coupled with findings from the current study, that children feel better in intergroup competition, especially when achieving relative success, it seems plausible that this preference may carry over into their desire and drive to achieve in educational contexts. Children may hinder their achievements in contexts in which competition is between individuals, due to the apparent tension and discomfort associated with conflict in dyadic interactions. Conversely, organizing educational contexts so that competition occurs between groups, may encourage and promote achievement. In addition, with regard to occasions in which children are experiencing less success, being a member in a group may palliate the negative emotions that arise when one is experiencing relative failure.

To date, the majority of the research with regards to factors related to achievement motivation and performance has focused on individual predictors. Thousands of studies have been conducted that examine the correlates of academic achievement. However, the peer social contexts in which achievement and learning occur have largely been ignored. The impact that peer social context may have on children's affective reactions to success and failure, and how this translates to the degree to which they are motivated to achieve needs to be considered. One exception, however, can be found in the cooperative learning literature where the learning context has been a variable of interest. Results consistently demonstrate that cooperative learning increases achievement outcomes, positive self-esteem and self concept when compared to

individualistic goal structures and competitive goal structures (Johnson & Johnson, 1994).

The results of this present study further support this previous research. Children of both sexes and at different ages are uncomfortable with individual competition. However, when competition is embedded in an inter-group context, which involves cooperation, differential success and failure is more palatable. Both being viewed as inferior to others and being viewed as superior to others can result in negative feelings for children and adolescents. Membership in a group can alleviate some of this negative affect.

There are many opportunities in educationally contexts to organize students into groups or teams. Already, athletics are formally organized into teams in gym class. Social aspects of school, are also somewhat organized into groups, albeit informally, and consequently there are often children who are alienated. Academics, however, are rarely organized into teams, and learning and achievement are often solitary activities. Given the more positive feelings experienced in a group, teachers could place greater importance on formally organizing social and academic aspects of school into teams or groups similar to sports. Therefore, a child who may not be excelling in these domains may feel happier as an integral member of a social or academic group thereby enhancing participation and achievement.

These results were obtained in two separate samples at different levels of socio-economic status. As well, the sample sizes were relatively large in number. The validity of these results was also enhanced due to the fact that the children were utilized as observers of their peers, as opposed to a direct self-report measure being obtained from

the participants. As well, a repeated measures design allowed for direct comparison of the responses of the same kids for the two social contexts. Finally, these results were seen in domains that are important to children and adolescents.

Despite these aforementioned strengths, there were several limitations to this study. Future studies must aim at obtaining observations to determine if emotional responses are in reality more positive in competition between groups as compared to competition between individuals. In addition, although it seems reasonable to assume that emotional responses invoked by a situation will have a direct impact on behavior, this needs to be studied further. In other words, does the fact that children feel better in an intergroup social context when experiencing differential success actually impact on their achievement motivation and corresponding performance outcomes? The question of whether intergroup competition still has this protective quality when there is varying degrees of within group variability in success has not been addressed. This would have implications for understanding the processes that are occurring. Specifically, does the fact of knowing that you are a member of a group, regardless of your status within this group make you feel better when your group is succeeding relative to another? This could be varied in future studies. Future research must aim at understanding the impact the peer social context has on children's performance.



## References

Bales, R. F., & Borgatta, E. F. (1955). Size of group as a factor in the interaction profile. In A. P. Hare, E. F. Borgatta, & R. F. Bales (Eds.), Small group: Studies in social interaction (pp. 495-512). Toronto: Random House.

Bigler, R. S. (1995). The role of classification skill in moderating environmental influences on children's gender stereotyping: A study of the functional use of gender in the classroom. Child Development, 66, 1072-1087.

Bigler, R. S., Jones, L. C., & Lobliner, D. B. (1997). Social categorization and the formation of intergroup attitudes in children. Child Development, 68, 530-543.

Brown, R. (1954). Mass phenomena. In G. Lindzey (Ed.), Handbook of social psychology (Vol. 2, pp. 833-876). Cambridge, MA: Addison-Wesley.

Charlesworth, W. R., & Dzur, C. (1987). Gender comparisons of preschoolers' behavior and resource utilization in group problem solving. Child Development, 58, 191-200.

Charlesworth, W. R., & LaFreniere, P. (1983). Dominance, friendship, and resource utilization in preschool children's groups. Ethology & Sociobiology, 4, 175-186.

