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Social Skill and Self-Competence
in Overweight and Normal-Weight Adolescents

Virginia Bourget

A Thesis
in
The Department
of
Psychology

Presented in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy at
Concordia University
Montréal, Québec, Canada

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ABSTRACT

Social Skill and Self-Competence
in Overweight and Normal-Weight Adolescents

Virginia Bourget, Ph.D.
Concordia University, 1990

The first goal of the present study was to test the behavioural corollary of Richard Lerner's (1978, 1979) dynamic interactionism theory that the social development of obese children is adversely affected by negative attitudes towards obesity. The second goal was to extend research concerning self-perceptions in overweight youngsters by focusing on perceived competence in specific domains of performance.

A behavioural role-play test was administered to 73 males and females, age 13 to 15. Thirty-five of the subjects were at least 20% overweight and the remaining subjects were normal-weight. The role-plays were videotaped and rated by trained judges for several behavioural indices of social skill. Subjects also completed the Quick Test of Verbal Ability (Ammons & Ammons, 1962), self-descriptions of weight and attractiveness, and the Perceived Self-Competence scales (Harter, 1979). Finally, scores from all subjects were combined to examine the relationships among the three types of observational measure employed in this study, discrete, intermediate, and global.

No differences were found between the overweight and the normal-weight teenagers on the role-play test. On the Perceived Competence scale overweight girls reported lower social competence, whereas overweight boys expressed concern about their physical competence. It was also found that both discrete and intermediate variables contribute

to regression equations predicting judges' global ratings of relaxation and effectiveness.

The results are integrated into Lerner's theory and related to existing theories of parental influence and friendship formation. Children's social development may be affected by negative attitudes towards obesity but there does not appear to be a generalized behavioural or emotional deficit. Rather, children may function adequately in areas where their competencies have been rewarded but experience difficulty in domains where their weight is most salient. Suggestions are made for further research as well as selection of variables for observational studies.

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This thesis is dedicated to the memory of my father, Phillip Hubert Yale Bourget. As a child I attempted to emulate his critical thought process, which led me to begin this project in the first place.

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Introduction

The serious psychological consequences of obesity are now widely accepted (Wooley, Wooley, & Dyrenforth, 1979). Obesity is seen as a socially deviant state (Allon, 1973) with concomitant negative perceptions by others and stigmatization. Based on evidence concerning attitudes to body type, Richard Lerner (1978, 1979, 1987) proposed a link between physical characteristics and social development. To date, few researchers have provided empirical support for Lerner's model by attempting to differentiate the interpersonal behaviours of normal and overweight subjects. Since social skill is a category of interpersonal behaviour that has been related to successful adjustment, the first goal of the present study is to examine social skill as a function of body type in teenagers.

A second goal of this thesis is to examine the emotional impact of obesity in teenagers. Although several studies have been conducted to compare overweight and normal-weight children and adolescents on measures of self-image, the findings have been mixed. Based on Lerner's theory that the effects of deviating from the preferred body type are manifest in an individual's social self, perceived social self-competence is examined in the present study. Also, since the overweight child differs from others in the physical domain, perceived physical self-competence will be tested.

In the current study, observational methods were selected to examine specific social skills of adolescents in a behavioural role-play paradigm. The study of social skill has been of increasing interest to researchers in the past decade. As a result, the methods for behavioural assessment of social interaction have received considerable attention

(e.g. Bellack, 1979, 1983; McFall, 1977) and increased reliability and validity have been demonstrated. Direct observation of interpersonal behaviour is important for this research and role-play measures have proven useful in overcoming many ethical and practical difficulties. Yet, to date, little work has been done in the area of behavioural observation with teenage subjects. The present study takes advantage of improved measurement of adult social behaviour in assessing social skills of overweight and normal-weight adolescents.

An aspect of role-play research that has received inadequate theoretical and empirical attention is variable selection. When direct behavioural observations are made, an almost infinite number of behaviours may be studied and these behaviours could be numerically encoded in several ways. Unfortunately, there are few guidelines for choosing behaviours to be examined or deciding how these behaviours should be transformed into variables for research. Many researchers use only a few general and subjective observational measures. Others employ a large number of variables producing results that are confusing and difficult to interpret. In the present study, relations among observational variables are examined, using regression techniques. That is, objectively defined, behavioural frequency counts and ratings are used to predict measures of overall social skill. Thus, a final goal of this investigation is to provide an empirical basis for variable selection in future studies.

Background

The review of the literature is divided into two main sections. In the first section, Lerner's dynamic interactional model of development is outlined and research suggesting that the obese stereotype may actually affect the way that overweight individuals are treated by others is reviewed. Since negative attitudes may also affect self-esteem, efforts to examine self-competence in obese children are discussed. The need for further investigation of behavioural and emotional consequences of exposure to negative attitudes towards obesity is demonstrated.

In the second section, the concept of social skill is discussed. Results of studies on adolescence indicate that interpersonal social behaviour is of particular importance for this age group, yet, there have been few observational studies of teenagers' social skills. Issues in the development of role-play methods are also reviewed and applied to work with adolescent subjects. Of particular relevance for this thesis are attempts to make role-play a more valid estimate of spontaneous behaviour. The problem of selection of observational variables in social skills studies is also considered.

Effects of Childhood Obesity on Social Development

The Dynamic Interactional Model of Development

Lerner and his colleagues have studied attitudes and preferred social distance towards different body types (Lerner, 1969; Lerner, Karabenick, & Meisels, 1975; Lerner, Iwawaki, Chihara, & Sorell, 1980; Lerner, Knapp, & Pool, 1974; Lerner & Pool, 1972; Lerner & Schroeder, 1971a, 1971b; Lerner, Venning, & Knapp, 1975). They have also studied

physical attractiveness (Lerner & Lerner, 1977; Lerner, Orlos, & Knapp, 1976), of which obesity can be considered a special case (Lerner, 1979). The findings from this body of research, in conjunction with the work of others (e.g. Staffieri, 1967; White & Rhodes, 1984) indicate that the endomorph or obese body type is negatively valued, especially in North American culture, and that adults and children in some situations ascribe negative characteristics to overweight people.

In his theoretical writings, Lerner (1978, 1979, 1987) states that children who deviate from norms of physical attractiveness become the victims of cultural stereotyping and therefore do not receive accurate social feedback from others. For example, if obesity is associated with a stereotype of "lazy", adults may respond to this stereotype rather than the child's actual behaviour. Alternatively, others might be sympathetic to the plight of an overweight child and withhold negative feedback, even when appropriate. Since feedback from others allows children to know if their behaviour is acceptable and to further refine and develop social behaviours, the obese child's social development might be handicapped by such distorted feedback.

The conclusion of Lerner's theory that children possessing negatively valued physical characteristics will receive differential feedback from others such that they will show "less adjustment, more negative peer relations, poorer school performance" (Lerner, 1979; p. 284) has received little empirical verification with regards to obesity. Similarly, in the general physical attractiveness literature a gap exists concerning appearance-related social interactions (Sorrel & Nowack, 1981).

Lerner's theoretical position rests on the assumption that negative attitudes towards obesity impinge upon the social interactions between normal-weight and overweight individuals. In the following section, evidence that the obese may actually be the recipients of inequitable treatment from others is examined. The limited data concerning the behaviour of overweight subjects are also discussed.

Behaviour Towards the Obese

In 1969 Wicker cautioned that social attitudes do not necessarily translate into overt behaviour. The question to be answered here is whether the obese in our culture are actually treated unfavourably in social encounters with normal-weight individuals. Woody (1986) suggests that normal-weight individuals experience discomfort in the presence of obese "deviants" but knowing that obvious rejection is unkind, they attempt to mask their feelings by superficial "niceness". He points to the results of a study by Snyder, Kleck, Strenta, and Mentzer (1979) which indicate such hidden motives in interaction with the handicapped. When subjects could not disguise a posited wish to avoid the handicapped, over half of them chose to sit beside a student with a leg brace and crutches but when the situation allowed subjects to mask such a motive as a movie preference, only 17% chose the movie attended by the handicapped confederate. As the authors point out, the handicapped, or otherwise stigmatized person would likely see through thinly veiled preference for alternate activities or other efforts to mask underlying attitudes.

In another context, artificial "niceness" towards the obese was proposed by Elman, Schroeder, and Schwartz (1977) to explain their finding that normal-weight subjects were more likely to comply with an

experimenter request when compliance was first modeled by an obese confederate than when a normal-weight model was seen. The authors suggested that fear of offending the deviant (obese) confederate motivated this behaviour. Indeed, Allon's (1976) interviews with overweight teenage girls suggest that they frequently interpret their friends' behaviour as hiding ambivalent feelings. For example, apparently superficial compliments provoked one girl to wonder "why do they tell us fat ones how in some little ways we are so pretty but they don't tell each other anything?"

Evidence from a few studies indicates differential behaviour towards the obese. Spigelman and Schultz (1984) had overweight and normal-weight undergraduate researchers interview passers-by at a county fair. Subjects spent less time talking and were less positive in their comments when interviewed by the overweight researchers.

Potentially more damaging social rejection has also been demonstrated. Public officials were found to be less likely to respond to a written request for help when they believed that the request came from an obese female student than when they thought the student was of normal weight or when there was no information about body size (Benson, Severs, Tatgenhorst, & Loddengaard, 1980). The replies that were received were also more negative concerning the supposedly obese students' future career prospects. Karris (1977) found that landlords were less willing to rent to obese as compared to normal-weight students. In another study, college students who viewed films of overweight and normal-weight individuals performing identically on simulated employment aptitude tasks indicated a preference for hiring the normal-weight person

(Larkin & Pines, 1979). It seems that when it is possible to remain anonymous or present a plausible excuse (e.g. the apartment has been promised to another student), people may treat overweight individuals unfavourably.

Finally, Baum and Forehand (1984) tested the hypothesis that 12 and 13 year old overweight children were less well liked and less favourably treated by peers than normal-weight children of the same age. There were no differences in popularity between overweight and normal-weight subjects on a sociometric nomination measure but behavioural observation of a small group task did reveal an effect for body type. Overweight subjects were found to both give and receive more negative behaviours. Although these findings offer some support for Lerner's theory, it is not possible to determine whether negative behaviours were directed toward the obese without provocation or elicited by the behaviour of the overweight youngsters. Neither did the design clarify which specific behaviours differentiated the obese from the normal-weight children. A more finely tuned analysis of obese children's social behaviour is needed.

Self-Perception and Obesity

Exposure to negative attitudes towards obesity might also affect the development of the overweight youngsters' self-image. At present, findings in this area do not consistently point to differences between overweight and normal-weight youngsters on general self-report measures. The available research is reviewed here in order to determine if the issue of overweight/normal-weight differences in self-image can be

clarified through consideration of subject characteristics or the type of measurement instrument employed.

It has been demonstrated that when asked to "tell us about yourself," elementary and high school students who are overweight are significantly more likely than normal or underweight youngsters to mention their weight (McGuire & McGuire, 1981). According to these authors, "distinctiveness" in physical characteristics is an important determinant of the information that forms the spontaneous self-concept. It seems that children are likely to be aware of their weight status, especially if it deviates from the norm in the direction of obesity.

Obese children who are continuously exposed to the cultural devaluation of obesity and are perhaps the recipients of discriminatory attitudes and behaviour may begin to think about themselves less positively. Based on interviews with children seeking weight control therapy, some authors describe serious self-image disturbance (Allon, 1976; Bruch, 1975). On the other hand, the results of more controlled research efforts are less clear-cut.

Several researchers have failed to find differences between obese and normal-weight children on self-report measures of personal and social adjustment (Sallade, 1973), self-concept (Wadden, Foster, Brownell, & Finley, 1984), self-esteem (Lawson, 1980; Mendelson & White, 1982) or peer-nomination sociometric measures (Baum & Forehand, 1984; Lawson, 1980; Sallade, 1973). Results demonstrating weight-group effects on similar measures suggest that variables such as age, sex, severity of obesity, and participation in therapy may contribute to findings of overweight/normal-weight differences.

Generally, adverse effects of obesity seem to be most apparent in adolescence, especially for girls. Mendelson and White (1985) found no self-esteem differences between overweight and normal-weight subjects at age ten. In the early adolescent group (age 13) only the overweight boys had significantly lower self-esteem scores than their peers. The older teenage girls, however, showed a decrement in self-esteem, whereas their 16 year-old male counterparts did not. Sallade (1973) found a similar pattern using a self-concept measure. It seems that once dating becomes an important factor in teenagers' lives the obese girl may begin to feel negatively about herself. It is possible that obese youngsters may feel positively about their functioning in many areas of their lives; however, in later adolescence the self-image of overweight girls may suffer due to concerns about physical appearance. This interpretation is consistent with the idea of domain specific self-competence proposed by Susan Harter (1978).

Degree of obesity may also contribute to findings of weight group differences in self-image. Strauss, Smith, Frame, and Forehand (1985) studied second to fifth grade children, half of whom had been judged fat or very fat by three judges. Although actual body weight was not reported, this description may represent a more overweight sample than used in most other studies. The authors found that the overweight group were more depressed and had poorer self-concept than the controls. Also, although they were chosen for best friend as often as normal-weight children, the obese subjects were more frequently named as least liked and had overall lower peer nomination scores. Sample size did not permit analysis for age and sex differences.

Finally, Hammar and colleagues (1972) found that 12 to 17 year old patients who were above the 97th percentile for weight scored more poorly on several personality, adjustment, anxiety, and family/peer problem measures than normal-weight controls. The obese teens were described as "referrals" to an adolescent clinic, although it was not clear why they were referred. Unfortunately, they also differed in social class from the nonpatient controls, further limiting the generalizability of these results.

Klesges (1984) has suggested that researchers should examine psychological variables that are more specifically relevant to obesity, rather than general personality constructs. Body-esteem, the physical counterpart of self-esteem, is an example of a construct that should be particularly pertinent in the study of obesity. Two samples of overweight children in elementary (Mendelson & White, 1982) and high school (Mendelson & White, 1985) have been found to have lower body-esteem than normal-weight controls, although their self-esteem was not necessarily affected.

Based on Lerner's (1978, 1979) dynamic interactionism theory, it seems that social self-competence may be another area of personality development that is differentially affected by a distinct physical status such as obesity. The obese child who receives distorted social feedback from others may begin to form less positive self-perceptions concerning his or her social activities. Also, since obesity affects the child's physical self, overweight youngsters may be at a disadvantage in sports. This may affect feelings of competence in the physical domain (Harter,

1978). Thus, studies of domain specific self-competence may help to clarify our present understanding of self-image in obese teenagers.

Implications for the Present Thesis

This study examines Richard Lerner's contention that due to cultural stereotypes the social development of obese children is adversely affected. Although Baum and Forehand (1984) have shown behavioural differences between overweight and normal-weight youngsters in a group interaction, there is little information concerning the specific kinds of behaviours that might be influenced by obesity in childhood. In the present thesis a role-play test, developed for use with mid-adolescent subjects, is employed. Several specific social skills, as well as overall performance in a social interaction, are examined.

Self-image may also be affected when an individual is the recipient of negative attitudes. Although several researchers have attempted to describe overweight/normal-weight differences in self-image, the results of their efforts have been equivocal. The measures used in the past may have been too general to reliably tap the aspects of self-image affected by obesity. Since Lerner points to the social consequences of obesity, the present study employs the Perceived Competence Scales for Children (Harter, 1979) which include a social self-competence subscale. Also, the Harter Scales include a physical subscale, concerning proficiency in sports and attractiveness, which appears relevant to an understanding of obese teens. In addition, subjects rated themselves, relative to their classmates, as to their body-type and attractiveness.

This thesis is concerned with the psychological impact of obesity; however, subjects who seek therapy may be more dissatisfied with

themselves than obese individuals in general. Also, difficulties other than weight control, such as family problems, may have prompted the decision to ask for professional help. Thus, in the present study the obese sample has been selected from a nonclinic population of high school volunteers. It is possible, however, that past studies that have failed to find obese/normal-weight differences in self-image have included too few overweight subjects and/or insufficiently stringent criteria for obesity. In this study, more than thirty teenagers were tested who were at least 20% overweight according to height-weight norms, as well as being judged to be overweight by the experimenter. Finally, sex differences are examined and the age group selected represents the period when opposite sex relationships begin to assume greater importance.

Social Skill and Role-Play Testing

In this section the concept of social skills is defined and the importance of adequate interpersonal behaviours during the teenage years is discussed. There is insufficient research concerning specific social skills in teenagers and one goal of the present thesis is to extend the methods that have been developed for research with adults to an adolescent sample. Like adults, teenagers are private about their social interactions. Thus, the analogue assessment technique of behavioural role-play is required. Issues concerning this method are raised, with particular emphasis on recent efforts to improve role-play testing. The final section deals with strategies for variable selection in social skills research.

Definition of Social Skill

The term social skill has received varied definitions, perhaps because it appears self-explanatory. For the present study, a definition has been chosen which includes four components outlined by Bellack (1979). First, a set of very specific verbal and nonverbal behaviours can be identified, upon which performance in interpersonal situations depends. These behaviours are used by the individual to obtain personal goals which are rewarding (Trower, Bryant, & Argyle, 1978; Trower, 1979). Second, different behaviours may be required according to the specific interpersonal situation (Eisler, Hersen, Millar, & Blanchard, 1975). Third, Bellack (1979) points out that these behaviours are learned responses and thus may properly be called skills. Individuals vary in their overall skillfulness, according to the behaviours they have available to them, their ability to successfully use the appropriate behaviours, and the demands of the situation. Finally, if specific social skills deficits can be identified, they can be remediated by training.

This conceptualization suggests guidelines for research. Clearly, individual differences in specific interpersonal behaviours, such as facial or hand gestures, must be examined. Also, it is possible to study complex verbal behaviours like self-disclosure or questioning. An entire social interaction sequence can also be evaluated in terms of goal attainment. In the present thesis, these aspects of skill will be examined using a role-play test which also permits examination of social skills in a variety of interpersonal contexts.

