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SOCIAL COMPETENCE IN YOUNG CHILDREN:

THE CONSTRUCT AND ITS MEASUREMENT

C

by Nishat Ali Khan

Thesis presented to the Faculty of Graduate
Studies of Carleton University in partial
fulfillment of the requirements for the
degree of Master of Arts.

Ottawa, April, 1982.

The undersigned recommend to the Faculty
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ABSTRACT

An attempt was made to validate the constructs involved in the two factor model of social competence, the two factors being (1) Apathy-Withdrawal vs. Interest-Participation and (2) Anger-Defiance vs. Cooperation-Compliance. This was done by assessing the validity of two scales of social competence which were developed by Martin Kohn and are based on the two-factor model. A 28-item observation schedule was developed which tapped behaviors that corresponded directly to the behaviors rated by teachers on the Kohn scales. The ratings on the two measures were correlated and convergent and discriminant validity of the two factors was assessed using the Multitrait-Multimethod Matrix Technique.

The construct validity of Factor I, Apathy-Withdrawal vs. Interest-Participation, was established for boys but not for girls. Construct validity was not established for Factor II, Anger-Defiance vs. Cooperation-Compliance.

The discussion of the results focuses on the role that the sex of the pupil and cultural expectations might play on the ratings of pupils' social competence by teachers.

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INTRODUCTION

The individual's ability to function in social settings has long been used as a yardstick for assessing the maturity and stability of his personality and character. It is a person's interactions with others, his ability to conform to social norms while, at the same time, bringing his own influences to bear upon the environment, that makes him a competent individual. Given the importance of this competence construct, it is not surprising that such extensive efforts have been made over the past 50 years to develop definitions and measures of the construct. It will be shown in the Literature Review section below that these efforts have met with some success.

Efforts to develop a definition of social competence have, with some consistency, identified two independent traits or factors. These traits go under a variety of labels, but they are usually referred to as the Conduct Problem factor and the Personality Problem factor. It will be seen that these factors are descriptive of somewhat different kinds of maladjustment, but that both denote socially incompetent children who are likely to exhibit pathological problems in later life. There are, however, some problems with this so-called two-factor model of social competence, particularly with the definitions of the factors, and the study reported here was designed, in part, to address those problems.

In the past, considerable attention has also been directed toward the development of measures of social competence, with most of

those efforts focusing on either observational or judgmental types of measures. A wide variety of individual measures have been developed in both of those categories. The focus in the present study was on two teacher judgment measures of social competence developed by Martin Kohn (Kohn, 1977; Kohn & Rosman, 1972a). These are termed the Problem Checklist and the Social Competence Scale. These scales are scored in terms of the two factors mentioned above, although they are labeled somewhat differently here: (a) Interest-Participation vs Apathy-Withdrawal, and (b) Cooperation-Compliance vs Anger-Defiance. Considerable efforts have gone toward assessing the reliability and validity of these competence measures, but there remains some uncertainty about the behavioral meaning of these judgmental scores, and the present study was designed to contribute information to that issue.

The study involved assessment of the construct validity of the above-mentioned two measures of social competence, the Kohn's Social Competence Scale and the Symptoms Checklist. It was felt that this could best be accomplished by comparing the teacher rating scores from these instruments with indices of competence based on observational data obtained from ratings on an observation schedule. The Observation Schedule was developed to tap behaviors indicative of traits of Apathy-Withdrawal, Interest-Participation, Anger-Defiance and Cooperation-Compliance. In addition these behaviors corresponded directly to behaviors rated by teachers on the Kohn

instruments. It was expected that such comparisons would shed further light on the true behavioral meaning of judgmental scores and that analyses of such data would contribute to a finer and more concrete definition of social competence.

LITERATURE REVIEW

The literature review first describes some of the retrospective research which traced adult pathologies back to childhood traits. Research leading to the emergence of the two-factor model of social competence is presented next, followed by studies looking at the longitudinal persistence of social competence and its effect on academic achievement and emotional adjustment of children.