Harter, S. (1990). Processes underlying adolescent self-concept formation. In R. Montemayor, G. R. Adams, & T. P. Gullotta (Eds.), From childhood to adolescence. A transitional period?: Vol. 2. Advances in adolescent development (pp. 205-239). Newbury Park, CA: Sage.

Insko, C. A., Pinkley, R. L., Harring, K., Holton, B., Hong, G., Krams, D. S., Hoyle, R. H., & Thibaut, J. (1987). Minimal conditions for real groups: Mere categorization or expectations of competitive between category behavior. Representative Research in Social Psychology, 17, 5-36.

Johnson, D. W., & Johnson, R. T. (1994). Learning together and alone: Cooperative, competitive, and individualistic learning. Boston: Allyn and Bacon.

Linders, L., Simpson, A., Benenson, J. F. (2001). Is it better to beat a friend or to tie? Girls' and boys' responses to outcomes of competitive games. Manuscript submitted for publication, McGill University.

Nesdale, D., & Flesser, D. (2001). Social identity and the development of children's group attitudes. Child Development, 72, 506-517.

Sherif, M. (1966). In common predicament: Social psychology of intergroup conflict and cooperation. Boston: Houghton Mifflin Company.

Schopler, J., & Insko, C. A. (1999). The reduction of interindividual-intergroup discontinuity effect: The role of future consequences. In M. Foddy, M. Simthson, S. Schneider, & M. Hogg (Eds.), Resolving social dilemmas: Dynamic, structural, and intergroup aspects (pp.281-293). Philadelphia: Psychology Press.

Schopler, J., Insko, C. A., Graetz, K. A., Drigotas, S. M., & Smith, V. A. (1991). The generality of the individual-group discontinuity effect: Variations in positivity-negativity of outcomes, players' relative power, and magnitude of outcomes. Personality and Social Psychology Bulletin, 17, 612-624.

Tajfel, H., & Billig, M. (1974). Familiarity and categorization in intergroup behavior. Journal of Experimental Social Psychology, 10, 159-170.

Tajfel, H., & Turner, J. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), The social psychology of intergroup relations. Monterey, CA: Brooks/Cole.

Slater, P. E. (1958). Contrasting correlates of group size. Sociometry, 21, 129-139.

Vaughan, G., Tajfel, H., & Williams, J. A. (1981). Bias in reward allocation in an intergroup and an interpersonal context. Social Psychology Quarterly, 44, 37-42.

Appendix A: Questionnaire

Spring 2000  
**Project on Social Situations**

We want to learn what kinds of social situations are most important to people your age. In particular, we are interested in how people interact when they are with one friend, a group of friends, or several groups of friends. Some of you will be asked about people of the same sex and some of you will be asked about people of the other sex. We do not collect your name, so no one will ever know what you write. We would like you to give us your totally honest opinion. If you do not want to participate, you do not have to respond to any of the questions.

Before we begin, please give us the following information:

Your Sex (please circle):     MALE           FEMALE

Birthdate                      \_\_\_\_\_  
   day/ month/ year

Your Age:                      \_\_\_\_\_

Your Grade Level:           \_\_\_\_\_

Here is a sample question, so you can understand what we would like to learn.



Imagine that the girl in gray pictured above is a typical girl your age.

**Suppose that she drew a picture, and it was a better picture than she usually draws.**

**1. How would she feel?** Circle the number that corresponds to how you think she would really feel.

1	2	3	4	5	6	7
VERY UNHAPPY	SOMEWHAT UNHAPPY	A LITTLE UNHAPPY	WOULD NOT CARE AT ALL	A LITTLE HAPPY	SOMEWHAT HAPPY	VERY HAPPY

**2. What would she do?** Circle the number that corresponds to what you think she would really do.

1	2	3	4	5	6	7
TRY TO DO A LOT WORSE	TRY TO DO SOMEWHAT WORSE	TRY TO DO A LITTLE WORSE	WOULD NOT CHANGE	TRY TO DO A LITTLE BETTER	TRY TO DO SOMEWHAT BETTER	TRY TO DO A LOT BETTER

Now, we are going to ask you other questions about a typical girl your age. Please try to think about how a typical girl would feel in the situations we describe.



First, we would like to know what activities a typical girl cares about. Again, imagine that the girl in gray is a typical girl your age.