Importance of Social Skill in Adolescence

Socially competent behaviour in childhood and adolescence has been related to successful outcomes in many areas of current functioning and predicts successful pursuits in adulthood (for review see Michelsen, Foster, & Ritchey, 1981). Success in interpersonal contexts is also essential to the most important concerns of adolescents - education, career, and the social self (Violato & Holden, 1988). In fact, teenagers report spending sixty percent of their leisure time simply "hanging out", talking to friends (Csikszentmihalyi & Larson, 1984). It seems, as well, that social skills are integral in facing nearly all of the problems or challenges of adolescence (Schinke, 1981). It is apparent that if social development is negatively affected by childhood obesity (Lerner, 1978, 1979) an understanding of possible social skill deficits in overweight youngsters could be used to provide remedial training. Such training may prove particularly important for youngsters who already face negative attitudes and discriminatory behaviour.

Role-play Tests of Social Skill

The most commonly used indices of social skill are obtained through behavioural role-play. Role-play allows researchers to observe and record, in detail, specific behaviours of interest. These analogue procedures also offer pragmatic solutions to ethical dilemmas concerning deception and observation without prior consent and to the technical difficulties of attempting to transport and conceal recording equipment. Further, many interesting events occur only occasionally in spontaneous interaction. When predetermined social situations are presented to the subject in a role-play, the researcher can be certain to 'capture' the

behaviour of interest. In spite of these advantages, the use of role-play has been challenged by Alan Bellack and his colleagues (Bellack, 1979; 1983; Bellack, Hersen, & Lamparski, 1979; Bellack, Hersen, & Turner, 1979) and McNamara and Blumer (1982). These authors have argued that much work remains to be done to improve role-play assessment. In the following sections issues in the use of role-play are addressed. The emphasis of this review will be to highlight research efforts that seem to improve the validity of role-play testing. The literature concerning role-play with adult subjects is presented first because progress towards greater validity has been demonstrated. Child and adolescent studies are discussed also but at present, evidence for the validity of role-play with younger subjects is lacking.

Validity studies on role-play tests of adult social skill. Early validation studies conducted by Bellack, Hersen, and Lamparski (1979) and Bellack, Hersen, and Turner (1979) compared subjects' responses on brief response role-play tests to staged, naturalistic encounters. Little relation between role-played and spontaneous behaviour was found but these results are seriously limited by discrepancies in the content and measurement of the interactions.

Kern (1982) examined identical observational measures across assessment situations. He compared heterosocial role-play to a waiting room interaction with a confederate. Young men who reported low, moderate, and high frequency dating were assigned to one of three groups: a brief role-play test; an extended role-play in which the subject attempts to "get to know his date better"; and a replication role-play where the subject was requested to replicate his behaviour in the initial

waiting room interaction. It was found that the replication role-play and the criterion scene were moderately to highly correlated on all measures. The other role-play measures correlated to some extent with the criterion measures.

In the same study, Kern examined the ability of the various tests to distinguish the dating frequency groups. Identification of known groups, as explained by McNamara and Blumer (1982), is a form of ecological validity in that these groups are assumed to differ in their naturalistic or usual behaviour on the dimension of interest. Kern found several differences between high and low frequency daters using naturalistic and replication methods. Physiological measures of anxiety differentiated the groups only on the role-play tests. These findings offer support for the validity of role-play.

Findings reported by Merluzzi & Biever (1987) support the validity of judges' ratings of social behaviour. Subjects were male college students, classified by self-report of dating situations as high skill/low anxiety, moderate skill/moderate anxiety or low skill/high anxiety. Their performance on brief response role-play scenes involving heterosocial skill and an unstructured role-play interaction with a female confederate, were compared. Identical overall ratings of skill and anxiety were made on both the role-play tests and a criterion waiting room scene. Judges' ratings successfully differentiated the performance of the three groups in spontaneous and role-played situations.

Researchers have argued that validity studies of role-play use criterion measures, such as a waiting room scene, that are not representative of the subjects' everyday behaviour (Herzel & Rice, 1985).

Working with a population of male patients in a maximum security psychiatric hospital, these authors were able to make extensive, unobtrusive observations of their subjects' day to day behaviour on the wards. They used these observations as criterion measures which were then compared to inmates' role-played performances. Very consistent, significant correlations were found between ward ratings and ratings of role-played behaviour.

The evidence supporting the validity of role-play assessment of adults' social skills suggests that a more interesting question has become not whether the method is valid but how role-play measures can be improved to provide even more meaningful results. Kern's (1982) study suggests that under some circumstances it is possible for subjects to closely reproduce a sample of their own spontaneous or natural behaviour. It has been pointed out that instructions to subjects and sufficient time for preparation might enable subjects to achieve more veridical performances (Bellack, 1983).

In an innovative study, Bellack, Hersen, and Himmelhoch (1983) decreased anxiety and facilitated role-taking through several strategies. First, the scenes were selected to be maximally relevant to the subjects. Before enacting the role-plays, subjects read descriptions of the scenes and attempted to imagine themselves in the situations. If they could not, modifications were permitted to make the scenes more realistic. Finally, role-plays were extended through two confederate prompts.

Intermediate measures devised by Trower, Bryant, & Argyle (1978) were also used. These are judges' ratings of observable behaviours, such as gaze, that reflect both behavioural excess and behavioural inadequacy.

Thus, a low score could be obtained by a subject who stares, as well as by one who avoids eye contact. Such measures differentiated female psychiatric patients from normal controls. Further, the role-play measures reflected differential treatment effects for social skills training groups as compared to drug treatment and psychotherapy groups.

The results from studies of adult subjects indicate that behavioural role-play provides data that can adequately distinguish known groups and correlate with indices of spontaneous behaviour. In the following section, role-play research with children and adolescents is reviewed. There are few studies of younger subjects and it will be shown that researchers must employ the methods that have been used in studies of adult social skill.

Role-play studies of children and adolescents. Although studies by Freedman, Rosenthal, Donahue, Schundt, and McFall (1978) and Gaffney and McFall (1981) are often cited as providing validation for role-play tests with teenagers, their use in this context can be questioned. These researchers compared delinquent to well-functioning youths on a role-play measure, presented by audio-tape and then recorded for later rating by trained judges. A Likert type scale, from very incompetent to very competent, was used for the ratings. The Adolescent Problems Inventory (API) successfully discriminated the delinquents from the nondelinquents. Further, within a larger sample of delinquent boys, it was found that those with a history of disruptive behaviour within the training school performed more poorly on the API than those with few infractions.

Bellack (1979) cautioned that these findings are far from conclusive. It is possible that factors other than social skill could

account for the differences between the delinquents' and nondelinquents' performances. For example, the nondelinquent adolescents may simply have been more eager to comply and do their best on the test. Further, as the authors note, the delinquent boys had significantly lower IQ scores (Freedman et al., 1978). As the API is primarily a verbal response test, this could have confounded the results. A more difficult problem is that the format used is not truly a role-play test. Following the scenario and prompts subjects were asked "What do you say or do now?" This, in fact invites a description of the subjects' probable behaviour, rather than an enactment of the behaviour. Further, none of the nonverbal aspects of the subjects' social skill were taken into account in deriving the judgments. Thus, these studies do little to provide evidence in support of role-play assessment with children.

Other authors have attempted to assess the validity of role-play tests for children with equivocal results. Beck, Forehand, Neeper, and Baskin (1981) compared role-play scenes and a naturalistic situation. Subjects were 12 children from grades 4 and 5 who had been designated "popular" or "unpopular" using a peer nomination procedure. Children participated in brief-response role-plays and also attempted to gain entry to a game being played by child confederates. Videotaped performances were rated for the same behaviours by untrained judges. Neither the role-play nor the naturalistic interaction differentiated the popular from the unpopular children.

Vosk, Forehand, Parker, & Rickard (1982) also compared transcribed brief role-plays of popular and unpopular children to classroom behaviour and teacher reports. Twenty-eight third and fourth graders were studied.

Neither the role-play nor the naturalistic interaction differentiated the popular from the unpopular children.

Vosk, Forehand, Parker, & Rickard (1982) also compared transcribed brief role-plays of popular and unpopular children to classroom behaviour and teacher reports. Twenty-eight third and fourth graders were studied. Significant differences between the popular and unpopular groups were found on several measures, but not the role-play test. As Bellack (1983) points out, the single prompt role-play may simply reflect knowledge of appropriate behaviour. Actual "real life" performance may differ from the type of behaviour the subject knows is most effective. This argument seems even more likely when transcribed responses are employed. Judges are relying only on verbal content and the many expressive behaviours of interest to social skill researchers are unavailable. Further, as Bellack and others (McNamara & Blumer, 1982) suggest, efforts should be made to enable subjects to create a more accurate portrayal of their everyday behaviour than is possible in single response type role-plays.

Matson, Esveldt-Dawson and Kazdin (1983) conducted another study of brief response role-play that failed to discriminate popularity groups. Subjects were between 8 and 13 years of age. Importantly, they all performed in the superior ranges on intelligence tests. Nonverbal behaviours and overall social skill were assessed at the time of the role-play whereas verbal content, intonation, and number of words were evaluated later from audiotapes. Other sociometric and self-report measures of social skill were also administered. Results indicated that the only measure related to the role-play test was an interview in which children described how they would handle certain peer interactions. The

Although the use of role-play with children has received little support, more recent studies of adolescents have produced interesting results. Vincent Van Hasselt and colleagues designed an extended role-play test for visually handicapped 13 to 19 year olds (Van Hasselt, Kazdin, Hersen, Simon, & Mastantuono, 1985; Van Hasselt, Hersen & Kazdin, 1985). Role-plays were video-taped and later scored by trained judges. Several verbal and nonverbal indices differentiated the role-play performance of blind and sighted teenagers. Also, visually handicapped residential school students performed more poorly than their mainstreamed counterparts on several observational measures.

There is insufficient data to explain the inconsistent results of role-play studies of children and adolescents. Perhaps adolescents are simply better able than younger children to provide an accurate portrayal of their everyday behaviour. Also, the studies of younger children were all concerned with the behavioral underpinnings of peer popularity. There is as yet no empirical basis on which to predict a relation between specific behaviours and much more elaborate constructs such as popularity. It might be reasonable to ask whether youngsters who have difficulty in social interactions lack or are somewhat deficient in these basic skills, but in normal or high functioning groups such as that described in Matson et al. (1983) the variables contributing to popularity in the view of teachers and peers must be many, ranging from attractiveness to athletic skill or even sense of humour. The children rated as most popular may simply not differ from the less popular children on the role-play behaviours measured.

Implications for the Present Study

There is less support for the use of role-play with child than with adult subjects but the research with children is not as extensive as that conducted with adults. The improvements in method that have contributed to greater validity of role-play measures of adults' social skills should also be implemented in studies of children, and particularly, adolescents.

Several studies, as well as Bellack (1983), suggest guidelines for maximizing the likelihood of valid results. In the present study role-play scenes were derived empirically to be suitable for the subject sample using the method of Goldfried and D'Zurilla (1969). In order to facilitate role-playing, subjects were permitted to study the role-play scenarios and these were adapted for realism when necessary. Role-play confederates were trained to maintain extended interactions so that the scenarios resembled actual social encounters. All role-played interactions were recorded on videotape and three types of observational measure that encompass both verbal and nonverbal aspects of social skill were used. Finally, care was taken to match the observational measures to the theoretical issue of differences in social behaviour between obese and normal-weight teenagers.

Selection of Variables in Social Skills Research

The problem of variable selection is important in social skills research. Currently, researchers adopt two strategies. First, subjects may be rated on numerous discrete measures (e.g. frequency counts and timed behaviours). When many variables are assessed in one study, the possibility of increased experiment-wise probability of type 1 error must

be addressed. Researchers also face statistical issues concerning the number of variables to be included in omnibus analyses. In addition, it becomes difficult to conceptualize findings because studies examine different aspects of behaviour and significant effects may be attributed to different variables from one study to the next. Finally, researchers are not yet certain of the meaning discrete behaviours have in terms of the subjects' general social functioning.

The second research strategy is to rely on only one or two global measures, such as general social skill. Overall judges' ratings overcome some of the problems of multiple discrete measures but global measures lack the detail that would allow practitioners to use findings in clinical settings. Of course, as the literature in the social skills area builds, it will be possible to choose variables that most consistently differentiate known groups; however, studies should also include an assessment of the relative contribution of intermediate and/or discrete measures to overall indices of social skill.

A few studies have been conducted to clarify the relations among the types of observational measurement using multiple regression designs. Trower (1980) compared psychiatric patients, judged as skilled or unskilled, on several discrete behavioural indices. The unskilled subjects' scores on all observational measures were significantly lower than those of their skilled fellow patients. Further analyses showed that duration of speech was the most important behavioural element, accounting for 74% of the variance in judges' global ratings of social skill in the unskilled patient group. Generally, subjects who speak more were rated as more socially skilled. Although speaking was also the best

predictor of overall social skill in the skilled group, looking, smiling and posture shifts were important predictors of judges ratings of these patients.

The amount of time spent talking has been identified as an important predictor of overall skill in other studies (Ekman, Friesen, O'Sullivan, & Scherer, 1980; Kuhlenschmidt & Conger, 1988; Millbrook, Farrell, & Curran, 1986) and so has duration of gaze (Kuhlenschmidt & Conger, 1988; Millbrook et al., 1986). Additional component behaviours such as frequent leg movements and self-manipulations have been found to contribute to predictions of global indices of anxiety (Millbrook et al., 1986).

Bellack (1983) has urged researchers to consider type of measurement as an important aspect of variable selection. Global measurements may be most sensitive to group differences (e.g. Kolotkin, Wielkiewicz, Judd, & Weiser, 1983) and discrete indices are objective and can be accurately and reliably measured (Bellack, 1979). Recently, intermediate ratings of social behaviour have been studied. These ratings have some of the advantages of the more traditional types of measurement. They are evaluations or ratings of identifiable behaviours, such as gaze or speech. Thus, intermediate observations can be accurately defined but also allow for complex considerations of situational factors that can only be made by human judges.

Monti et al. (1984) obtained reliable intermediate judgments of the behaviour of psychiatric patients and college students on a role-played social interaction test. Judgments were found to differentiate the two sample groups and also to relate to global measures of social skill and

anxiety, especially in the psychiatric sample. Furthermore, one of the intermediate judgments, self-manipulations, was the only behavioural measurement that related to a physiological indicator of anxiety. Similar results were found by Farrell, Rabinowitz, Wallander, and Curran, (1985). Further examination of such intermediate measurements seems well warranted at this time.

In the present thesis, discrete, intermediate, and global observational measurements were included, as recommended by Bellack (1983). In order to clarify the relative contribution of discrete and intermediate measures and to assist future researchers in variable selection, multiple regression techniques were used to determine the best predictors of the global indicators of social skill.

Statement of the Problem

The dynamic interactionism theory, developed by Richard Lerner (1978, 1979), outlines a way of understanding the social consequences of obesity in childhood. There is considerable evidence to support the first corollary of this theory that there are commonly held negative attitudes towards the obese body type. Further, there are several studies to suggest that overweight individuals are the recipients of differential, and at times discriminatory treatment from others. To date, there has been very little research concerning Lerner's conclusion that differential treatment in social interactions with others will be detrimental to the social development of the obese child. This is particularly true in terms of behavioural differences between overweight and normal-weight children. Although there is some evidence that such differences may exist, there is no information concerning their nature or extent. Thus, the first goal of this thesis is to compare behavioural observations of the performance of overweight and normal-weight teenagers in a variety of simulated social interactions.

Behavioural role-play has been useful in studying the social skills of adult subjects; however, there remain several problems in the adaptation of this method to adolescent populations. Areas which require improvement include development of role-play situations; instruction and preparation of the subjects; the behaviour of the role-play confederate; and the scoring of observational measures. Therefore, for this study, a role-play test has been developed which incorporates improvements in these areas that have been used successfully in studies of adults and have been recommended in the work of Allan Bellack (1983).

Although the question of emotional effects arising from negative attitudes towards obesity has been the focus of several investigations, the results have been generally equivocal. Again, Lerner's theory suggests a potentially more fruitful avenue for further study, specifically the social self. It is possible that measures of more general personality constructs often fail to differentiate overweight from normal-weight children because, in fact, general self-image is not affected by obesity. A more promising approach may be to study constructs such as social competence with theoretical links to obesity. Similarly, the obese child may perceive him or herself to be less competent in the physical domain, since it is the physical self or body type that deviates from the norm in obesity. The Perceived Competence Scales (Harter, 1979) are employed in this study. They contain subscales which reflect the child's understanding of his competence relative to peers in a variety of social and physical contexts.

Although the method of role-play assessment has been greatly improved in recent years, a remaining problem is variable selection. In general, most studies employ a confusing array of measures. Research is required to facilitate selection of the most important observational variables and to better understand the behavioural referents of overall judges' ratings. Thus, a final goal of the present thesis is to examine the relations among the three types of behavioural observation, discrete, intermediate, and global. Regression analyses are used to predict global ratings, based on scores from the discrete and intermediate measures.

The three hypotheses of this study are based on Lerner's theory and research in the area of attitudes towards obesity and their consequences,

as well as the literature concerning role-play assessment of adult social skill. They can be summarized as follows:

1. Observational measures of the role-play performances will suggest poorer social skills for the overweight as compared to the normal-weight teenagers. These social skills deficits will be reflected on ratings of overall performance, as well as intermediate and discrete behavioural indices.

2. On the Perceived Competence scales, the overweight youngsters will have lower scores than the normal-weight controls on the Social and Physical subscales. Similarly, the overweight, but not the normal-weight teenagers, are expected to describe themselves as less attractive than peers.

3. It is hypothesized that some, but not all, of the discrete and intermediate variables will be predictive of the global ratings. Although there is insufficient evidence to specify the variables that will be most predictive, it is hypothesized that they will include both discrete and intermediate measures.

Method

Subjects

Subjects were enrolled in regular grade 8 and 9 classes in four public high schools located in middle class suburbs of Montreal. Students were recruited using a letter of explanation (Appendix A) and consent forms (Appendix B) which were given to the home room teachers for distribution. These letters differed somewhat among the schools.

In the first school, permission to use an "opt out" consent form, on school stationary, was obtained from the principal and approved by the McGill University research ethics committee (Appendix C). Only 3 students returned forms stating that they did not wish to participate in the research. Thus, all other regular grade eight and nine students in this school were available to participate.