Childhood Personality Traits of Pathological Adults

In 1947 Eysenck reported the results of several studies aimed at discovering the main dimensions of personality. The studies involved more than 10,000 normal and neurotic subjects. The data consisted of extensive social information, personal history (family, developmental, medical, hobbies, etc.), personality characteristics, symptoms, diagnosis and treatment. All the data were recorded by psychiatrists. He reported a factor analysis as revealing "two major factors, general traits, dimensions or principles of classification" (Eysenck, 1947, page 58). He found the subjects to vary with respect to "general neuroticism" and with respect to "introversion-extraversion".

Zigler and Philips (1959) investigated the antecedents of mental disorder through case history data. They examined the difference between a state hospital population and the normal population

of the same geographical region. Differences between the major groups of functional disorders were also looked at. They found that the hospitalized individuals had been most inadequate socially prior to onset of illness which resulted in hospitalization. Among the diagnostic groups themselves, the schizophrenics and character disorders were drawn from the "most inadequate portion of population", whereas the manic depressive and psychoneurotics seemed to be drawn from a segment of population having a somewhat higher level of adaptive adequacy. Females from the hospital population were more "normal-like" in their social-effectiveness prior to hospitalization.

These findings prompted Zigler and Philips to raise the question whether consistent patterns of social adequacy may exist in a normal population and whether these tendencies may be related to the nature of any pathology that may occur at a later point in time.

Ricks and Berry (1970) report on one of several studies involving follow-up of patients at the Judge Baker Guidance Centre. This study involved comparisons between 30 chronic schizophrenics (continuously hospitalized up to the time of study with two thirds of them having spent 60 percent of their adult lives in mental hospitals) and 38 schizophrenics who had been released from hospital. These subjects were located by checking the Massachusetts Department of Mental Health files for hospitalized patients who had been treated at the Judge Baker Guidance Centre in childhood or adolescence. The data consisted of the comprehensive Judge Baker Guidance Centre records,

and mental hospitals records supplemented, whenever possible, by materials from schools, courts and social agencies. Recurring patterns were established and tested for significance.

The results indicated that subjects who ended up being chronic schizophrenics fell either in the "withdrawn" category or the "delinquent" category. The "withdrawn" subjects showed psychotic-like behaviors, low self-esteem, and obsessive thinking, and, whereas they were shy and timid outside the home, in the home they often displayed uncontrolled acting out behaviors. The delinquent boys, as can be predicted, acted out in the community, stealing, lying, and being destructive, etc.

The "released" schizophrenics, although often withdrawn, were less obsessive and psychotic-like. This group also included the "acting-out" types, but their nature was somewhat different from the above delinquents in that their aggression was demonstrated more towards their peers. Therefore, both withdrawal and aggression were found to be precursors of schizophrenia; however, a combination of both (i.e. being withdrawn out of the home and aggressive in the home situation) was found to be the most potent indicator.

Watt, Stolorow, Lubensky and McClelland (1970) looked at childhood public school records of 30 non-migratory hospitalized schizophrenic adults and compared them to 90 matched control children's records who were presumed to have become normal adults. The results led Watts and his colleagues to conclude that behaviors in public schools (prior to mental breakdown) can identify potential schizophrenics.

They also concluded that the patterns of maladjustment were different for schizophrenic boys as compared to schizophrenic girls. The boys showed primarily aggressive behavior, with evidence of internal conflict or overinhibition and depression being the secondary factors. The girls tended to be primarily overinhibited, sensitive, conforming, and introverted. They were rated to be better adjusted in school by the teachers.

To summarize then, in all these studies traits of aggression and withdrawal have emerged consistently as primary traits of these maladjusted individuals. Differences in traits (i.e. whether aggressive or withdrawn) have indicated differential diagnosis as well as differential prognosis. Sex differences have also been evident in terms of the early traits and later personality development. Hence the need to define these traits and to measure them early in an individual's life has become increasingly pressing.

The Emergence of the Two-Factor Model of Social Competence

Paynter and Blanchard (1929) are reported (Kohn, 1977) to be among the earliest researchers who grouped traits under the two headings of "Personality difficulty" and "Behavior difficulty". This categorization was a result of analyzing and grouping traits of a clinic population of 330 children. The "Personality difficulty" category was composed of characteristics such as mental conflict, inferiority feelings, fearfulness, and daydreaming. The "Behavior

difficulty" category contained within it behaviors such as lying, stealing, truancy, fighting and temper tantrums. Paynter and Blanchard felt that the personality difficulties usually affected the personal adjustment and happiness of the individual and, in extreme cases, manifested itself in the form of nervous and psychopathic conditions. The behavior difficulties, on the other hand, were felt to severely interfere with the individual's interpersonal relationships.