**1. How much do you think that she wants to do well in sports?**

1	2	3	4	5	6	7
Doesn't Want to At All	Wants to a Tiny Bit	Wants to a Little Bit	Wants to Somewhat	Wants to Pretty Much	Wants to Quite a Bit	Wants to Very Much

---

**2. How much do you think that she wants to get good marks?**

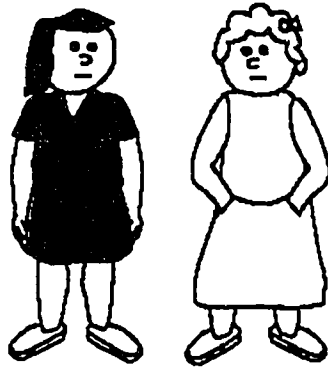
1	2	3	4	5	6	7
Doesn't Want to At All	Wants to a Tiny Bit	Wants to a Little Bit	Wants to Somewhat	Wants to Pretty Much	Wants to Quite a Bit	Wants to Very Much

---

**3. How much do you think that she wants to make good friends?**

1	2	3	4	5	6	7
Doesn't Want to At All	Wants to a Tiny Bit	Wants to a Little Bit	Wants to Somewhat	Wants to Pretty Much	Wants to Quite a Bit	Wants to Very Much

---



Now look at the girl in gray with her friend. Again, imagine that the girl in gray is a typical girl your age.

**Suppose that she was doing worse in sports than her friend.**

How would she feel?

1	2	3	4	5	6	7
VERY UNHAPPY	SOMEWHAT UNHAPPY	A LITTLE UNHAPPY	WOULD NOT CARE AT ALL	A LITTLE HAPPY	SOMEWHAT HAPPY	VERY HAPPY

**Suppose that she was getting worse marks in school than her friend.**

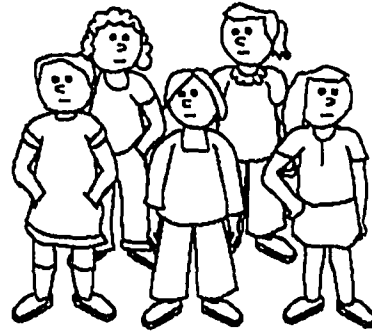
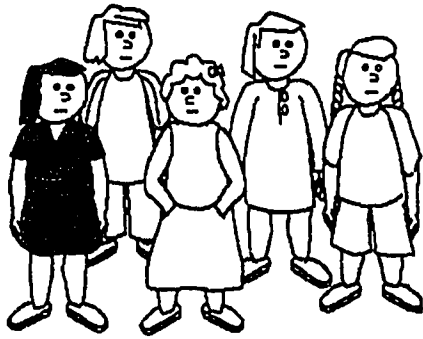
How would she feel?

1	2	3	4	5	6	7
VERY UNHAPPY	SOMEWHAT UNHAPPY	A LITTLE UNHAPPY	WOULD NOT CARE AT ALL	A LITTLE HAPPY	SOMEWHAT HAPPY	VERY HAPPY

**Suppose that she was worse at making friends than her friend.**

How would she feel?

1	2	3	4	5	6	7
VERY UNHAPPY	SOMEWHAT UNHAPPY	A LITTLE UNHAPPY	WOULD NOT CARE AT ALL	A LITTLE HAPPY	SOMEWHAT HAPPY	VERY HAPPY



Now look at the girl in gray with lots of her friends. Her friends are divided into 2 groups. She is in one of the groups but not in the other group. Again, imagine that the girl in gray is a typical girl your age.

**Suppose that her group was doing worse in sports than the other group.**

**How would she feel?**

1	2	3	4	5	6	7
VERY UNHAPPY	SOMEWHAT UNHAPPY	A LITTLE UNHAPPY	WOULD NOT CARE AT ALL	A LITTLE HAPPY	SOMEWHAT HAPPY	VERY HAPPY

**Suppose that her group was getting worse marks in school than the other group.**

**How would she feel?**

1	2	3	4	5	6	7
VERY UNHAPPY	SOMEWHAT UNHAPPY	A LITTLE UNHAPPY	WOULD NOT CARE AT ALL	A LITTLE HAPPY	SOMEWHAT HAPPY	VERY HAPPY

**Suppose that her group was worse at making friends than the other group.**

**How would she feel?**

1	2	3	4	5	6	7
VERY UNHAPPY	SOMEWHAT UNHAPPY	A LITTLE UNHAPPY	WOULD NOT CARE AT ALL	A LITTLE HAPPY	SOMEWHAT HAPPY	VERY HAPPY



Appendix B: Certificate of Ethical Acceptability of Research

Appendix C – Parental Consent Form