In the remaining three schools, the school board required "opt in" consent forms to be signed by parents and these were printed on University stationary. Potential subjects were asked by their home room teachers to discuss the letters with their parents and return them, signed, to the home room if they wished to participate. Approximately 20% of all students targeted for participation actually returned signed letters of consent. Several strategies were tried to obtain a more representative sample. The experimenter made an additional request at a student general assembly; homeroom teachers were asked, by letter, to remind students to return the letters if they wished to be in the study; when permission could be obtained from the teacher, the experimenter visited home rooms to request participation; and a research assistant phoned parents to further explain the study and request that they return

the permission slip. These efforts did not significantly improve the return rate and in the interest of minimizing disruption in the schools, it was decided to choose the subjects from the available pool of students with signed consent forms.

Informal contact with students during the course of the study indicated general disorganization or disinterest seemed responsible for the low participation rate. Some students claimed that they had never received the letter and consent form. Others said they had lost or forgotten their letters, or "not bothered" to return them. It is also possible that some students were uncomfortable with the idea of being in a research study where videotaping would take place. Though a few students may never have received the letters, it seems likely that the subjects in this study may represent a group who is more organized, comes from an organized household, and/or is more socially outgoing than the majority of students.

All students who did not opt out or had a signed letter of consent were called by grade groups to the nurse's office. Here, they were weighed and measured by the experimenter. Height and weight were taken without shoes, using balance beam scales provided by each school. Although this procedure could not be conducted in privacy, height and weight data were concealed from other students. Overweight subjects were chosen from this screening if they were at least 20% above the average weight for their age, height, and gender, according to the revised Baldwin-Woods tables (Jelliffe, 1966). The U.S. Department of Health (1966) recommends that screening of children based on height-weight norms be accompanied by visual inspection. This safeguard is intended to

exclude individuals who may be heavy according to standard tables because of muscular development and heavy bone structure. Thus, subjects included in the overweight group were also judged by the experimenter to have excess body fat. The normal-weight controls were chosen to fall between, -15% and +10% of the ideal weight, also adjusted for their age, height, and gender. They were selected to match the overweight subjects as closely as possible for age and height. Subjects who met the criteria for overweight or normal-weight groups were seen by the author and given the written tests within the following three weeks. Normal-weight students were tested at a rate of at least two for each overweight subject to minimize the possibility that the overweight students might be teased for being singled out and to provide an extra subject pool for training of raters and for pilot testing of observational measures. Thirty-six subjects who completed the first test session were not included in the role-play test. One normal-weight girl refused to return to be videotaped. The others either were absent or writing exams when called for testing or did not reach the criterion score on the Ammons Quick Test of Verbal Ability (QT, Ammons & Ammons, 1962).

This procedure provided a pool of 95 subjects who completed both test sessions. Twenty-one normal-weight boys and girls were randomly selected for training and pilot testing, leaving a sample of 74 subjects, 47 females and 27 males, of whom 35 were overweight. Data collected from one normal-weight, female subject were discarded because by making many ambiguous responses she had invalidated the competence measure. All analyses were performed on the data for the remaining 73 subjects.

Descriptive statistics concerning the percent overweight of the participants in this study are reported in Table 1. A 2 (overweight/normal-weight) by 2 (sex) ANOVA was performed on the percent overweight measure. A significant main effect for group was found, $F(1,72) = 182.78$, $p < .001$, indicating that the selection process had been successful in producing groups differing in degree of overweight. Although the mean percent overweight for the overweight boys (40.93) was higher than for the overweight girls (33.90), this difference was not significant, $F(1,72) = 1.28$, $p > .05$.

Data concerning the subjects' age and scores on the QT are also presented in Table 1. QT scores, age and grade were submitted to separate group by sex ANOVA's and no significant main or interaction effects were indicated. Thus, the overweight and normal-weight groups are considered to be similar on these variables.

Measures

The three forms of the QT and the Perceived Self-Competence Scales for Children (Harter, 1979) were employed in this study. The author also devised a short "Information Sheet" (Appendix D) which included self-reported body weight and attractiveness.

Harter (1978) developed the Perceived Competence Scales for Children (Appendix E) to reflect how effective children feel in relation to others of the same age. She reasoned that children understand their competence in terms of at least three domains, social, physical, and cognitive, as well as general self-esteem. Factor analysis of data from a large sample of youngsters has supported the notion of separate competence domains (Harter, 1979). In the same study, internal reliabilities for the four

Table 1

Means for Percent Overweight, Age, and Quick Test Scores

Group	Percent Overweight	Age	Quick Test
	Mean (S.D.)	Mean (S.D.)	Mean (S.D.)
Overweight (n=35)	36.7 (16.3)	14.5 (.7)	115.0 (9.0)
Boys (n=14)	40.9 (15.5)	14.5 (.5)	114.6 (10.5)
Girls (n=21)	33.9 (16.6)	14.4 (.8)	115.3 (8.2)
Normal Weight (n=38)	-1.1 (6.6)	14.4 (.5)	114.9 (8.7)
Boys (n=13)	-1.0 (6.7)	14.4 (.6)	114.8 (8.4)
Girls (n=25)	-1.8 (6.6)	14.5 (.6)	114.8 (9.0)

scales were calculated to be between .73 and .83 using the Kuder-Richardson formula. The initial sample was later expanded to include 293 students in grades 7, 8 and 9 (Harter, 1982). Data from the older students indicated similar factor loadings and test-retest reliability after 9 months was between .70 and .87 for the four subscales. Of particular interest for the present study are the social subscale which has been found to relate to teacher ratings of young teenagers' temperament (Windle et al., 1986) and the physical subscale which correlates with duration of participation in organized high school sports (Feltz & Pellichkoff, 1983).

The Quick Test of Verbal Ability (Ammons & Ammons, 1962) was used as an estimate of intelligence. QT scores correlate highly with WISC-R scores (Nicholson, 1977) and with achievement test scores (Violato, White & Travis, 1984). Alternate form reliabilities between .61 and .98 have been reported (Ammons & Ammons, 1962). In the present study, the QT was employed to ensure equivalence between overweight and normal-weight groups in verbal intelligence and to screen out subjects who scored more than one standard deviation below the mean of the QT standardization sample.

The role-play test

This test was developed to study adolescents' social skill in a variety of contexts. Descriptions of each role-play are presented in Appendix F. The majority of the eight role play situations deal with peer interaction. These interactions include scenes in which the other adolescent is familiar (apologizing to a friend, refusing a friend's request, consoling a friend, confronting an 'arch enemy') and scenes with

an unfamiliar peer (making friends at a new school, being alone at a party). The remaining role-plays deal with interactions with parents (confessing a misdeed, asking for a new privilege).

These situations were developed empirically, according to procedures developed by Goldfried and D'Zurilla (1969). Initially, a group of 60 grade 8 and 9 students, attending a high school in the same suburban area from which the study sample would be drawn, were asked to describe examples of difficult social situations that they had encountered. These descriptions were then organized in the form of a questionnaire so that each suggested scenario could be rated as to degree of difficulty and likelihood of occurrence. A second group of 60 teenagers in the same high school completed the questionnaire. The materials used to gather this information are presented in Appendix G.

Role plays were chosen from the students' responses according to several criteria. First, the item had to be rated as both likely to occur and difficult. Second, situations involving familiar and unfamiliar peers were required. Finally, scenarios of special interest were included; aggressive teasing from a peer, as well as two parent role plays to contrast social skill with peers versus parents.

The role-play confederates. A single role-play confederate participated in all eight role-plays with each subject. One of two female role-play confederates (a psychology graduate student in her early thirties and a dramatic arts student, 18 years of age) tested all of the girls and one of three male role-play confederates (two 18 year old science students and one thirty year old theatre technician) tested the boys.

The instruction manual for the role-play confederates is presented in Appendix H. Confederates were trained to make the subjects as comfortable as possible and not to proceed unless they were convinced the subject was willing and understood the task. A set of standard 'potential' responses was provided for the confederates and they were instructed to improvise within these guidelines so that the role plays were as natural and realistic as possible. They were required to behave in a somewhat friendly fashion but to respond minimally to allow the subject maximum opportunity to speak. Role-play confederates were trained over several sessions and allowed to practice with at least two students, picked at random from the pool of control subjects, whose data were not included in the study.

Procedure

The QT and the Perceived Self-Competence Scales were administered by the author, in this order, during the first individual session. Before administering the items, the experiment was explained thoroughly to the subjects with the rationale that we were attempting to study the effects of several factors (physical appearance or body type being one of these) on social behaviour of teenagers. Subjects were reminded that they could withdraw at any time and given many opportunities to ask questions.

The role-play test was conducted individually in a second session, with only the role-play confederate and a same sex subject present in a small room. As much as possible, unnecessary furniture and other materials were removed, especially from the wall behind the subject (to minimize distracting images on the videotape). A Sony Trinicon HVC-2200 videocamera, mounted on a tripod, and a Sony portable SL-2000 Beta Video-

cassette recorder were used to record the interaction. The camera and recorder were arranged so that the confederate could reach the controls without getting up and the subject was seen in the viewfinder from the waist up, facing the confederate and the camera, with the confederate seen in profile to his/her left.

When the subject arrived he/she was told how the role-play test would be conducted and what he/she was expected to do. The instructions that were given to subjects can be seen in Appendix I. It was emphasized that the subject was supposed to act "as if these situations were really happening". Once the instructions were understood the subject was given 5 minutes to study the role-play situations which were printed individually on cards. If a subject stopped reading the cards before the 5 minute period had elapsed he or she was encouraged to continue looking them over "Trying to imagine exactly what you would do if these things were really happening to you." The experimenter and the subject then acted out one practice role-play that was not recorded.

Once the confederate was certain that the subject was comfortable and that he/she understood how to perform the role-play task, the sequence of eight role-plays was begun. The order of presentation was varied across subjects. Before each role-play, the card on which the situation was described was returned to the subject. This description was read aloud by the experimenter and the subject was asked if he/she had any questions or would like to make any changes. If the situation did not seem to be relevant to the subject, it was possible to change some details to make it more realistic. Changes were only required in one role-play that called for requesting a new privilege. Several

subjects stated that they were already permitted to go downtown by themselves, as stated in the role-play, but wished to act out requesting use of the car or a later curfew. When the subject was ready, he or she returned the card, the camera was turned on and the role-play acted out.

After the role-plays were completed the subject answered the "Information Sheet" and was again given an opportunity to discuss any questions he/she might have concerning the study. He/she was thanked and given a small gift (sugarless mints or gum).

Coding

Discrete measures. The coding manual for all observational measures is presented in Appendix J. Discrete measures to be coded included such variables as length of role-play and number of questions or self-disclosures. These variables were timed or counted and scored in terms of proportion of total time or frequency. They were scored by a female masters' level psychologist with many years experience as a researcher, and a female undergraduate student. These individuals trained together for approximately 10 hours and retraining sessions were conducted together on a weekly basis. They quickly achieved reliability scores above the .80 level. A proportion of the subjects were rated by both raters as spot checks. Although raters did not know which subjects would be scored twice, they were aware that spot checks would be taking place. Each rater scored approximately half the sample, plus spot checks.

Intermediate measures. Intermediate measures have been adapted from Trower, Bryant, & Argyle (1978) and include such variables as posture and voice which are fully described in the manual. These are objective

variables rated subjectively (appropriate/inappropriate). Bellack (1983) has encouraged the use of this type of measurement in the belief that intermediate measures may prove to be more meaningful than discrete measures.

Global measures. The global measures include effectiveness, social skill, and relaxation, rated on seven point Likert scales. This type of measurement has been reported to best differentiate known groups and relate to other measures (e.g. Curran, 1982); however, reliability of judges ratings can be a problem when making global judgments. In the present study, in order to improve inter-rater reliability, judges were supplied with a behavioural description and examples at each point on the scale. A female graduate student in psychology served as the rater for both the global and intermediate measures. She trained with the author for approximately 30 hours, until a criterion of .80 reliability was reached. Retraining sessions were held every two weeks to prevent observer drift. All subjects were rated by the same observer, with reliability checks being performed by the author. The rater was aware that spot checks could be performed at any time but she did not know which subjects would be scored twice.

Results

Description of the Observational Variables

The names and definitions of all observational variables are presented in Table 2. Three types of observational variable were scored; discrete measures which are timed behaviours or frequency counts; intermediate measures, judges' ratings of specific behaviours such as facial expression; and global indices which are judges' overall ratings of broad aspects of behaviour such as relaxation. Total scores were calculated for each measure by summing across the eight role-plays. Means, standard deviations, and skewness for all scores are reported in Table 3. Three intermediate variables (speech disturbances, length, and meshing) were very skewed with low variance. Almost all subjects received the maximum score. Consequently, these three variables were not included in subsequent analyses.

Inter-rater reliability. Pearson correlations were used to calculate observer reliability for the discrete (times or counts) and global (7 point ratings) measures. The acceptable level of reliability was set at .70 for the global and discrete measures. Cohen's Kappa was computed for the intermediate variables because these consist of two point appropriate/inappropriate ratings and this inter-rater reliability statistic corrects for chance agreement (Cohen, 1966). The minimum value for Kappa was set at .60, as recommended by Hartmann (1977).

Reliability coefficients for all observational measures are reported in Table 4. The observer reliability statistics for the discrete measures were highly satisfactory, consistent with findings from other studies.

Table 2

Names and Definitions of Observational Variables

Variable Name	Definition
<u>Discrete variables</u>	
Speech duration	Time subject talks, in seconds, divided by the number of speech occurrences
Self-disclosures	Frequency count of personal statements, divided by speech occurrences
Open-ended Questions	Frequency count of questions requiring several word answers, divided by speech occurrences
Closed-ended Questions	Frequency count of questions requiring yes/no answers, divided by speech occurrences
<u>Intermediate variables</u>	
Voice	Volume and clarity of voice, rated as appropriate or inappropriate, as are the following eight variables
Pace	Rating of speed with which subject talks
Speech Disturbances	Rating of frequency of stuttering, pause fillers, and omissions
Facial Expression	Rating of range of facial expression, smiles, frowns, grimaces
Gaze	Rating of gaze frequency and pattern
Posture	Rating of body position, slouched, relaxed, rigid
Gestures	Use of hand and body gestures
Length	Rating of adjustment of speech length to demands of the situation
Meshing	Rating of extent to which subject's speech is synchronized with role-play partner

Table 2 (continued)

Names and Definitions of Observational Variables

Variable Name	Definition
<u>Global variables</u>	
Effectiveness	Content of subject's solution to role-play, rated on a 7 point scale with examples
Relaxation	Rating of subject's nonverbal behaviour denoting anxiety or relaxation, 7 point scale with examples
Social Skill	Rating of subject's verbal and nonverbal behaviour, 7 point scale with examples

Table 3
Descriptive Statistics for the Observational Variables

Variable (N=73)	Mean	Standard Deviation	Skewness
<u>Discrete variables</u>			
Speech Duration	2.64	.89	.40
Open-ended Questions	.14	.08	.11
Closed-ended Questions	.17	.07	.31
Self-disclosures	.09	.07	1.26
<u>Intermediate variables</u>			
Voice	4.76	2.96	-.41
Pace	5.07	2.57	-.50
Speech Disturbance	6.47	1.68	-1.35
Face	5.36	2.74	-.70
Gaze	5.38	2.94	-.93
Posture	4.47	3.30	-.29
Gestures	3.74	2.78	.15
Length of Response	6.66	1.92	-1.76
Meshing	7.11	1.57	-2.67
<u>Global Variables</u>			
Effectiveness	38.77	6.47	-.94
Relaxation	36.38	6.93	-.29
Social Skill	37.62	7.66	-.64

Table 4

Inter-rater Reliability Coefficients for All Observational Variables

	N	Pearson Correlation	Cohen's Kappa
<u>Discrete variables</u>			
Speech Duration	71	.89*	
Open-ended Questions	70	.94*	
Closed-ended Questions	71	.92*	
Self-disclosures	71	.87*	
<u>Intermediate variables</u>			
Voice	51		.71
Pace	51		.62
Facial Expression	51		.47
Gaze	51		.48
Posture	51		.43
Gestures	51		.37
<u>Global variables</u>			
Effectiveness	51	.78*	
Relaxation	51	.70*	
Social Skill	51	.60*	

* Bonferroni-adjusted Significance Levels
(Pearson correlations only)

$p < .001$

Two intermediate variables, posture and gestures, did not reach an acceptable level of reliability and were excluded from further analyses. Also among the intermediate measures, facial expression and gaze, did not reach the designated Kappa coefficient. The few studies that have employed this type of observation and obtained adequate reliability have included adult psychiatric patients as subjects. It may be that with a sample of teenage students, who have a higher level of social functioning and possibly more subtle inter-individual differences than subjects used in past studies, agreement among observers is low because of restricted behavioural range. Since these two measures have provided interesting results in past research, and because of the exploratory nature of the present study, facial expression and gaze were retained for analysis. The less than satisfactory observer agreement will, however, be considered in the interpretation of results.

Among the global measures, social skill failed to reach the acceptable level of reliability and was excluded from the analyses. The measures of effectiveness and relaxation were found to be sufficiently reliable and congruent with the values reported in other studies.

Internal reliability. Cronbach's alpha was calculated to determine the internal consistency, or reliability of each of the remaining 10 observational measures. Most alpha values (Table 5) were high, indicating good internal consistency for all global and intermediary variables, and speech duration. For the proportions of open- and closed-ended questions and self-disclosures, the total score was calculated on only three or four role-plays because these specific behaviours were not appropriate in each role-play scene. Alpha for these measures did not

Table 5

Cronbach Alpha for All Observational Variables

Variable	Number of Items	Alpha
<u>Discrete variables</u>		
Speech Duration	8	.79
Open-ended Questions	3	.53
Closed-ended Questions	4	.58
Self-disclosures	3	.44
<u>Intermediate variables</u>		
Voice	8	.90
Pace	8	.83
Facial Expression	8	.87
Gaze	8	.91
<u>Global variables</u>		
Effectiveness	8	.72
Relaxation	8	.93

reach the .60 level recommended by Walker (1985). Since open- and closed-ended questions approached the desirable alpha level, it was judged that they would be suitable for further analyses. In the case of self-disclosures, it was decided that due to the research interest in this variable (Cozby, 1972), it would be retained but the questionable internal reliability will be considered in interpretation of the results.