Ackerson (1931-1942, reported by Kohn, 1977) analyzed 5,000 cases of children referred to Illinois Institute of Juvenile Research. He isolated two dimensions of personality maladjustment very similar to those of Paynter and Blanchard's. He called these "Personality problems", and "Conduct problems", with the former being intrinsic in nature (seclusiveness, daydreaming, and inferiority feelings) and the latter more overt (quarrelsomeness, stealing, and truancy). Ackerson's findings were verified by Himmelweit (1952, cited by Eysenck, 1970), who carried out a further analysis of the data for the boys in Ackerson's sample. Himmelweit confirmed that "Personality problems" displayed an introverted type of disturbed behavior (sensitive, seclusive, depressed), and that "Conduct problems" displayed extraverted type of deviant behavior (stealing, truancy and destruction).

Hewitt and Jenkins (1946) in an attempt to develop a system of classifying the problems of children, analyzed 500 case records of children referred to the Michigan Child Guidance Institute for Behavior Problems. They used statistical means to determine whether

correlating and categorizing traits would lead to identification of basic syndromes of disturbance. Correlating and clustering 94 traits resulted in the formation of three syndromes.

Hewitt and Jenkins described these as, (1) "Over-inhibited behavior" which manifested itself in the form of seclusiveness, shyness, apathy, worrying, sensitiveness and submissiveness; (2) "Unsocialized aggression", with assaultive tendencies, fight picking, cruelty, defiance, and hostility towards adults, malicious mischief, and inadequate guilt feelings being characteristic traits; (3) "Socialized delinquency" described clusters of traits such as association with undesirable companions, gang activities, co-operative stealing, running away from home and school truancy.

Patterson (1964), arguing with methods used so far by researchers, attempted to use "strictly" empirical means to construct a new classification system for children's disturbed behavior. He collected data on 100 boys referred to four agencies for diagnosis. None of the boys had been identified as being brain-damaged and all had IQs of above 80. These subjects were rated on 149 observation items in a structured setting. The observation data were added to referral data which gave information on the presence or absence of 30 symptoms. The resulting matrix was factor-analyzed by the Wherry-Gaylord method which groups factors according to similarities in rank, level and scatter of profile. Patterson's analysis yielded five factors very similar to those produced by more liberal and somewhat subjective

means. These five factors were hyperactive, withdrawn, immature, aggressive, and anxious.

The above studies had all looked at clinical populations of children and had found social aggression as well as social withdrawal to be related to maladjustment in children. Subsequent investigators turned their attention towards the normal population of children in an attempt to isolate traits which might be predictive of later personality development.

Peterson (1961) conducted an original study where he listed the problems of 427 children chosen from the records of a child guidance clinic and asked 28 teachers of 831 normal children to rate their pupils as to the presence or absence of the problem behaviors. Peterson hypothesized that the personality dimensions could be measured on a continuum ranging from healthy to disturbed. While the clinic population would tend to be placed towards the disturbed end, the normal children could be rated anywhere on the continuum. The latter would also possibly show individual traits that could be clustered within one category. Again, two distinct syndromes emerged from the factor analysis which Peterson labeled as "personality problem" and "conduct problem". The traits contained within these syndromes were very similar to those of Hewitt and Jenkins' "overinhibited behavior" and "unsocialized aggression" respectively. Peterson concluded that the repeated emergence of these factors had provided for an adequate definition of these dimensions and that it would now be possible to obtain reliable,

independent measures of the factors.

Schaefer (Schaefer, 1971, Schaefer and Aaronson, 1966, cited by Kohn, 1977) further defined these dimensions as being bipolar. He assessed desirable and undesirable behavior of elementary school children in the school setting. This was accomplished by having teachers rate the children on Schaefer's Classroom Behavior Inventory, a teacher rating scale. A factor analysis indicated that scores from the measure can be described in terms of three factors: (1) Extraversion vs. Introversion, (2) Love vs. Hostility, (3) High vs. Low Task Orientation. Schaefer's research established the bipolarity of the factors: that is, that they have a positive as well as a negative side, whereas up to this time researchers had only focused on the negative, undesirable side.