Relations Among the Variables

To test the first hypothesis of social skills differences between the weight groups three separate MANOVA's were planned with the discrete, intermediate, and global scores submitted to each analysis grouped according to the type of measure. The rationale for analyzing the variables separately in this way is supported conceptually in that measures analyzed together are constructed in the same way and reflect similar categories of interpersonal behaviour. To confirm that the observational variables were suitable for the planned analyses, Pearson correlations were conducted between all pairs of variables within each type of measurement. According to Tabachnick and Fidell (1989), variables to be included in a MANOVA may be correlated but not redundant.

Correlations among discrete and intermediate variables are reported in Table 6. Using a modified Bonferroni test (Keppel, 1982) a moderate correlation among the discrete variables was detected. The measures of speech duration and self-disclosures were significantly correlated, $r(73) = .46, p < .01$. Significant correlations was also found for the intermediate measures facial expression and pace, $r(73) = .42, p < .01$ and facial expression and gaze, $r(73) = .37, p < .05$.

Table 6

Correlations for Discrete and Intermediate MeasuresDiscrete Measures
(N=73)

	Self- Disclosure	Open-ended Questions	Closed-Ended Questions	Speech Duration
Open-ended Questions	.03	-----	-----	-----
Closed-ended Questions	-.01	.08	-----	-----
Speech Duration	.46**	.05	.25	-----

Intermediate Measures
(N=73)

	Voice	Pace	Face	Gaze
Pace	.36	-----	-----	-----
Facial Expression	.14	.42**	-----	-----
Gaze	.10	.28	.37*	-----

Bonferroni-adjusted Significance Levels

* .05
** .01

The correlation between the two global measures, effectiveness and relaxation was high, $r(73) = .76$, $p < .01$. Tabachnick and Fidell (1989) suggest that highly correlated variables be combined or eliminated unless there are compelling reasons for them to be retained. These two variables represent very different categories of behaviour, relaxation being entirely nonverbal and effectiveness a measure of verbal content. Thus, the two variables are considered of sufficient separate interest to be retained and distinct enough to be entered into one MANOVA.

To test the second hypothesis of weight group differences in perceived social and physical competence a group by sex MANOVA was also planned. Thus, correlations among the four subscales of the Perceived Competence measure (Harter, 1979) were calculated. These correlation coefficients are presented in Table 7. Significant but not excessively high correlations were found between the social and physical competence scales, $r(73) = .46$, $p < .01$; the social and general self-esteem scales, $r(73) = .44$, $p < .01$; and the cognitive and general self-esteem scales, $r(73) = .34$, $p < .01$.

Preparation for Analyses

Missing values. Six cases had missing values in one or two of the role-plays, all as the result of accidental erasure or failure of the tester to include all eight situations in the role-play test. In the case of the intermediate and global measurements, the mean of the variable on the remaining role-plays was considered to be a very good estimate of the missing value due to the high internal reliability of these scores. These means, rounded to the nearest whole number, were substituted for the missing values. For the discrete measures,

Table 7

Correlations for the Perceived Self-competence Scales

(N=73)

	Social Competence	Physical Competence	Cognitive Competence	General Self-Esteem
Physical Competence	.46**	--		
Cognitive Competence	.15	.12	--	--
General Self-esteem	.44**	.29	.34*	--

Bonferroni-adjusted Significance Levels

* .05
** .01

substitution was not required as the scores are expressed in terms of the proportion of total speech occurrences. Thus, the proportions for variables with some missing data points were simply calculated by dividing by the smaller sum of speech occurrences on the scorable role-plays.

Outliers. All scores were converted to z scores in order to check for univariate outliers. Two outliers were found. Values that were three standard deviations from their respective means were assigned to replace these deviant scores.

Mahalanobis distance was used to test for multivariate outliers within each of the four weight by sex groups and two subjects with outlying scores were identified. The raw data for these subjects were examined and it was found that both were overweight girls with relatively long speech durations but somewhat low scores on several other variables. In order to correct outlying relationships among these variables the speech duration times were brought in to two standard deviations from the mean and Mahalanobis distance was calculated a second time. With alpha set at .01, no significant multivariate outliers were then identified.

Other tests. Bartlett-Box F tests for homogeneity of variance were conducted for all variables. A significant result for the global effectiveness score was found and further examination indicated significant negative skewness. After a square root transformation (Tabachnik & Fidell, 1989), a second Bartlett-Box F for this variable was then found to be 2.780, $p = .04$. A significant F was also calculated for self-disclosures ($F = 4.338$, $p < .01$) but this variable was not found to be skewed. Attempts to transform the self-disclosure scores either

created skewness or failed to correct the heterogeneity of variance problem. Since MANOVA is fairly robust to violations of homogeneity of variance, if there are no outliers, it was decided to proceed with the analyses using self-disclosures as an untransformed variable.

Box's M test for homogeneity of dispersion matrices was conducted after all MANOVA's and no significant deviations were found. Thus it was considered that all assumptions have been met in order to proceed with multivariate analyses.

Weight Group Differences

In order to test the first hypothesis of overweight/normal weight differences on the observational measures of role-played performance, multivariate analysis of variance was chosen. This test was considered most appropriate because several significant but not redundant correlations had been identified among the variables.

It is important to examine the possibility of sex differences as sex effects have been identified in past studies of obese children and adults (e.g. Mendelson & White, 1985) and also of social skills (Glass & Biever, 1981). Thus, three separate group (overweight/normal weight) by sex MANOVA's, with correction for disproportional cell sizes, were conducted so that each of the three types of observational measure were analyzed together. To test the second hypothesis of group differences in perceived competence, the scores from the four subscales of the Perceived Competence Scales (Harter, 1979) were then submitted to a fourth group by sex MANOVA, also with correction for disproportional cell sizes. In the following sections the results of the analyses of the observational data are reported first, followed by the self-report results.

Observational Variables

There were no significant multivariate main or interaction effects on any of the MANOVA's performed on the discrete, intermediate, or global observational measures. The results of these analyses are presented in Appendix J. The lack of significant multivariate effects in the analyses of observational scores suggests that the social skills of the overweight and the normal weight subjects did not differ on the role-play test. Thus, the first hypothesis of poorer performance by overweight adolescents on the role-play test was not supported.

Self-Report Measures

Perceived competence. A 2 (overweight/normal weight) by 2 (male/female) MANOVA was conducted on the social, physical, cognitive, and general self-esteem scales of the perceived competence measure, corrected for disproportional cell sizes. As can be seen in Table 8, a significant multivariate interaction effect was found, $F(4,66) = 4.62$, $p = .002$. The univariate analyses revealed a significant effect for the social subscale, $F(1,69) = 4.41$, $p = .039$. There were no significant multivariate main effects for sex or weight group.

Stepdown analyses should be used to interpret a significant MANOVA effect when a theoretical rationale is available for determining the order of entry of the variables (Tabachnik and Fidell, 1983). Based on Lerner's (1978, 1979) dynamic interactionism model, social competence is the domain most likely to be affected by obesity. Harter's (1978) theory of effectance motivation further suggests that since obesity might affect performance in the physical domain, the subscale reflecting perceived physical competence should be lower in the obese. She also indicates,

Table 8

Group by Sex MANOVA for Self-competence MeasuresMultivariate interaction effect $F(4,66) = 4.62, p = .002$

Variable (N=73)	Univariate F	df	Alpha
Social	4.41	5/65	.039
Physical	1.04	5/65	ns
Cognitive	1.10	5/65	ns
General	1.43	5/65	ns

Multivariate effect for sex $F(4,66) = 2.02, p > .05$

Variable	Univariate F	df	Alpha
Social	6.48	5/65	.013
Physical	4.54	5/65	ns
Cognitive	1.49	5/65	ns
General	2.87	5/65	ns

Multivariate effect for weight $F(4,66) = .64, p > .05$

Variable	Univariate F	df	Alpha
Social	.22	5/65	ns
Physical	1.50	5/65	ns
Cognitive	.85	5/65	ns
General	.02	5/65	ns

however, that other competence domains are not necessarily affected by poorer competence in any one specific area and for this reason no weight group differences were expected on the cognitive and general self-esteem subscales. Thus, the variables representing the perceived competence subscales were ordered for entry in the stepdown analysis as follows; social, physical, cognitive and general self-esteem. The results of this analysis to confirm the significant multivariate interaction effect are presented in Table 9.

Stepdown analyses indicate a significant group by sex interaction for the social subscale of the perceived self-competence scales, $F(1,69) = 4.4$, $p < .05$, using the Modified Bonferroni Test for planned comparisons (Keppel, 1982). Examination of the means, which can be found in Table 10, reveals that the overweight girls obtained the lowest score ($M = 20.22$, $SD = 3.65$) of the four groups. This can be compared to 22.39 ($SD = 3.74$) for the normal-weight girls, 22.77 ($SD = 2.39$) for the normal-weight boys and 24.14 ($SD = 3.55$) for the overweight boys. Thus, the second hypothesis of this study received partial support. The overweight girls reported the lowest perceived social competence in the sample. Their scores were lower than both the normal-weight girls and boys and especially the overweight boys, whose social competence scores reflect very adequate perceived social competence.

On the second step of the analysis, which examines physical competence with social competence as a covariate, a significant effect on the physical scale, $F(1,68) = 4.72$, $p < .05$, was indicated. Although this type of finding is difficult to interpret because the weight by sex interaction on physical competence is significant only after the social

Table 9

Stepdown Analysis of Weight by Sex Interaction on
Competence Measures

Variable (N=73)	Step Down <u>F</u>	df	Alpha
Social	4.41	1/69	.039
Physical	4.72	1/68	.033
Cognitive	.89	1/67	ns
General	7.26	1/66	.009

Table 10

Means by Group and Sex: Perceived Competence Scales

	Social	Physical	Cognitive	General
Group	Mean (<u>SD</u>)	Mean (<u>SD</u>)	Mean (<u>SD</u>)	Mean (<u>SD</u>)
Overweight	22.2	20.6	21.6	21.3
Boys	24.1 (3.6)	21.1 (3.2)	22.6 (3.6)	21.5 (3.4)
Girls	20.2 (3.7)	20.1 (3.9)	20.7 (3.9)	21.1 (3.6)
Normal weight	22.6	21.7	20.8	21.2
Boys	22.8 (2.4)	23.1 (2.5)	20.8 (3.3)	22.5 (3.4)
Girls	22.4 (3.7)	20.9 (4.2)	20.7 (3.9)	19.8 (4.1)

competence scores have been entered (Tabachnick & Fidell, 1989), it will be discussed here as it is consistent with the second hypothesis, as well as with past research. The adjusted cell means presented in Table 11, indicate lower physical competence in the overweight boys (adjusted mean = 20.2) as compared to the normal-weight boys (adjusted mean = 22.9). Thus, the overweight boys may feel less competent in the physical domain than their normal-weight counterparts.

As shown in Table 9 there is also a significant interaction effect on the last variable entered in the stepdown analysis, the general self-esteem subscale, $F(1,69) = 7.3, p < .01$. This indicates that after the pattern of differences accounted for by social, physical, and cognitive competence is entered, a difference is found on the general self-esteem scale. Examination of the adjusted means in Table 11 shows that the normal-weight girls report the lowest general self-esteem (adjusted mean = 19.9). The normal-weight boys on the other hand, report the highest general self-esteem (adjusted mean = 22.4). The scores for the overweight girls (adjusted mean = 22.3) and overweight boys (adjusted mean = 20.2) fall between these two extremes. These findings are consistent with results reported by Harter (1988) of somewhat lower general self-esteem for girls but do not support the idea of low general self-esteem in overweight adolescents.

Taken together, these results suggest that overweight girls report lower feelings of social competence than other teenagers but with boys it is the physical self-competence which differs somewhat by weight group and social competence is reported to be high. These findings are

Table 11

Adjusted Cell Means for Perceived Competence Scales

Competence Scale (Covariate)	Physical Competence (Social Competence)	General Self-Esteem (Social, Physical, Cognitive Competence)
Overweight		
Boys	20.2	20.2
Girls	21.1	22.3
Normal Weight		
Boys	22.9	22.4
Girls	20.2	19.9

consistent with research which suggests that social situations are most difficult for obese girls, whereas for overweight boys it is performance in sports which may be problematic (Mendelson & White, 1985). No evidence is provided to indicate lower cognitive competence or general self-esteem in the overweight adolescents.

Self-described weight and attractiveness. To test the hypothesis of lower self-described attractiveness in overweight teens, nonparametric analyses were used. The answers to the question "Do you think you are about as good-looking as other kids in your class?" were combined to form two levels. "No" and "not sure" were combined and "yes" answers were left unchanged. Twenty-six subjects answered "no" or "not sure" and the remaining 48 subjects reported that they were as attractive as their peers. A second question, "How would you describe your weight compared to other kids your age?" had four options; too heavy, heavy, regular, or slim. The first two options were combined as overweight and the second two as normal-weight. Thirty-one subjects described themselves as overweight and 43 considered themselves normal weight.

A chi-square test by weight group was performed on the self-described attractiveness scores. A trend was indicated ($\chi^2 (1, N=73) = 3.3, p = .07$), in which boys were somewhat more likely to describe themselves as attractive (21/27) as compared to girls (27/47).

Overweight subjects did not rate themselves as less attractive than normal-weight teens ($\chi^2 (1, N = 73) = 1.7, p > .05$) but when examined separately by sex the data indicate a trend ($\chi^2 (1, N = 27) = 3.1, p = .08$) for more overweight boys (5/14) than normal-weight boys (1/13) to describe themselves as less attractive than peers. There were no

significant weight group differences in how girls described themselves. Ten of the twenty-one overweight girls said they were not as attractive as others, as compared to 10 of the 26 normal-weight girls who also answered "no" or "not sure". Thus, it seems that almost half the girls in this sample, regardless of weight status, feel they are less attractive than others, or are not certain of their relative attractiveness. Overweight and normal-weight female subjects do not appear to differ in their self-descriptions of attractiveness. If the sexes are examined separately, on the other hand, a trend emerges for more overweight than normal-weight boys to describe themselves as unattractive.

When examined by sex, no difference was found in self-descriptions of weight ($\chi^2 (1, N = 73) = 114, p > .05$). A chi square analysis of self-described weight by group, however, revealed a highly significant effect for weight group ($\chi^2 (1, N = 73) = 39.619, p < .001$). Thus, overweight subjects were very likely to describe themselves as heavy or too heavy (28/35) whereas few normal-weight subjects described themselves in this way (3/39). Subjects who are objectively overweight are aware of their overweight status. Furthermore, normal-weight subjects' relative body weight estimates are also accurate, with the great majority describing themselves as normal weight or slim. It is notable that it is quite possible for these teenagers to consider themselves to be both overweight and attractive.

Prediction of the Global Measures

As suggested by Bellack (1983), researchers should attempt to determine the relations among the various types of observational

measurement. In this study, the discrete and intermediate variables were used to predict the global measures using regression techniques (Trower, 1980; Ekman, Friesen, O'Sullivan, & Scherer, 1980; Kuhlenschmidt & Conger, 1988; Millbrook et al., 1986).

Prediction of effectiveness. In order to select predictor variables from the eight observational measures, a direct entry regression was performed. In this analysis, all eight discrete and intermediate variables were used to predict the global effectiveness measure. The summary table for this analysis is shown in Appendix L. The variables pace, gaze, speech duration and open-ended questions were found to contribute significantly to the regression and on this basis, were chosen to be submitted to a second regression predicting effectiveness. In this regression analysis, group and sex were forced into the equation in the first block. The observational variables were then submitted to the equation in a second, direct entry block. Group and sex alone did not produce a significant result, $F(2,70) = .396, p > .05$. The regression for the observational variables was significantly different from zero, $F(6,66) = 12.61, p < .001$. The combination of the four observational variables, pace, gaze, speech duration and open-ended questions, accounted for more than 50% of the variance in judges' ratings of effectiveness ($R^2 = .53$). As shown in Table 12, all variables contributed to the solution. Thus both discrete and intermediate variables appear to be reflecting aspects of the subjects' behaviour that also impact on the judges' overall impression of their role-play performance. This is particularly interesting in view of the fact that the effectiveness measure used in this study reflects only the verbal

Table 12
Summary of Multiple Regression Analyses Predicting Global Measures

<u>Effectiveness</u>			
N=73			
	Beta	sr ² (unique)	R ²
<u>Step 1</u>			
Weight Group	-.07	.01	
Sex	-.02	.00	.01
<u>Step 2</u>			
Speech Duration	-.46**	.20	
Open-ended Questions	.22*	.05	
Gaze	-.31**	.08	
Pace	-.42**	.15	.53**
<u>Relaxation</u>			
N=73			
<u>Step 1</u>			
Weight Group	.07	.00	
Sex	.12	.00	.02
<u>Step 2</u>			
Voice	.15*	.02	
Speech Duration	.18*	.03	
Gaze	.41**	.14	
Pace	.35**	.07	
Facial Expression	.31**	.05	.74**

* p < .05
 ** p < .01

content of the subject's response.

As indicated in Table 12, the direction of the relations between pace, speech duration, and gaze, and the predicted variable is negative. Due to the transformation of the effectiveness score this indicates that the higher the rating on pace and gaze and the longer subject's speech duration, the higher the rating on effectiveness. The relation between open-ended questions and effectiveness is in the opposite direction, indicating that subjects who asked a greater number of open-ended questions were likely to have lower ratings on overall effectiveness.

Predicting relaxation. Again, the eight observational variables were submitted to a direct entry regression predicting relaxation. The summary table for this regression is presented in Appendix K. Five variables, voice, pace, facial expression, gaze, and speech duration contributed significantly to prediction of judges' ratings of relaxation. They were chosen on this basis for a second regression with relaxation as the predicted variable. Group and sex were again entered in the first block, followed by the direct entry of the scores on the observational measures in the second block. The results of this regression are also reported in Table 12. The regression for group and sex, entered in the first block was not significant, $F(2,70) = .756, p > .05$. The regression for the second block indicated a significant $F(6,66)$ of 26.74 ($p < .001$). The combination of scores on voice, pace, facial expression, gaze, and speech duration accounted for 74% of the variance in relaxation ($R^2 = .74$). The relations were all positive, suggesting that the higher the rating on the intermediate variables, and the longer the speech duration, the higher the overall relaxation score.

The strong predictive power of the intermediate measures reflects the fact that, as defined for this study, relaxation is mainly a nonverbal rating, based on descriptions of many of the behaviours also rated as intermediate variables. The timed variable speech duration, on the other hand, refers to verbal behaviour which is less relevant in deriving the relaxation score. Nevertheless, it seems that longer speech durations are also associated with judges' impressions of overall relaxation.

These findings suggest that the raters did clearly rely on identifiable subject behaviours in order to derive their overall judgments of effectiveness and relaxation. Moreover, when the global judgments reflect verbal content, discrete timed and frequency count variables related to verbal behaviour, how long the subject talks and the questions he or she asks, make an important contribution to the rating. When the overall rating reflects nonverbal indices of relaxation or anxiety, only the intermediate ratings and speech duration seem to be important in deriving the raters' judgments. Also, some discrete variables such as self-disclosures and closed-ended questions failed to enter the regression solutions.

Discussion

The first hypothesis of this study, that the overweight subjects would obtain lower scores on the role-play test, was not supported. Two explanations for the similar performance of overweight and normal youngsters are possible. First, the role play measures used in this study may have failed to differentiate performance in the two weight groups. Secondly, at least in some situations, obese teens may not differ from their normal-weight counterparts in terms of social skill.

In the present study, two difficulties, inter-rater reliability and ceiling effects, may have limited the power of the role-play test to differentiate levels of social skill. With respect to inter-rater reliability, some intermediate and global variables had to be discarded due to poor agreement between the raters and scores were employed with reliability values that were somewhat less than the predetermined criteria. Since reliability has been noted as a problem for observational research in the past (e.g. Reid, 1970), steps were taken in this study to insure adequate rater agreement. Raters were aware that there would be spot checks but did not know when these would take place. Retraining sessions were held to prevent observer drift and examples were given for each point on the rating scales. In spite of these efforts, adequate reliability was not always achieved.

It seems unlikely, however, that problems with reliability alone account for the lack of weight group differences. Many measures, especially among the discrete variables, were found to be highly reliable. Yet, no differences between overweight and normal-weight subjects' scores on these measures were detected.

Ceiling effects, not usually associated with role-play testing, were also encountered in the present study. In fact, analogue methods such as role-play have been criticized for being too difficult in the sense that some subjects are simply not very good actors and are unable to accurately portray their everyday behaviour (de Armas & Brigham, 1986). In the present study, subjects seemed undaunted by the role-play task, performing adequately. Some variables had to be discarded due to obvious ceiling effects and in general, mean values were somewhat skewed towards the upper ranges of performance.

When performing a role-play, subjects may attempt to emit what they believe, or know to be the best response (Bellack, 1983). Since in a test situation subjects are aware that there will be no serious consequences to their actions, they may be more able to demonstrate what they consider to be an ideal response. For example, in the role-play "alone at a party", it is clear that the 'best' response is to attempt to make interesting conversation. The subject knows that this approach will be successful in the role-play if he or she can think of some interesting topics to introduce. At an actual party, however, the same person might be unable to speak to a strange peer for fear of a possible rejection or other unpleasant consequence. Although subjects in the present study were instructed to behave as they would ordinarily behave "in real life", no teenager was at a loss for conversation in this role-play. It is possible that both the overweight and normal-weight subjects in this study were role-playing at a higher level of performance than their actual everyday behaviour.

The goal of the present study was to determine if overweight teenagers had failed to learn or develop adequate social skills, as suggested by Lerner's (1978, 1979) social interactionism model. It seems from these results that

overweight teens can produce adequate social behaviours in role-play, although they may fail to use these social skills in some actual social interactions. Thus, their problem may be one of response inhibition, rather than response deficit. This interpretation does not support Lerner's notion that social deficits of obese individuals are created through a learning process dominated by distorted interpersonal feedback. It does suggest that if behavioural differences do exist between overweight and normal-weight teens, these may become apparent only in situations where environmental cues trigger response inhibition in the obese.

Other researchers have hypothesized a faulty response acquisition process and have been able to demonstrate inadequate social skills in adolescent subjects (Van Hasselt, Hersen, & Kazdin, 1985; Van Hasselt, Kazdin, Hersen, Simon, & Mastanuono, 1985). Perhaps, as these authors reasoned, the usual models and social cues are unavailable to visually handicapped children and they therefore fail to develop adequate social skills. Contrary to the hypothesis of the present study, however, it seems that overweight adolescents are able acquire such skills. It is not possible, based on such findings, to conclude that overweight adolescents do not differ from normal-weight peers in terms of interpersonal behaviour. Yet, if we entertain the possibility that at least in some instances overweight teens demonstrate adequate social skill, it is reasonable to discuss how such behaviour might be integrated theoretically.

Lerner (1969) asserts that children learn appropriate social behaviour from the feedback that they receive from others. Such feedback mechanisms are likely very important in the development of social skill but Lerner does not specify which agents in the child's environment are the most influential 'teachers' of social skill. It is possible that general societal attitudes

towards overweight are much less important to the child's development than those of significant others such as parents and friends (Jarvie, Lahey, Graziano, & Framer, 1983). If these important individuals respond positively to the overweight child or simply do not treat him or her unfavourably, development should proceed normally. Alternatively, if parents and friends do communicate negative weight attitudes to the child, the impact may be very detrimental. Although there has been no research specifically directed towards the parents and friends of overweight children, the literature on weight attitudes and friendship formation can provide a basis to further our understanding of the development of social skill in obese youngsters and suggest future avenues for research.

An understanding of the weight attitudes of parents with obese children and behavioural or psychological factors in their children would be most relevant to this discussion but such research is not currently available. Recently, however, researchers have begun to examine parental influences on attitudes to obesity in normal-weight children. Rhodes (1987) found that the best predictor of children's preference for underweight figures was their mothers' past weight. If the mother had once been overweight and had presumably made an effort to slim down, her child was more likely to state a preference for slim, as opposed to normal or overweight playmates. It is possible that a parent's wish to avoid obesity is communicated very strongly to a child and interpreted as a positive valuing of slimness, perhaps to the extent of avoiding overweight friends.

Further research is required to understand the possible impact of negative weight attitudes of parents on overweight youngsters. It may be, however, that such attitudes are not prevalent among parents of overweight

children. It is known that parents and their children are similar in degree of overweight (Garn & Clark, 1976). Therefore, many overweight children have at least one overweight parent. Perhaps, in families with other overweight members, excess body fat in children is considered more acceptable than might be suggested from research conducted with normal-weight subjects. It is possible then that overweight children are not frequently the recipients of the negative weight attitudes of their parents but if this occurs the effect on the child could be important.

More is known about friendship relationships in overweight teenagers and there is little evidence to suggest that overweight youngsters are at a disadvantage in terms of making and keeping friends. Most researchers using peer psychometric methods to assess friendship relationships of overweight youngsters have failed to find weight-group differences (Baum & Forehand, 1984; Lawson, 1980; Sallade, 1973). The results of one study, on the other hand, have suggested that overweight children and adolescents do not differ from others in terms of the number of 'best friends' but are less popular than slim children in that they get overall fewer nominations (Strauss et al., 1985). During early adolescence, however, it is precisely the close, best friend relationship that takes on great importance. It is during this period when teenagers learn to share feelings and thoughts and begin to prepare for the deeper relationships of adulthood (Youniss, 1980). These special relationships have been credited with fostering the development of social skills (Douvan & Adelson, 1966) and self-worth (Sullivan, 1953).

Do overweight teenagers really have equal access to intimate friendships if they have been shown to be less popular? The available evidence shows that the best predictor of friendship formation in adolescence is homophily or

shared similarities (Berndt, 1982). Some of these similarities are age, race, social class, school attitudes, and shared activities and interests. It seems reasonable to assume that overweight youngsters would have such friendships and thus a potentially powerful means for the development of social skill.

Perhaps the effects of appearance variables are more potent in extreme cases such as severe obesity, or serious physical handicap. Otherwise, it is possible that many factors contribute to the development of social skill, such as familial interaction and close friendships, and that these outweigh the influence of negative feedback from some peers and acquaintances in the child's environment. This would be an interesting but complex question for future research.

Although it may be that most overweight children are able to develop adequate social skills and employ these behaviours in interpersonal interaction, it is unlikely that the interpersonal processes described by Lerner would have no impact on the developing child's social self. Indeed, Baum and Forehand (1984) have found weight group differences on measures of social behaviour. Perhaps negative weight attitudes and distorted feedback affect the process of social development in obese youngsters so that they learn to be aware of social cues that indicate the possibility of rejection or embarrassment about their weight. At these times their behaviour might differ from that of normal-weight peers but when such cues are absent, as in a role-play, they are able to produce very competent social responses.

Future studies might attempt to compare self-reports of specific social events such as school dances, or observations of waiting room interactions with a confederate, to performance on a role-play test, in order to clarify this issue. It would also be interesting to attempt to pinpoint cues in social

interaction that might trigger response inhibition in the obese. It is possible that certain situations such as dances or sports competitions which make weight more salient are especially difficult for overweight teenagers. Designs similar to that of Baum and Forehand (1984) could be elaborated to allow a more detailed analysis of social interaction between normal and overweight teenagers during different types of activities.

Another possibility is that negative attitudes towards obesity affect emotional development rather than development of social behaviours. Although conceptually more complex, a more probable process might involve the impact of negative attitudes on both domain specific competencies and social behaviour. If a child feels less competent in certain domains he or she might also behave less adequately in situations where demands for these specific competencies predominate. In this study weight group differences on the Perceived Self-Competence scales (Harter, 1979) were examined.

The results of the analyses of the scores on the Competence scales are consistent with Harter's (1978) effectance motivation model. This model suggests that an individual's self-competence is not a generalized entity but rather, consists of specific domains. As a child's mastery attempts in a specific domain are rewarded, he or she will develop a stronger perceived competence in that area. Failure experiences will be reflected in lower perceived competence in those domains where the individual's mastery attempts have not been rewarded. What is very important about this model is the notion that separate competency domains can develop quite independently from one another.

The findings of this study show that, as predicted, the social and physical competence domains are related to obesity. Sex effects which are not

specifically predicted by Lerner were also found. Overweight girls reported lower social competence, whereas overweight boys appear to have concerns about their physical competence. These results are congruent with past research and may also have implications for an understanding of the interpersonal behaviour of obese teenagers.

The finding that the overweight girls have the lowest perceived social competence scores in this sample may clarify the results reported by Mendelson and White (1985). These researchers found that older overweight girls reported a decline in self-esteem around age 16. It is at this time when dating becomes an important factor in teenagers' social lives. Also, in early adolescence a girls' body development becomes very salient (Brooks-Gunn, 1987). It may be that in the evolving social scene of adolescence which focuses attention on the body through fashion, dances, and the beginning of dating, the overweight teenage girl begins to be less successful in social situations. Mendelson and White (1985) speculated that social demands were related to the decline of self-esteem noted in their teenage girls but because a general self-esteem measure was used, no evidence was available to support this notion. The domain specific perceived competence scales employed in the present study suggest that, indeed, overweight teenage girls feel less socially competent than their peers. Furthermore, this is the only area of perceived competence that seems to be affected in these overweight girls.

The girls in the present study were from 13 to 15 years old and may have been experiencing the beginning of a difficult period socially for overweight girls. An important goal for future research would be to study social competence developmentally to determine the role of dating and interaction with the opposite sex in overweight girls' self-perceptions. If perceived

competence can be domain specific it would be important to know if it is temporally specific as well. It is possible that a decline in overweight girls' perceived competence is confined only to this early dating stage. Overweight women may have more success experiences in the social domain once more mature opposite sex relationships are undertaken. In fact, there is no evidence that overweight women are less likely than normal weight women to marry or stay married (Kallen & Doughty, 1984).

The overweight boys in this study do not report low social self-competence. A possible explanation of this finding is that the overweight boys volunteered to be in the study and to be video-taped. In general, about half as many boys as girls volunteered to participate and one could speculate that it would be somewhat more difficult for an overweight, as compared to a normal weight youngster to allow themselves to be video-taped. It is possible that some overweight boys compensate for discomfort concerning their weight by becoming particularly outgoing socially. These youngsters, in particular, might be willing to volunteer for an activity where their physical appearance would be very salient. A focus for future research that might perhaps be more fruitful than the quest for weight group differences would be to determine the factors that enable children to cope successfully with the fact of being physically different from the norm or cultural ideal.

An alternative explanation for the higher perceived social competence in overweight boys as compared to overweight girls is that weight is simply not as important for boys as it is for girls. Excess body fat, within the range studied here, may have little or no effect on the social interactions of boys. Also, it is possible that boys are less sensitive than girls to social cues concerning their body size or appearance. This is supported by the self-

reported attractiveness data from the present study which shows that few of the boys studied were concerned about their appearance, whereas, a large proportion of both overweight and normal-weight girls consider themselves less attractive than peers. On the other hand, as Mendelson and White (1985) suggest, the ability to compete in sports activities may be most salient in young teenage boys' self-perceptions.

The present results show that overweight boys have somewhat lower perceived physical competence than normal-weight boys. This finding is consistent with the effectance motivation model (Harter, 1978). It is very likely that overweight boys are at a disadvantage in sports which require speed and agility. Indeed, recent research indicates a negative relationship between fat levels and physical activity that becomes increasingly important as the child approaches adolescence (Berkowitz et al., 1985). Some obese boys may be less inclined to engage in physical activity than their slim peers (Stefanik, Held, & Mayer, 1959). Alternatively, they may be restricted in their activity levels by factors in their environment (Klesges et al., 1984). Lack of success in physical pursuits may also be exacerbated by the attitudes of peers. It has been shown that children's perceptions of peers with handicaps or visible physical differences are mediated by the social context in which these attitudes are elicited (Harper, Wacker, & Cobb, 1986). Thus, an obese boy might be well accepted by peers for his public speaking or math abilities but rejected as a potential team mate for an impromptu soccer match.

The implication of this finding is two-fold. As suggested by Harper et al. (1986), it would be important to assist obese or physically handicapped children to find acceptance in areas where their physical differences were less salient and therefore negative peer perceptions would be less likely to

develop. Especially in the case of obesity, however, it is possible and also necessary to encourage excellence in physical domains. Emphasis in physical education on noncompetitive activities would allow youngsters that are less successful in sports to participate equally without fear of disappointing coaches and peers with poor performance. Sensitivity of coaches and teachers to potential embarrassment and fear of failure might permit these professionals to work with overweight teens to find physical activities that would be enjoyable and also offer the possibility of successful performance.

In terms of the other competence domains, no differences were found between overweight and normal-weight subjects on self-reported cognitive competence or on the general self-esteem scale. The cognitive scale reflects the young person's perceived competence in school work. Whereas, the general scale taps self-worth. More specifically, it describes "feelings of being sure of oneself, being happy with the way one is, and feeling good about the way one acts" (Harter, 1979).

The finding that the overweight and normal-weight teenagers report similar cognitive self-competence is also consistent with the effectance motivation model (Harter, 1978). There is no theoretical or empirical evidence to suggest that overweight youngsters might experience academic difficulties and, indeed, verbal intelligence, as measured by the QT (Ammons and Ammons, 1962), was equivalent for both weight groups in the present study. It seems from these findings that both overweight and normal-weight teenagers have equal opportunities for mastery in the cognitive domain and that both groups are able to use this experience to develop adequate perceived competence concerning school performance. Overweight children do seem to maintain positive self-perceptions in areas where they have been successful, suggesting that

increasing opportunities for mastery might further enhance perception of competence.

There was no evidence in this study to suggest that overweight children have lower general self-esteem than normal-weight peers. Other studies have reported negative findings in terms of self-esteem (Lawson, 1980; Mendelson & White, 1982) or self-concept (Wadden et al, 1984). On the other hand, there have been reports of poorer self-perceptions in overweight as compared to normal-weight children and teenagers (Hammar et al., 1985; Mendelson and White, 1985; Sallade, 1973; Strauss et al., 1985). The inconsistency of research in the area of psychological effects of obesity may be explained by the results of the present study. If indeed overweight teenagers have lowered perceived competence in the social and physical domains, and not in the cognitive domain or general self-esteem, then general measures of self-perception which usually include some social and physical items might produce small, inconsistent effects for weight status. Also, as has been the pattern in past studies, sex effects might be present but in an inconsistent fashion. Further research is required to better understand the self-perceptions of obese boys and girls from school age to late adolescence, both in terms of domains where perceived competence is lowered and in areas where positive self-perceptions are maintained.

Harter (1979) proposed that the Perceived Competence Scales, by being composed of three competence domains and one general self-esteem scale might help to shed light on the relationship between competence and self-worth. Even though the overweight children in this sample expressed concerns about their competence in social or physical situations, they continued to feel positively about themselves in general. This is an encouraging finding, suggesting that

the effects of obesity in childhood may not be as devastating as past studies have suggested (e.g. Allon, 1975). It is possible, however, that in severe obesity - greater than 100% overweight (Stunkard, 1984) - the impact on the relevant competency domains would be so serious as to also impinge upon general self-esteem.

The subjects in the present study would be described as mildly to moderately obese, according to Stunkard's (1984) classification and indeed no studies of psychological factors in moderate to severe obesity in children have been published. Clinical observations, however, suggest that the social and physical consequences of extreme overweight in teenagers are actually very grave (White, 1986). It would be important to better understand the self-perceptions of youngsters suffering from severe obesity.

Prediction of the global measures

As hypothesized, both discrete and intermediate variables contributed to predictions of the judges' ratings of effectiveness. For the relaxation measure, the intermediate measures, as well as speech duration were significant predictors of the judges' ratings. These results are an important step towards clarifying the basis upon which judges make global ratings. In the following sections the implications of these results are discussed in terms of understanding the components of successful responses and possible clinical applications. In the last section of this discussion, suggestions will be made, based on these results, for choosing variables to maximize reliability of observational studies.