Digman (1963) in an attempt to study child personality structure, had four experienced teachers judge 102 first and second grade children in regards to 38 traits previously listed by Cattell and Coan (1957). An initial factor analysis yielded 11 centroid factors. These were superego strength, hostility, surgent excitement, autia, general intelligence, premsia, sex, social confidence, neuroticism, parental attitude and an unidentified factor. A second-order analysis was then conducted and three second-order factors emerged. Digman interpreted these as Successful vs. Unsuccessful Socialization, Introversion vs. Extraversion, and sex of subject. He concluded that recent arguments for a two-factor approach to child personality could

be interpreted as approximations to these second-order factors.

An interesting study by Richards and McCandless (1972) looked at socialization dimensions among five-year-old slum children. This was a longitudinal study extending over a period of three years, involving over 300 black and white, four and five-year-old prekindergarteners. They all came from urban neighborhoods of Atlanta, Georgia. The data included measures of demographic and peer-child variables such as peer popularity, sex role preference, self-social construct, intensity of task involvement, and teacher ratings of personal and social adjustment. A correlation matrix was generated and factor analyzed. Five factors emerged: (1) verbal facility; (2) coping with anxiety by aggression; (3) coping with anxiety by withdrawal; (4) alienation; and (5) biological sex. Once again, aggression, withdrawal, and hostility showed a consistency in emerging as crucial and differentiating factors.

In summary, research in the area of child personality too has consistently yielded traits of aggression and withdrawal as being involved in differentiating a healthy personality from an unhealthy one. In effect, these are traits denoting social competence in the sense that presence or absence of them determines whether a child will be able to deal successfully with life's stresses, whether he will have harmonious relationships with peers and parents and whether he will be successful in the academic realm. A third factor, relating to task orientation, has been indicated in some of the

studies, but this appears to be more situational.

Kohn and Rosman (1973a) used these research findings to develop a comprehensive definition of social competence. They describe the two-factor model of social competence as involving two bipolar dimensions: (a) Interest-Participation vs. Apathy-Withdrawal, and (b) Cooperation-Compliance vs. Anger-Defiance. Kohn and Rosman (1973a) describe these factors in detail as follows:

The healthy end of the Factor 1 dimension, Interest-Participation, indicates the extent to which the child displays interest, curiosity and assertiveness, uses the opportunity of the classroom and obtains satisfaction appropriate to a preschool setting through positive interaction with his peers; the disturbed end, Apathy-Withdrawal, indicates withdrawal from these opportunities, a lack of interest and a failure to elicit the cooperation of peers in carrying out the play activities of the classroom. The healthy end of the Factor Two dimension, Cooperation-Compliance, indicates the extent to which the child conforms to the rules, regulations, and routines of a classroom and complies with the teacher's requests and suggestions; the disturbed end, Anger-Defiance, indicates defiance and the creation of disturbance which upset the normal classroom routines.

(Kohn and Rosman, 1973a, p.278)

Having defined these two traits we can go on to raise another question; that is, are these traits of social competence persistent and stable? This, in effect, is asking whether a shy, withdrawn child will outgrow these traits, whether an aggressive, hostile child will be able to come to peace with the environment, and, finally, whether a child exhibiting a competent well-adjusted personality will remain stable through his developmental years and

into adulthood. In essence we want to know if it is possible to establish the status of a person's social competence in early childhood and to predict his future personality adjustment. Retrospective studies mentioned earlier have looked back at childhood traits of pathological subjects and found, in general, that deviant behaviors were evident even in the early years. However, there are many shortcomings to such data collection and knowing the maladjusted nature of the subject's personality also could bias interpretation of such data. Unfortunately, there are not many longitudinal studies available which might provide the most appropriate data. Hence studies reported here are a mixture of follow-up, cross-sectional and longitudinal studies.