The contribution of the present study is particularly important in that there are, at present, few observational studies available which delineate specific social skills in teenagers. Although it is known that use of gaze

varies developmentally throughout childhood (Levine and Sutton-Smith, 1973)), the importance of adequate use of gaze in adolescence had not previously been studied. For other social skills no information has been reported with relevance to nonhandicapped teenagers.

The results of this study suggest that an effective verbal response to a difficult social situation is accompanied by appropriate use of gaze and modulation of the rate of speech. Effective responses are likely to be relatively long but contain fewer open-ended questions. Raters were not specifically instructed to use gaze, pace, or speech duration in their effectiveness ratings so this finding is particularly interesting. Since the guidelines for rating the verbal content of the effectiveness rating were quite specific, it appears that the most appropriate interpretation of these results is that subjects who are able to find an effective solution to the role-play are also more likely to use gaze and modulation of rate of speech appropriately. Since more complex verbal responses were usually given the higher ratings it is not surprising that longer speech durations were also associated with higher judges' ratings on this measure.

A perplexing finding was the negative relation of open-ended questions to the predicted variable, effectiveness. Highly effective responses on two of the role-plays ("alone at a party" and "new school") were supposed to contain open-ended questions. As noted in the results section, the internal reliability of this variable was lower than desired. Also, the means reveal that, in fact, few subjects used open-ended questions as defined here. It is possible that this variable is insufficiently reliable to dependably predict global ratings. Alternatively, it could be that behaviour that may be considered ideal from an adult's perspective, is not necessarily so for

adolescents. Thus, teenagers who are generally more skillful, may use open-ended questions infrequently. More research would be required to clarify this finding.

There has been some discussion in the literature as to whether raters' global judgments are based on identifiable behaviours or subjective impressions, the basis of which cannot be accurately specified. The results of the regression predicting relaxation confirmed that in fact raters were basing their judgments on at least five observable behaviours, gaze, facial expression, volume and clarity of speech, rate of speech, and speech duration. High ratings on these variables are associated with global judgments of an appearance of relaxation. In the present study very specific instructions were provided for making the global ratings. It seems that under these circumstances at least, global ratings can be produced which are based on specific behavioural criteria.

Monti et al.(1984) point out that understanding the behavioural units that contribute to overall ratings is important for clinical applications of social skills research. Clinicians can easily use global rating scales of patients' social interactions but these provide little information that could be used therapeutically to modify social skill deficits. Results of the present study and Monti et al.(1984) provide clinicians with some guidelines for interpreting general ratings. Alternatively, clinicians could use intermediate measures, rated on simple scales, as easy to administer but efficient indices of social skill. By rating the four variables, voice, pace, face, and gaze, and being sensitive to the use of questions and duration of speech, it would be possible to evaluate several very important aspects of patient functioning and devise appropriate treatment plans.

Another reason to examine the relationships among discrete, intermediate, and global measurements is to provide an empirical basis upon which future researchers can choose observational variables for study. This aspect of the present study will be discussed in the final section in terms of improving the reliability of future observational studies.

Summary and Suggestions for Future Research

This study has been the first to employ a domain specific measure of perceived competence with overweight adolescents. The results suggest that the impact of obesity on the self-perceptions of these youngsters is indeed domain specific and that the domain affected depends on the sex of the overweight subject. In girls it is social competence that appears to suffer, whereas overweight teenage boys report lower physical competence. Cognitive competence and general self-esteem were similar for both weight groups, suggesting that in this sample of mildly to moderately overweight, middle class volunteers, self-perceptions in other domains may remain unaffected by concerns about overweight. These findings help to clarify past research, provide interesting directions for future research, and contribute to our understanding of teenagers with obesity.

The hypothesis concerning group differences in social skill was not supported. A model can be proposed, however, which integrates the present findings concerning both social skill and perceived competence of obese adolescents. Since in the role-play test employed in this study, overweight teenagers seemed able to demonstrate adequate social skill, a response inhibition model rather than the hypothesized response deficit model was used to integrate the findings. Future research should focus on specific interpersonal and environmental cues that might trigger such inhibition in the

obese. The perceived competence scores suggest that a possible starting point for future investigations would be situations where social and physical competencies are most salient. For girls these might include opposite sex interactions and for boys, sporting events.

The discrete and intermediate behavioural observations were also used to predict judges' global ratings in a multiple regression design. The results indicated that, as predicted, both discrete and intermediate scores contributed to the regression solutions. These findings provide the first data concerning the components of adolescents' successful responses in role-played social interactions. Furthermore, these results demonstrate that judges base their ratings on identifiable behaviours and point to potential behaviours for use in clinical evaluation. Finally, the analyses predicting judges global ratings, coupled with the other findings of the observations of social skill, provide a basis for choosing variables for future research. Such information would allow researchers to undertake observational studies with only a few carefully selected variables. One benefit of including fewer variables for study would be to improve inter-rater reliability.

Fagot and Hagan (1986) have identified factors which have enabled them to achieve consistently high inter-rater reliability. They provide extensive, 150 hour training programs with instantaneous on-line feedback for their raters. Also, they have worked for many years to perfect rating and coding schemes and training protocols.

Unfortunately, such efforts are prohibitive for small scale research studies. Guidelines that have been offered for future studies recommend that researchers should carefully consider alternatives to observational designs (Bourget & White, 1986). When the question to be answered clearly calls for

observational study, only a few carefully chosen variables should be employed so that available resources can be directed to very extensive training in the rating of a limited variable set.

The results of the present study suggest using discrete variables such as questions and speech duration and one overall measure such as effectiveness. Although ratings of other aspects of speech such as clarity, volume, and pace were also significant predictors of overall indices of social skill, as were gaze and facial expression, these intermediate variables were developed for use with adult psychiatric patients (Trower, Argyle, & Bryant, 1979) and proved difficult to use with the present sample of normally functioning teenagers. In another study (Monti et al., 1984), intermediate variables were found to be useful predictors with psychiatric patients but not with college students. Further examination of intermediate measures is recommended before they can be considered variables of choice for most researchers. Future studies might attempt to refine the rating of intermediate variables and evaluate their utility with clinic samples who might display greater variability in social skill.

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Appendix A

Letter of Explanation to Potential Subjects

Description of Adolescent Social Development Research Project

We are very enthusiastic about this study because social skill in childhood has proven to be related to many aspects of later adult life. Yet, very little is known about actual social behaviors in the very important period of adolescence. We have devised a role-play measure of social interaction which we hope will help us to understand how teenagers handle specific social situations with parents, friends, and strangers. The students who participate in this project will be asked to act out several predetermined scenarios with the experimenter in order to demonstrate how they would handle a similar situation "in real life". These role plays will be videotaped and saved to be analyzed for very specific behaviors such as direction of gaze and voice volume, as well as more global characteristics such as the way in which the student displays friendliness, empathy or assertion.

In addition to the role plays, students will be asked to fill out questionnaires that reflect how they feel about their relationships to family, friends, and teachers. We feel that information gathered from this study will help us to better understand the actual social behaviour of young people. We also hope to be able to determine the relationship of such variables as self-perception, general appearance, family and peer contacts, and attitude towards school to the adolescent's social development. Many health professionals are recommending social skills training for young people with a variety of physical handicaps, as well as for those with adjustment problems such as delinquency. This study will provide some very important background data concerning the social behaviour of a group of 'normal' high school students. We feel that this knowledge will greatly facilitate the development of treatment programs for adolescents with social difficulties.

Appendix B
Consent Forms

ST. THOMAS HIGH SCHOOL

120 AMBASSADOR AVE
POINTE CLAIRE P.O.
HOBOKEN

TELEPHONE 694-3770

To Parents of All Grade Nine Students:

As part of our ongoing interest in understanding and facilitating the education and development of our students, St. Thomas High School will be collaborating with a team from McGill and Concordia in a study of adolescent social competence.

Social competence is the best predictor of adult success, yet little is known about how normal children and adolescents develop the interpersonal skills they need to deal successfully with their peers, families and teachers. This is the purpose of the present study. The information obtained will enable us to understand more about how all students develop, and help us to provide more effective help for those adolescents who are not yet socially skillful and competent.

This study will be conducted from April 18 through May 6, through interviews with about sixty grade nine students chosen at random from amongst the 179 presently enrolled in Grade 9 at St. Thomas. Students will be interviewed individually about their reactions to common social situations and the ways they like to deal with those around them. All replies will be kept confidential and no student will be identified by name in reporting. We are interested in typical, not individual responses - the way normal adolescents as a group behave. Those interviewed will be asked to respond to paper and pencil questionnaires.

We would appreciate your permission to include your son or daughter in this survey, if he/she should be one of the students selected. However, if you prefer not to give this permission, please indicate below. If you have any questions, please contact Renée Stevens at 937-8571, local 627 or on Thursdays, 694-3770 local 23.

*Renée Stevens, Ph.D.
Sam Burstein, Ph.D.
Psychologists*

*Jennifer Connolly, Ph.D.
Donna White, Ph.D.*

*P. Pellegrino
Vice-Principal*

P. Pellegrino

I do not wish to permit my son/daughter to take part in the study of Adolescent Social Competence.

Name

Date

1983-04-07

CONCORDIA UNIVERSITY



DEPARTMENT OF PSYCHOLOGY

April 15 th, 1985

Dear Parent:

I am writing to request permission to include your son or daughter in a research project which I am conducting at Macdonald High School, as partial fulfillment of my doctoral requirements at Concordia University. The project is a study of adolescent social development and has been approved by Mr. R. Jones and the Lakeshore School Board. I am working in conjunction with Drs. Donna White, Renee Stevens and Sam Burstein, researchers and clinicians who are affiliated with the Montreal Children's Hospital and the McGill Learning Center. Funding for this study has been provided by a grant from the Quebec Ministry of Education. A summary of this project can be found on the following page.

All students in grades 8 and 9 are being asked to participate. We believe that the contribution of your child's time (between 30 minutes and one hour) will further our understanding of teenagers and also allow us to better assist other young people adjust to social difficulties. If you wish to allow your child to participate, please sign this form and ask your son or daughter to return it to his/her home room teacher as soon as possible. This does not oblige your child to complete the study as he or she will be allowed to refuse to be interviewed or to stop at any time. Of course all responses are strictly confidential. Please feel free to contact me if you wish any further information. Thank you for your time in reading this letter.

Yours sincerely,

Virginia Bourget
697-3284

CONSENT FORM

I grant permission for my son/daughter to participate in this project. I understand that my child is free to discontinue participation at any time and that all results are strictly confidential.

Name of student _____ Grade _____
Signature of parent _____

Appendix C

Certificate of Approval from the McGill Ethics Committee



Faculty of Graduate Studies and Research
Dawson Hall

CERTIFICATION OF ETHICAL ACCEPTABILITY FOR RESEARCH INVOLVING HUMAN SUBJECTS

A review committee consisting of:

Position	Field of Research
<u>D. R. Wolcott</u>	<u>Secondary Education</u>
<u>Melvin Birns</u>	<u>Admin & Policy Studies</u>
<u>.....</u>	<u>.....</u>
<u>.....</u>	<u>.....</u>

has examined the application for funds in support of a project titled:
Adolescent Social Competence: Correlates and Clinical Comparisons

As proposed by Renée Stevens, et al. to FCAC
(Applicant) (Granting agency, if any)

and consider the experimental procedures, as outlined by the applicant, to be acceptable on ethical grounds for research involving human subjects.

Seen 5.14.84
November 17, 1984
Date Head of Department Dean of Faculty

Ethical review committees are to be convened by the Head of the Department, or Administrative Unit, in which the proposed research is to be done and are to consist of a representative appointed by the Dean, two individuals knowledgeable in the field of the proposed research but not associated with the proposed project and preferably not from the department in which the project is to be carried out, and one or more individuals who would represent a general point of view. The applicant should not serve on the Committee nor should he sign on behalf of the department or the faculty.

Appendix D
Information Sheet

Information Sheet

Social Skills Research Project

Dear Student,

We are studying the relationship of teenagers' feelings about themselves and their social behaviour. It may be that how young people feel about their families, schoolwork and physical appearance affect the way they interact with friends and others. Your help with this project is greatly appreciated. Please remember that we are interested in group results and your participation will be coded by number only. Do not put your name on this form. The experimenter will give you a number.

Thanks!

Family

1. How many brothers and sisters do you have?

2. Please circle the word that best describes your relationship with each of them.

a. brother/sister age _____: very good, good, o.k., somewhat poor, poor

b. brother/sister age _____: very good, good, o.k., somewhat poor, poor

c. brother/sister age _____: very good, good, o.k., somewhat poor, poor

d. brother/sister age _____: very good, good, o.k., somewhat poor, poor

3. How well do you think your parents understand you?

a. Mother: very well, well, o.k., somewhat poorly, poorly

b. Father: very well, well, o.k., somewhat poorly, poorly

School

1. How well do you think you do in school?

Very well, well, o.k., somewhat poorly, poorly

2. Do you like school? _____

Physical Appearance

1. Do you think you are about as good looking as the others in your grade? _____
- 2a. How would you describe your height for your age?
too tall, tall, medium, short, too short
- b. How long have you been like this?
just recently, since grade 8, since grade 7, since grade 6, always
- 3a. How would you describe your weight for your age?
too heavy, heavy, medium, slim, too thin
- b. How long have you been like this?
just recently, since grade 8, since grade 7, since grade 6, always

Thank you!

Appendix E

Perceived Competence Scales

What I Am Like

NAME _____ BOY OR GIRL _____ AGE _____ BIRTHDAY _____ CLASS OR GROUP _____
(circle which)

SAMPLE SENTENCES

- | | REALLY
TRUE
<small>for me</small> | SORT OF
TRUE
<small>for me</small> | | BUT | | SORT OF
TRUE
<small>for me</small> | REALLY
TRUE
<small>for me</small> |
|----|---|--|--|-----|--|--|---|
| a. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids would rather play outdoors in their spare time | | Other kids would rather watch T.V. | <input type="checkbox"/> | <input type="checkbox"/> |
| b. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids never worry about anything | | Other kids sometimes worry about certain things. | <input type="checkbox"/> | <input type="checkbox"/> |
| | | | | | | | |
| 1. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids feel that they are very good at their school work | | Other kids worry about whether they can do the school work assigned to them. | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids find it hard to make friends | | For other kids it's pretty easy. | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids do very well at all kinds of sports | | Others don't feel that they are very good when it comes to sports. | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids feel that there are alot of things about themselves that they would change if they could | | Other kids would like to stay pretty much the same. | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids feel like they are just as smart as other kids their age | | Other kids aren't so sure and wonder if they are as smart. | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. | <input type="checkbox"/> | <input type="checkbox"/> | Some kids have alot of friends | | Other kids don't have very many friends. | <input type="checkbox"/> | <input type="checkbox"/> |

REALLY TRUE for me	SORT OF TRUE for me		BUT		SORT OF TRUE for me	REALLY TRUE for me
7. <input type="checkbox"/>	<input type="checkbox"/>	Some kids wish they could be alot better at sports		Other kids feel they are good enough.	<input type="checkbox"/>	<input type="checkbox"/>
8. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are pretty sure of themselves		Other kids are not very sure of themselves.	<input type="checkbox"/>	<input type="checkbox"/>
9. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are pretty slow in finishing their school work		Other kids can do their school work quickly.	<input type="checkbox"/>	<input type="checkbox"/>
10. <input type="checkbox"/>	<input type="checkbox"/>	Some kids don't think they are a very important member of their class		Other kids think they are pretty important to their classmates.	<input type="checkbox"/>	<input type="checkbox"/>
11. <input type="checkbox"/>	<input type="checkbox"/>	Some kids think they could do well at just about any new outdoor activity they haven't tried before		Other kids are afraid they might not do well at outdoor things they haven't ever tried.	<input type="checkbox"/>	<input type="checkbox"/>
12. <input type="checkbox"/>	<input type="checkbox"/>	Some kids feel good about the way they act		Other kids wish they acted differently.	<input type="checkbox"/>	<input type="checkbox"/>
13. <input type="checkbox"/>	<input type="checkbox"/>	Some kids often forget what they learn		Other kids can remember things easily.	<input type="checkbox"/>	<input type="checkbox"/>
14. <input type="checkbox"/>	<input type="checkbox"/>	Some kids are always doing things with alot of kids		Other kids usually do things by themselves.	<input type="checkbox"/>	<input type="checkbox"/>
15. <input type="checkbox"/>	<input type="checkbox"/>	Some kids feel that they are better than others their age at sports		Other kids don't feel they can play as well.	<input type="checkbox"/>	<input type="checkbox"/>
16. <input type="checkbox"/>	<input type="checkbox"/>	Some kids think that maybe they are not a very good person		Other kids are pretty sure that they are a good person.	<input type="checkbox"/>	<input type="checkbox"/>

	REALLY TRUE for me	SORT OF TRUE for me		BUT		SORT OF TRUE for me	REALLY TRUE for me
17.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids like school because they do well in class		Other kids don't like school because they aren't doing very well.	<input type="checkbox"/>	<input type="checkbox"/>
18.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish that more kids liked them		Others feel that most kids do like them.	<input type="checkbox"/>	<input type="checkbox"/>
19.	<input type="checkbox"/>	<input type="checkbox"/>	In games and sports some kids usually watch instead of play		Other kids usually play rather than just watch.	<input type="checkbox"/>	<input type="checkbox"/>
20.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are very happy being the way they are		Other kids wish they were different.	<input type="checkbox"/>	<input type="checkbox"/>
21.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids wish it was easier to understand what they read		Other kids don't have any trouble understanding what they read.	<input type="checkbox"/>	<input type="checkbox"/>
22.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are popular with others their age		Other kids are not very popular.	<input type="checkbox"/>	<input type="checkbox"/>
23.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids don't do well at new outdoor games		Other kids are good at new games right away.	<input type="checkbox"/>	<input type="checkbox"/>
24.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids aren't very happy with the way they do alot of things		Othe. kids think the way they do things is fine.	<input type="checkbox"/>	<input type="checkbox"/>
25.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids have trouble figuring out the answers in school		Other kids almost always can figure out the answers.	<input type="checkbox"/>	<input type="checkbox"/>
26.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are really easy to like		Other kids are kind of hard to like.	<input type="checkbox"/>	<input type="checkbox"/>

	REALLY TRUE for me	SORT OF TRUE for me				SORT OF TRUE for me	REALLY TRUE for me
27.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are among the last to be chosen for games	BUT	Other kids are usually picked first.	<input type="checkbox"/>	<input type="checkbox"/>
28.	<input type="checkbox"/>	<input type="checkbox"/>	Some kids are usually sure that what they are doing is the right thing	BUT	Other kids aren't so sure whether or not they are doing the right thing.	<input type="checkbox"/>	<input type="checkbox"/>

Appendix F

Descriptions of the Role-Plays

Role Plays

1. You've just started at a new school. You feel that everyone is checking you out and you don't know how to begin making friends. After awhile you decide to begin a conversation with one of the girls/guys in your class. He/she is getting something out of a locker which is near yours. You begin talking.
2. You've heard that the parents of a friend have just divorced. You feel uncomfortable about this knowing that your friend may be very sad. You are not sure what to say. Today you catch up with this friend, walking home from school. As you thought his/her eyes are red and he/she is obviously very sad. You begin talking.
3. Last night you and some friends were out, feeling a bit wild. You decide to try to sneak into a neighbor's pool but chickened out when you thought someone was coming outside. Unfortunately, some of their flowers may have been broken as you ran away. The problem is, you think you may have been identified but you are not sure. You would like to explain to your parents but are afraid of being punished. On the other hand, if they find out from the neighbors you know they'll be really mad. Pretend I'm your mother/father coming into the kitchen in the morning. I'll start..
4. One of your friends is asking you for a favour. You really don't want to do it but you don't want to turn your friend against you. He/she has gotten behind in math.