Morris, Soroker and Burrus (1954) did a follow-up study of withdrawn children referred 16 to 17 years earlier to the Dallas Child Guidance Clinic. Patients with average IQ, and on whom comprehensive social histories existed, were included in the study. All had been cases of a diagnostic or consultative nature and had not received continuous treatment. The cases were divided into (1) external reactors, i.e. showing delinquent, acting out types of behavior, (2) internal reactors, those exhibiting shy, withdrawn and fearful behaviors, and (3) mixed reactors, those who had some characteristics of each of the above groups. Initially, the investigators focused only on the internal reactors. These subjects were located and extensive interviews were carried out. On the basis of the interviews, the subjects were rated on general adjustment, interpersonal relationships and

occupational achievement. The results pointed to longitudinal persistence of the traits of shyness and withdrawal, but did not show these traits to be precursors of pathology. The subjects were found to be stable and secure but not exceptionally successful. They tended to cherish security over ambitiousness.

Some of the same investigators (Michael, Morris and Soroker, 1957) conducted another more detailed study where all three groups, the internal reactors, external reactors, and mixed reactors were included. The study yielded interesting results in that the mixed reactors were found to be most prone to later pathology. This finding was similar to that of Ricks and Berry's (1970) reported earlier where subjects who were shy out of the home and aggressive in the home, ended up being hospitalized for the major portion of their adult lives as chronic schizophrenics.

Robins (1966) in a most ambitious study followed up 524 white children who had been patients at St. Louis Municipal Psychiatric Clinic between 1924 and 1929. Referral information was used as a basis to categorize subjects into "anti-social" and "non anti-social" categories. The former included patients exhibiting theft, running away, fighting, and sexual perversion, the latter included behaviors such as temper tantrums, irritability, depression, anxiety, fears, inattention, and daydreaming. A control group of non-referred normal subjects was included. These were matched for birth, sex and census tract.

Robins found that 30 years later 52 percent of the control group, and 16 percent of the "non anti-social" group were emotionally healthy. When, according to Robins, persons with the "relatively benign" disease of neurosis were added, 77 percent of the control group, 66 percent of the non anti-social group, and 30 percent of the anti-social group were found to be psychiatrically well or neurotic. The anti-social group displayed the greatest amount of psychopathology including diagnosis such as schizophrenia, hysteria and alcoholism.

The author now reports some cross-sectional studies which have looked at similarities in personality traits across various age groups and have inferred continuity or consistency of traits from one age group to another. Whereas these are not truly gauging persistence of traits (i.e. within the personality structure of the same individuals), they are of interest in that they give evidence that the same personality traits can be observed across various ages, using the same reference criterion. These studies are reported below.

Cattell and various colleagues (Cattell and Coan, 1957; Cattell and Gruen, 1953; Peterson and Cattell, 1959) conducted a series of factor analytic studies of personality in children. Subjects in early, middle and late childhood were examined through use of ratings, questionnaires and objective tests. Factor analyses were conducted and the results compared with those previously obtained from studies of adults. From their findings, the researchers concluded that, in general, the personality structure does not change from early childhood

to maturity, and that the factors previously isolated in adults were found in similar number and with similar meaning in children.

Peterson (1960) applied a correlational test of factor similarity to Cattell et al data. His results supported the previous findings only where two factors were concerned and these two factors resembled Eysenck's "general neuroticism" and "introversion-extraversion" factors. The degree of resemblance between these two factors at various age levels yielded a correlation of about .80.

Two major longitudinal studies have looked at the development of traits of social competence. These are the Kagan and Moss study (1962) and the Kohn (1977) study. Whereas the Kagan and Moss study looked in detail at general personality development over a period of 25 years (1929-1954), the Kohn study is unique in that it focused directly on the two-factor model of social competence.

For the purposes of this review, the only Kagan and Moss findings presented are those relating to the traits of withdrawal and aggression. In this context Kagan and Moss isolated aggression to mother, physical aggression to peers (verbal threats, taunts, teasing, etc.), behavioral disorganization (tantrums, irritable crying or rage reaction), conformity to adults, dominance of peers and competitiveness. The investigators hypothesized these traits to be relevant variables in later personality differentiation. The results showed aggression to mother, behavior disorganization and conformity to peers to not relate to adult personality traits. However, aggression was noticeably

consistent over the years for men, and dependency emerged as the one strikingly consistent trait for women. Kagan and Moss felt these results to be congruent with sex-typed behavior standards.