He/she would like you to come over tonight to help with problems for a couple of hours. You know their class has a test the next day but you are trying to work on a science project that you hope will be good enough for the science fair. Pretend I'm your friend coming up to ask you this favour.

5. Last week you had a disagreement with your friend. You were pretty rude because you were angry but you didn't mean it. Now your friend is really hurt. You've been worrying about it for several days and know you must apologize. Now you see your friend alone and you decide to make an effort to do it. You begin talking.

6. There is a person in your school who could be called your 'arch enemy'. He/she always puts you down. It's the beginning of school and you realize with horror that you've been assigned to the same gym class. You're heading to the changing room, wondering how you're going to manage with this kid, when he/she goes in just ahead of you. Pretend I'm that person and I begin talking.

7. You've gone to a party with one of your friends. They're all his/her friends and you don't know anyone. Suddenly, this friend announces that he/she is taking off but will be back in a few hours when his/her father is coming to get you. You hang around feeling miserable for awhile then decide to strike up a conversation with another girl/guy who

is sort of alone. Pretend I'm that other person. You start talking.

8. Your parents seem to you to be overprotective. They won't let you go downtown or to concerts. You decide to talk it over with them but you realize that if you don't explain your position well they'll get upset or angry and you won't get them to change. Your mom/dad (me) is reading the paper when you decide to begin the conversation.

Appendix G
Questionnaires for Gathering Role-Play Suggestions

Dear Student,

I am trying to study the types of social situations that teenagers encounter and how they cope with these situations. By "social situations" I mean any type of encounter where you communicate with friends, family, teachers, or strangers. Sometimes these situations can be difficult, you find it hard to know what to say, and this is what I am interested in. I would like you to list as many social situations as you can think of that have happened to you and that you found hard to handle.

Here are some examples to give you an idea of some typical social situations.

- 1.) I was at a party with some friends and they all wanted to go to another party in John's car. The problem was, I thought John had been drinking and I didn't want to drive with him. I didn't know what to say to my friends.
- 2.) My parents say they think my friends are no good. I really like my friends. I want to explain how I feel to my parents by I don't know how to do it without starting a fight.
- 3.) There's one subject I find really hard. I want to ask the teacher for some help and extra time but I don't want him/her to think I'm dumb or lazy.

Now go ahead and write your situations on the next page.

Thanks!

SEX _____ AGE _____ GRADE _____

Please list as many social situations that you can think of that you have encountered and found difficult to handle.

1.) _____

2.) _____

3.) _____

4.) _____

5.) _____

6.) _____

7.) _____

Dear Student,

On the following pages you will find descriptions of several social situations. I would like you to read each one carefully. After you have finished reading a description, please answer these questions. "How likely is it that a similar situation would happen to you?" "If you did encounter this situation, how difficult would it be for you to know what to do?" Use the rating scale accompanying each item to indicate your answer. Thanks!!

1. You have gotten angry with a friend and said some things that you regret. Now you would like to get back with your friend.

very unlikely to happen	very likely to happen	very easy to handle	very hard to handle
----------------------------	--------------------------	------------------------	------------------------

2. You have done something wrong. You want to be honest with your parents about it but you are afraid you will be punished.

very unlikely to happen	very likely to happen	very easy to handle	very hard to handle
----------------------------	--------------------------	------------------------	------------------------

3. There is a person in the school who could be called your 'arch enemy'. He/she always puts you down. You know you will soon be at the same gathering as this person and you wonder how to act.

very unlikely to happen	very likely to happen	very easy to handle	very hard to handle
----------------------------	--------------------------	------------------------	------------------------

4. Your friends offer you some alcohol or pot. You would prefer not to have any but are afraid your friends will think you are a jerk.

very unlikely to happen	very likely to happen	very easy to handle	very hard to handle
----------------------------	--------------------------	------------------------	------------------------

5. The coach of your sports team expects too much of you and is always yelling at you. You would like to do something about it without getting benched.

very unlikely to happen	very likely to happen	very easy to handle	very hard to handle
----------------------------	--------------------------	------------------------	------------------------

6. All your friends smoke but you don't want to start. They think they are very cool and bug you to stop being so straight.

<u>very unlikely</u> to happen	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	---------------------------------	-------------------------------	-------------------------------

7. You've hurt your friend's feelings and now you've got to apologize.

<u>very unlikely</u> to happen	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	---------------------------------	-------------------------------	-------------------------------

8. You've just moved to a new school. You feel that everyone is checking you out and you don't know how to begin to make friends.

<u>very unlikely</u> to happen	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	---------------------------------	-------------------------------	-------------------------------

9. Your friend is very sad because his/her parents just divorced. You don't know what to say.

<u>very unlikely</u> to happen	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	---------------------------------	-------------------------------	-------------------------------

10. You are out of town with your sports team. You have to billet with a stranger and his/her parents. The conversation is dragging.

<u>very unlikely</u> to happen	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	---------------------------------	-------------------------------	-------------------------------

11. Your parents seem overprotective. They won't let you go to concerts or downtown. You would like to talk this over with them.

<u>very unlikely</u> to happen	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	---------------------------------	-------------------------------	-------------------------------

12. When you're with a large group you don't know what to say. You worry that everyone will think you're dumb or a snob.

<u>very unlikely</u> to happen	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	---------------------------------	-------------------------------	-------------------------------

13. Your parents think some of your friends are not good enough for you. You would like to explain your friends' good points but don't know how to bring it up with your parents.

very unlikely
to happen

very likely
to happen

very easy
to handle

very hard
to handle

14. This guy in your crowd often has a car but he is a reckless driver. You seem to be the only one who doesn't like to drive with him.

very unlikely
to happen

very likely
to happen

very easy
to handle

very hard
to handle

15. You're having trouble with a subject at school but are afraid that if you ask for help everyone will laugh at you.

very unlikely
to happen

very likely
to happen

very easy
to handle

very hard
to handle

16. You've run into a person you used to be friends with a few years ago. Now you don't have much to talk about.

very unlikely
to happen

very likely
to happen

very easy
to handle

very hard
to handle

17. You've done something wrong but you've never done it before. You feel that your punishment was unnecessarily harsh but don't know how to get your point across to your parents.

very unlikely
to happen

very likely
to happen

very easy
to handle

very hard
to handle

18. You're at a party and the only person you know has left. You've got to make conversation with the strangers there.

very unlikely
to happen

very likely
to happen

very easy
to handle

very hard
to handle

19. You'd like to talk to your mother or father about your boyfriend/
girlfriend but you're afraid you won't be taken seriously.

<u>very unlikely</u> to happen	---	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	-----	---------------------------------	-------------------------------	-------------------------------

20. Your best friends had a fight. Now one of them wants you to take sides
but you want to remain friends with both.

<u>very unlikely</u> to happen	---	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	-----	---------------------------------	-------------------------------	-------------------------------

21. Some of your friends have stopped talking to you. You wonder why they
seem to have turned against you and want to talk to them about it.

<u>very unlikely</u> to happen	--	<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	----	---------------------------------	-------------------------------	-------------------------------

22. One of your friends asks you to do something that you don't want to do,
as a favour. If you say no you might turn him or her against you.

<u>very unlikely</u> to happen		<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	--	---------------------------------	-------------------------------	-------------------------------

23. You have a friend you like but everyone thinks he/she is a jerk. One
of your friends asks you why you hang around with this person.

<u>very unlikely</u> to happen		<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
-----------------------------------	--	---------------------------------	-------------------------------	-------------------------------

24. Some of your friends have been really bugging you about a boy/girl that
you like. You really want them to stop but don't want to turn them
against you.

<u>very unlikely</u> to happen		<u>very likely</u> to happen	<u>very easy</u> to handle	<u>very hard</u> to handle
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Appendix H
Instruction Manual for Role-Play Confederates

Instructions to Role-Play Confederates

I. Before subject arrives

1. Make sure you have the following materials

- subject's number and name
- subject's test package, including information sheet
- role-play cards
- pencils
- watch
- gum/mints

2. Make sure machine is recording properly.

3. Make sure chair and tripod are placed on markers.

II. Procedure (see III for details)

1. Ask subject to be seated, introduce yourself and point out camera, stating its purpose and that it is presently turned off.

2. Explain what you will be doing, emphasizing confidentiality.

3. Allow subject to study role-play cards for 5 minutes.

4. Practice role-play.

5. Read first role-play to subject, allowing him/her to follow on card. Ask if it is clearly understood and if he/she is ready to try it. Take back card from subject.

Turn on machine and state subject number. Begin role-plays.

6. When role-plays are finished ask subject to complete the information sheet.

7. Ask if he/she has any questions.

8. Give reward, thank subject and sign their permission slip.

III. Explanation to Subject

1. The purpose of this part of the study is to find out what the subject would do if certain situations were to occur in real life. Therefore, what we want in the role-plays is for the teenagers to act as they would if this were really happening. Emphasize that they should try to show us how they would act if this were really happening to them.

2. The role-plays are video-taped but before beginning it will be possible to practice so the subject can be comfortable with role-playing before the camera is turned on.

3. No one in the school will see the video-tapes. They are only to be used by the researchers. Also, the students' names will not be associated with their role-plays. They will only be identified by number.

4. Explain how the role-play works. You and the subject act out the scenes with you playing the other person described on the card. The subject only has to act as he would if he was really in the situation described.

5. When the subject is examining the role-play cards ask him/her to imagine how he/would handle a similar situation if it should occur "in real life". If the subject stops studying the cards before five minutes have passed, ask

him/her to look through them again, imagining what he/she would do if they were really happening.

6. Read the practice role-play and repeat the instructions as follows, "Now we're going to try to act out this situation. What you have to do is try to do and say what you would normally do in this sort of situation."

7. The responses offered below are guidelines. Use them when you can but you may find that they don't fit and you have to improvise. Remember to try to keep to the same spirit and to allow the subject plenty of time to speak. You should respond minimally. Don't interfere with the subject.

Role-Plays

Practice

You have friend that you like but everyone else thinks he/she is a jerk. This girl/guy that you know is asking why you hang around with this friend. I'll be the person questioning you and I'll start the role-play. You try to stick up for your friend.

Experimenter's role

(You are not a very friendly peer.)

Hey (subject's real name) didn't I see you at Fairview with Joe/Jane on Saturday?

I don't know how you can hang around with that guy/girl. Everyone thinks he/she is a jerk.

He/she's always sucking up to the teachers.

O.K., guess you know what you're doing.

1. You've just started at a new school. You feel that everyone is checking you out and you don't know how to begin making friends. After awhile you decide to begin a conversation with one of the girls/guys in your class (You say "That's me"). He/she is getting something out of a locker which is near yours. You begin talking.

Experimenter's role

(You are medium friendly. Let the subject carry the conversation.) If he/she can't think of anything to say, you can say: Aren't you in my French class?

How do you like our school?

Know anybody yet?

2. You've heard that the parents of your friend have just divorced. You feel uncomfortable about this, knowing your friend may be very sad. You are not sure what to say. Today you catch up with this friend, walking home from school. As you thought his/her eyes are red and he/she is obviously very sad. You begin talking.

Experimenter's role

(You are depressed and don't feel like parties, movies, etc. but will accept an invitation for coffee or a chat.) You can say the following:

I guess they'll be happier.

They've been fighting for awhile.

Dad just moved out on the weekend.

I'll see my dad on the weekends but its still hard.

3. Last night you and some friends were out feeling a bit wild. You decided to try to sneak into a neighbor's pool but chickened out when you thought someone might be coming outside. Unfortunately, some of their bushes may have been broken as you ran away. The problem is you think you may have been identified but you're not sure. You would like to explain to your parents but are afraid of being punished. On the other hand, if they find out from the neighbor you know they'll be really angry. Pretend I'm your mother/father coming into the kitchen in the morning.

Experimenter's role

(You are an understanding but concerned parent.)

If the subject doesn't bring up the incident you might say:

Is anything bothering you?"

Did something happen last night?

In response to the subject's confession you might say:

This is a serious matter (subject's name).

What do you plan to do?"

Is there anything else you think you should do?

4. One of your friends is asking you for a favour. You really don't want to do it but you don't want to turn your friend against you. He/she has gotten behind in math and would like you to come over this evening for a couple of hours to help with problems. You know their class has a test the next day but you are trying to work on a science project

that you hope will be good enough for the science fair.
Pretend I'm your friend coming up to ask you for this favour.

Experimenter's role

(You are pretty desperate for some help and you really insist that your friend help you.)

Oh (subject's name) I'm so glad I found you. I need to ask you a favour for tonight.

I've gotten behind in math and I need you to help me for a couple of hours.

Please, I'm afraid I'll flunk the test tomorrow.

You're real good at math.

5. Last night you had a disagreement with your friend. You were pretty rude because you were angry but you didn't mean it. Now your friend is really hurt. You've been worrying about it for several days and know you must apologize. Now you see your friend alone and decide to try to do it. You begin talking.

Experimenter's role

(As the subject's friend you are still angry. You don't let him/her off the hook too easily.)

That's no way to treat a friend.

You made me really angry.

That's no excuse.

This better not happen again.

6. There is a person in your school who could be called your 'arch enemy'. He/she always puts you down. Its the beginning of school and you realize with horror that you've been assigned to the same gym class. You're heading for the changing room, wondering how you're going to manage with this kid when he/she goes in just ahead of you. Pretend I'm that kid and I begin talking.

Experimenter's role

(You are a pretty aggressive. Take the lead and be insulting but don't say anything personal i.e. If the subject has pimples don't call him or her 'zit face'. Also, don't swear. If the subject has a good comeback - back off.)

Well if it isn't (subject's name), the jerk!

Where'd you get that outfit? The Salvation Army?

Sure hope a klutz like you isn't on any of our teams.

Yeah, we'll see who's so smart, on the basketball court.

7. You've gone to a party with one of your friends. Everyone there is friends with him/her and you don't know anyone. Suddenly this friend announces that he/she is taking off but will be back in a few hours when his/her dad is coming to get you. You hang around feeling miserable for awhile then decide to strike up a conversation with another guy/girl who is sort of alone. Pretend I'm that other person. You start talking.

Experimenter's role

(As in # 1 you are friendly but reserved. Let the subject do the talking.)

I know a few people here, not many.

I saw your friend take off.

What school do you go to.

What's it like?

Let's see if they have any food over there.

8. Your parents seem to you to be overprotective. They won't let you go downtown or to concerts. You decide to talk it over with them but you realize that if you don't explain your position well they'll get upset or angry and you won't get them to change. Your mom/dad is reading the paper when you decide to begin the conversation.

Experimenter's role

Be sure to decide what specific privilege you will discuss i.e. concerts. (You're a concerned parent. You hesitate to let you child do this but if he/she comes up with a good idea or reason you give in.)

You know those concerts can get pretty rowdy.

They sometimes have to call the police to the Forum during those concerts.

We're just concerned that something will happen to you.

How would you handle some of these situations?

Appendix I
Instructions to Subjects

Instructions

Instructions

This is the second part of the study that I told you about. This time we're going to be talking about real social situations that you might run across.

I'd like to remind you that what we do here is strictly confidential. I'm going to put a number on your questionnaire now, so you don't even have to put your name on it. Also, as I said before, what we're interested in is group results, for statistics.

O.K., let me show you what I'd like you to do. On these cards are descriptions of real social situations that other people your age have experienced. They are for what is called a "role play". This will require some imagination on your part. I'd like you to read each situation carefully, trying to imagine what you would do if you actually found yourself in that situation. Later, you and I will act out the situations for the video camera, as if they were really happening.

We'll talk more about the role play and practice it once you've had time to look them over. After the role plays you will fill out this short questionnaire and that's all.

Practice Role Play

O.K. let's look at the practice role play and I'll tell you how it works.

You have a friend that you like but everyone thinks he/she is a jerk. This girl/guy that you know is asking

you why you hanging around with this friend. I'll be
the person questioning you and I'll start the role play.
You try to stick up for your friend.

Remember, you've got to try to act as if this was really
happening. Try to do what you would do if this was happening
to you. O.K.? So, I'll start.....

Appendix J
Manual for Rating Discrete, Intermediate,
and Global Measures

Discrete Measures

1. Length of role-play-Timed from the beginning of role-play to the end (from one beep to the next), in seconds. This will be done by using the internal time of the VCR.
2. Duration of speech-A stopwatch will be used to time the total duration of the subject's speech. The stopwatch will be activated each time the subject begins to speak and stopped when the statement terminates, so that a cumulative time will be recorded. If the subject pauses more than one second (see note below) while speaking the stopwatch will be stopped until he or she resumes speaking. Pause fillers (um, well...) do not interrupt such a pause. 'Feedbacks' (yeah, uh-huh) delivered to the experimenter, while the experimenter is talking, do not constitute speech events and are not recorded. Similarly, if the experimenter gives feedbacks while the subject is speaking, these do not interrupt the subject's speech event. In other words, the stopwatch is kept running until the subject stops speaking, even if the experimenter has interjected a uh-huh, yeah etc.
3. Number of speech occurrences-Each time the subject speaks, as defined above, is counted. This will be reported as a frequency count. If a beep and statement coincide (i.e. Bye!), an occurrence is scored if the statement can be clearly heard.

4. Self-disclosures Any statement, or series of statements, in which the subject reveals an element of personal information (ask yourself: "Does this involve self-exposure or risk-taking?"). Personal information refers to expressions of feelings ("I hate math." "I'm really lost." "I really loved it there."), as well as information that is not readily observable ("My parents are divorced." "We did something wrong last night."). Statements of feeling that are simply part of social discourse ("I'm fine." "I'm sorry" "I'd like to help...." "I can take care of myself") are not scored. Also, information about the self that is readily observable ("My friend brought me here". (She's my friend." "I have a science project" "I'm in grade 9." "I'm new here.") is not scored. Self-disclosures are scored only once; repetitions are not scored. These will be counted and reported as a frequency count.

5. Open-ended questions-Any question that can not be answered with only "Yes" or "No", even if the reply is, or could be, only one other word. For example, "What are the teachers like here?" "How do you feel about the divorce?" "How do you like the party?"

6. Closed-ended questions-Any question that can be answered with "Yes" or "No". "Are the teachers nice here?" "Are you sad about the divorce?" "Do you like the party?" Open and closed-ended questions will be counted and reported as a frequency count.

A note about questions There is a group of statements that resemble questions but whose purpose is to get confirmation or 'feedback', rather than further the conversation. These include rhetorical questions ending with a raised voice (I could talk to the neighbor?) as well as sentences ending with the famous Canadian "eh?" (You know I like Culture Club, eh?); if the statement is not grammatically a question it could still be counted if it furthers the conversation by seeking to elicit more information (Your dad doesn't live with you anymore? You don't seem to be having much fun either, eh?).

Procedure

The role-play is viewed once while the total duration is recorded, using the VCR's internal timer, and the number of speech occurrences is counted. Self-disclosures and questions are counted on one or two subsequent passes. During these passes, pauses are noted and timed if necessary, so that on the final pass, pauses of longer than one second can be left out of the timing. On the final pass, duration of the subject's speech is timed, using the stopwatch.

A note concerning pauses These pauses can be noted on earlier passes. It may be necessary to time some of them to be sure they last one second.

Rater's Instructions

Intermediate Measures

1. Voice 1=appropriate
- above average; good impression, appropriate modulation of voice makes message more effective or
 - normal; clarity and volume of voice allow listener to hear and understand easily
- 0=inappropriate
- below normal but no negative impression;
 - a. quiet or unclear (mumbled, poor enunciation) but can be heard without difficulty
 - b. rather loud or clipped but not unpleasant or negative impression;
 - a. too quiet or unclear, requires effort to hear or at times inaudible
 - b. Too loud or clipped, rather unpleasant
2. Pace 1=appropriate
- above average; appropriate modulation of pace of speech makes message more effective or normal; adequate pacing
- 0=inappropriate
- below normal; a. slow (includes pauses) but no negative impression

b. fast but not hard to follow or
negative impression;

a. slow, negative impression

b. fast, hard to follow

3. Speech Disturbances

1=appropriate

-above average; none or almost
unnoticeable or normal; occasional
stuttering, repetitions, omissions, pause
fillers

0=inappropriate

-below normal; often stutters etc. but no
negative impression or very frequently
stutters etc. giving negative impression

4. Face

1=appropriate

-above average; facial expression
enhances subject's verbal expression,
very effective or normal range of facial
expressions

0=inappropriate

-below normal; a. face tends to be
inexpressive (frozen expression or
nervous smile) but does not detract from
verbal expression

b. some mildly negative facial

folded in front b. too slouched or
reclined

7. Gesture 1=appropriate

-above average; use of gesture enhances
communication, very effective or normal
amount and variety of gesture

0=inappropriate

-below normal; a. limited use of gesture
but no negative impression b. some
fidgeting or awkward gestures but no
negative impression or negative
impression; a. gestures very limited in
frequency and range b. fidgets, squirms
or has inappropriate or unpleasant
gestures i.e. scratches

8. Length (actual speech length, excluding pauses; per
response)

1=appropriate

-above average; good impression, adjusts
length of speech well to demands of the
situation or average; normal speech
length

0=inappropriate

-below normal; a. brief but no negative
impression b. speaks at length but no

negative impression or negative
impression; a. speaks too briefly (many
monosyllabic or very brief responses)
b. speaks too long

9. Meshing 1=appropriate

-above average; very 'in tune' with
partner or average; normal meshing

2=inappropriate

below normal; a. responses occasionally
delayed but no negative impression b.
interrupts occasionally but no negative
impression or negative impression
a. response often delayed or occasionally
delayed for too long b. many
interruptions

Global Ratings

Effectiveness Ratings

1=ineffective, 2=somewhat ineffective, 3=less effective than average, 4=average level of effectiveness, 5=more effective than average, 6=good effectiveness, 7=very effective

Effectiveness ratings are made on the basis of verbal content. This manual contains examples at each point of the scale for each role-play solution. Of course, many subjects will respond differently from the examples given. What is required is that you make a judgement as to whether what the subject says is qualitatively similar to the examples at each point.

1. Making friends at a new school

7=very effective

- introduces self and asks role play partner's name
- explains that he or she is new at the school
- asks open-ended questions or introduces an interesting topic of conversation i.e. "I hear the Noname Band are playing at the dance have you ever heard them before?" "I hear the football team is really good here?"

6=good effectiveness

- may fail to introduce self or to explain that he/she is new
- introduces self etc. but topics of conversation

are less interesting i.e. "What are the teachers like here?"

5=more effective than average

-fails to introduce self and explain that he she is new

4=average level of effectiveness

-like 5 with topics of the less interesting variety as illustrated in 6
-asks few questions

3=less effective than average

-asks questions of the yes/no answer variety
-uninteresting topics of conversation i.e. "Is gym on Thursdays?"

2=somewhat ineffective

-has trouble expressing self
-asks somewhat inappropriate questions i.e. "Where do you live?"

1=ineffective

-has great deal of difficulty thinking of what to say
-may not ask any questions or simply asks directions

2. Parents of friend divorce

7=very effective

-acknowledges the problem i.e. "I've heard you're having a bad time now."

-expresses empathy "Your parents splitting must be very rough on you."

-proposes an activity that is appropriate for the friend's mood i.e. "Would you like to come over for a coke. We could talk."

-offers help i.e. "Any time you want someone to talk to just give me a call."

6=good effectiveness

-one of the following not present: empathy, appropriate activity, help

5=more effective than average

-one of the following is present: empathy, appropriate activity, help

4=average effectiveness

-makes statements that are intended to help but may make friend feel worse i.e. "It's no big deal. You'll get over it."

-may propose inappropriate activities, such as dances or parties, insistently

3=less effective than average

-speaks very little or dominates the conversation

2=somewhat ineffective

-unwanted advice or hurtful statements i.e. "You'll be better off without them." "Tell your dad you want to live with him."

1=ineffective

-avoids issue of divorce

3. Confession to parents

7=very effective

-explains the situation and apologizes

-proposes to speak to neighbor and make up the damages

6=good effectiveness

-explains and apologizes

-does not initiate speaking to neighbor

5=above average effectiveness

-explains situation but does not apologize

4=average effectiveness

-one of the following is present: reports events inaccurately, does not acknowledge error, fails to apologize to parent, resists idea of speaking to neighbor

3=less effective than average

-like 4 only subject becomes angry i.e. "Smith's an old jerk anyway!" "Get off my case!"

2=somewhat ineffective

-attempts to lie or avoid the issue but eventually tells parent something of the events

1=ineffective

-doesn't mention the incident

4. Friend asks a favour

7=very effective

-states his or her position emphatically and defends it i.e. "I'd like to help but my science project is very important to me and I just can't spend the time working with you tonight."

-finds a compromise that allows him or her to work on science project yet still help or find help for friend

6=good effectiveness

-states position but less emphatically than 7

-similar compromise to 7

5=more effective than average

-hesitant about position and compromise

-compromise less adequate i.e. "Ask your parents to help."

4=average effectiveness

-compromise really means giving up work on project i.e. "O.K. but only for an hour."

3=less effective than average

-same type of compromise as 4 but less emphasis on time limits "O.K. ... for a while."

2=somewhat ineffective

-gives in totally after some persuasion

1=ineffective

-gives in immediately

5. Apologize to a friend

7=very effective

-acknowledges wrongdoing and the feelings that it caused

-apologizes i.e. "I'm sorry for the way I acted. I was wrong to take out my frustration on you and make you feel rotten too."

6=good effectiveness

-fails to acknowledge hurt feelings but admits error and apologizes

5=above average effectiveness

-tries to 'laugh it off' but does apologize

4=average effectiveness

-makes an excuse i.e. "It's just my bad temper. I can't help myself."

3=below average effectiveness

-blames the other "You made me so mad."

2=somewhat ineffective

-insincere "I guess I'm supposed to say I'm sorry"

1=ineffective

-fails to apologize

6. Encountering arch enemy

7=very effective

-may turn the tables on the bully i.e. "Well look at you. I'd say you're the jerk in this class."

-may confront him/her "You have no right to talk to me like that. You don't even know me."

5=good effectiveness

-similar strategy to 7 but expresses him/herself

less forcefully, hesitancy in voice or ignores the bully

5=above average effectiveness

-strategies similar to 6 and 7 but still less forceful

-voice hesitant, speech disturbances, momentary loss for words

4=average effectiveness

-difficulty thinking of what to say

-uses strategy of teasing back i.e. "I wouldn't talk. You flunked math."

3=below average effectiveness

-either very hesitant and unable to verbalize well or verbally abusive "You're the ugliest in the class!"

2=somewhat ineffective

-much difficulty thinking of what to say or threatens to fight

1=ineffective

-at a loss for words, passive

7. Alone at a party: Note-This item is scored as item 1

Making friend at a new school

8. Overprotective parents

7=very effective

- explains situation and asks permission
- gives examples of special precautions that will be taken i.e. "We'll be picked up by "X's" mother."
"We'll be sitting with "X's" older brother."
- gives examples of how he/she has shown himself or herself to be responsible in the past i.e. "I've been babysitting for 2 years now." "I've never broken curfew."

6=good effectiveness

- same as 7 but no examples of past maturity, simply says "All the other kids are going."

5=above average effectiveness

- no safety precautions offered

4=average effectiveness

- becomes impatient and doesn't explain the situation clearly

3=below average effectiveness

- can't give reasons why he or she should be allowed to go

2=somewhat ineffective

- angry statements "You always treat me like a baby!"

1=ineffective

-gives in easily or says he/she will just go
without permission

Social Skill (very unskilled-very skilled)

1=very unskilled 2=low social skill 3=somewhat less
socially skilled than average 4=average 5=somewhat more
than average 6=good social skills 7=very socially skilled

This dimension describes the subject's general social functioning, comprising behavioral and cognitive elements. The subject's style of presentation is of most importance although content can cause a subject to lose or gain one rating point. Therefore, a subject with good social skills or type of presentation might receive one point less if his or her content is poor. Similarly, a subject with relatively poor social skills might receive one point higher if his or her role play solution is good.

EXAMPLES:

7=very socially skilled	i.e. "alone at a party"
-very poised and confident	-smiles, leans forward
-listens, in tune with other	introduces self,
-warm, animated	asks questions about
(gestures, expressions)	other, begins con-
-facilitates a smooth dialogue	versation i.e. "you
-asks open ended questions	know I saw _____
(where relevant)	at the forum last night
-finds interesting topics of	Do you like them?"
conversation	

-solutions to role plays are very good.

6=good social skills

-poised and confident (may be somewhat less than 7)

-may not be as warm and/or animated as 7

-conversation may not flow as smoothly as 7

-otherwise same behaviors as 7

5=somewhat more skilled than average

-usually friendly

-some fidgeting or less animated than 6&7

-good solutions to role-plays are found

4=average

-somewhat friendly, usually not very poised or relaxed

-smiles but does not say his/her name

-asks questions but frequently of the 'yes/no' answer type

i.e. "Are you having fun"

-finds topics of conversation but they may lack interest

-somewhat effective solutions to role

play dilemmas are found

3=somewhat less skilled than average

-somewhat uncomfortable

-may be somewhat remote or unfriendly

-may have some awkward gestures

-statements may be inappropriate

(could make partner uncomfortable)

-has trouble finding topics of conversation

2=Low social skill

-uncomfortable

-has trouble expressing him/herself verbally,
sometimes answers in monosyllables or very briefly

-inadequate solution to role-play dilemma

Relaxation (very anxious-very relaxed)

1=very anxious 2=anxious 3=somewhat anxious 4=average

level of relaxation 5=mostly comfortable or relaxed

6=relaxed or comfortable 7=very relaxed

The state of relaxation will be particularly reflected
in behavioral aspects of the subject's performance.

Cognitive aspects may or may not be effected.

7=very relaxed

-subject appears to be very comfortable

interacting with other person

-moderate speed and volume of speech, absence
of speech disturbances

-posture is erect (not stiff) and oriented
towards the experimenter

-facial expression varied and gestures appropriately

6=relaxed or comfortable

-speech may be rapid but not hard to follow or
somewhat slow

-posture may be somewhat more slouched or reclined than 7

-good use of facial expression and gesture

5=mostly comfortable or relaxed

-may have speech disturbances, somewhat soft or loud voice

-may fidget or appear somewhat stiff

4=average level of relaxation, somewhat comfortable

-may speak quickly, some stammering and pause fillers

-fidgety or somewhat stiff (limited gestures and/or facial expressions)

-may glance about often

3=somewhat anxious, uncomfortable

-may speak too loudly or softly

-may have awkward movements, unpleasant facial expressions or appear quite stiff with few gestures

-smiles infrequently, short responses

-may duck head occasionally and avoid eye contact

2=anxious, very uncomfortable

-short responses, speech may be hesitant

-posture stiff, few gestures or may fidget and change

position a great deal

-may not smile or have frozen expression

-averts gaze or stares

1=very anxious

-wishes he/she wasn't there, may behavioral signs of anxiety

-speaks very rapidly (speech unclear) or perhaps very slowly

-speaks very little and often at a loss for words

-speech is brief and responses monosyllabic

Appendix K
Summary Tables for Group by Sex
MANOVAs for Observational Variables

Table K-1

Group by Sex MANOVA for the Discrete Observational Measures

<u>Multivariate interaction effect</u>			
		F = 1.696	p = .161
Variable	Univariate F	df	p
Self-disclosures	3.880	4/66	ns
Open-ended questions	2.463	4/66	ns
Closed-ended questions	.738	4/66	ns
Speech duration	1.652	4/66	ns
<u>Multivariate effect for sex</u>			
		F = .727	ns
Variable	Univariate F	df	p
Self-disclosures	.004	4/66	ns
Open-ended questions	2.571	4/66	ns
Closed-ended questions	.088	4/66	ns
Speech duration	.235	4/66	ns
<u>Multivariate effect for weight group</u>			
		F = 1.184	ns
Variable	Univariate F	df	p
Self-disclosures	.163	4/66	ns
Open-ended questions	.805	4/66	ns
Closed-ended questions	3.264	4/66	ns
Speech duration	.0137	4/66	ns

Table K-2

Group by Sex MANOVA for the Intermediate ObservationalMeasures

Multivariate Interaction Effect (n=73) F=.881 p=ns

Variable	Univariate F	df	p
Voice	.084	4/66	ns
Rate of speech	.917	4/66	ns
Facial expression	3.621	4/66	ns
Use of gaze	.490	4/66	ns

Multivariate effect for sex (n=73) F=1.802 ns

Variable	Univariate F	df	p
Voice	.235	4/66	ns
Rate of speech	4.781	4/66	.032
Facial expression	.829	4/66	ns
Use of gaze	4.068	4/66	.043

Multivariate effect for weight group (n=73) F=1.518 ns

Variable	Univariate F	df	p
Voice	.001	4/66	ns
Rate of speech	1.008	4/66	ns
Facial expression	6.170	4/66	.015
Use of gaze	.699	4/66	ns

Table K-3

Group by Sex MANOVA for the Global Observational Measures

<u>Multivariate interaction effect (n=73)</u>			
Variable	Univariate F	df	p
Relaxation	.119	2/68	ns
Effectiveness	.101	2/68	ns
<u>Multivariate effect for sex (n=73)</u>		F=.995	ns
Variable	Univariate F	df	p
Relaxation	1.116	2/68	ns
Effectiveness	.027	2/68	ns
<u>Multivariate effect for group (n=73)</u>		F=.663	ns
Variable	Univariate F	df	p
Relaxation	.391	2/68	ns
Effectiveness	.830	2/68	ns

Appendix L
Regressions to Choose Variables to
Predict Global Measures

Table L-1
Regressions to Choose Variables to Predict Global Measures

Effectiveness

N=73 $F(8,64) = 8.29, p < .001$

	Beta	sr ² (unique)	R ²
Speech Duration	-.42**	.10	
Self-Disclosures	.07	.00	
Open-Ended Questions	.18*	.03	
Closed-Ended Questions	.07	.00	
Voice	-.01	.00	
Pace	-.32**	.10	
Facial Expression	-.17	.02	
Gaze	-.23**	.04	.51

Relaxation

N=73 $F(8,64) = 23.4, p < .001$

Speech Duration	.22*	.03	
Self-Disclosures	-.02	.00	
Open-Ended Questions	-.07	.02	
Closed-Ended Questions	-.11	.01	
Voice	.16*	.02	
Pace	.35**	.07	
Facial Expression	.30*	.05	
Gaze	.36**	.10	.74

* $p < .05$

** $p < .01$