Kohn's research (1977), as mentioned above, is unique in the field of social competence. It is a major developmental step in this area in that Kohn developed a formal definition of social competence and operationalized it in the form of two teacher-rating scales. These measures were then used to differentiate children at the relatively early ages of four and five years. The children were then followed over a period of five years to see how the traits developed, and what the manifestations were in terms of academic achievement and emotional stability during the elementary school years.

Two analyses were carried out on the data. The first analysis had an elementary school measure of emotional impairment (Schaefer's Classroom Behavior Inventory), a global impairment rating by teachers, and referral for special help, as dependent variables. The independent variables were demographic data and preschool measures of emotional impairment (Kohn's two scales tapping the two-dimensional factors described previously). The results of this analysis showed that children who rated high on Apathy-Withdrawal in preschool, also scored high on this trait during the first four years of elementary school. One small but significant inverse relationship was interestingly noted where children who were rated high on Cooperation-Compliance (the healthy pole of the Anger-Defiance dimension) in pre-school, showed a tendency to be shy and withdrawn during elementary school.

The second analysis focused on predicting emotional impairment as opposed to looking at persistence of traits. In this analysis, global impairment rating and referral for special help were used as dependent variables with demographic factors and ratings on the two Kohn scales used as the independent variables. The results showed Apathy-Withdrawal and Anger-Defiance together accounting for 18.9 percent of the variance in global impairment, and 16.1 percent in referral for special help. However, the zero-order correlations for Anger-Defiance were significantly higher (.45 for global impairment and .40 for referral $p \leq .001$) as compared to zero-order correlations with Apathy-Withdrawal (.27 for global impairment and .28 for referral, $p \leq .001$). These findings indicated that teachers viewed Anger-Defiance more indicative of impairment than Apathy-Withdrawal.

Both the Kagan and Moss study and the Kohn study found Anger-Defiance or aggression to be more indicative of later disturbance than Apathy-Withdrawal. Other studies with similar findings include the Berkeley Growth Study (Block, 1971; Livson and Perkin, 1967), Michael, Morris and Soroker Study (1957) and the Gersten Study (1976).

Childhood traits of social competence have been found to be predictive of healthy and pathological personalities. Research has shown that social competence is essentially comprised of the two factors of aggression and withdrawal, that these factors are identifiable in early childhood and that they are fairly persistent over the developmental stages of personality. The factors have been described as being bipolar, in the sense of having an unhealthy and a healthy

therefore in need of treatment. Kohn took this to be a positive indication of the validity of the instruments.

Kohn's longitudinal study (1977) provided further validation data. In this study 1,232 children were rated on the two scales in preschool and followed for five years through their elementary grades. Measures of academic achievement were administered each year simultaneously to measures of social competence (Peterson Problem Checklist and Schaefer Classroom Behavior Inventory used in years subsequent to the preschool year). The results showed scores high on Apathy-Withdrawal to be strongly correlated with poor cognitive functioning in all academic areas and Anger-Defiance syndrome related to poor performance on arithmetic and verbal tests (concurrent validity). Children who scored high on Apathy-Withdrawal in the preschool year failed in all academic areas in the first grade (predictive validity).

In another study (Kohn and Rosman, 1972a) it was demonstrated that high scores on Interest-Participation at school entry were indicators of academic success in later years, usually predicting above average performance in early school grades - another test of predictive validity.

Measures of the construct validity of the two scales have involved correlating factor scores with scores on similar factors of the Peterson Problem Checklist and Schaefer Classroom Behavior Inventory (Kohn, 1977; Kohn and Rosman, 1972b) and showing them to be significantly correlated. Another test of construct validity

The Peterson, Schaefer and Kohn scales have been shown to be measuring essentially the same two basic dimensions of social-emotional functioning (Achenbach and Edelbrock, 1978; Kohn, 1977). Peterson labels these dimensions as Personality Problems vs. Conduct Problems; Schaefer calls them Extraversion vs. Intraversion, and Love vs. Hostility, while Kohn calls them Interest-Participation vs. Apathy-Withdrawal and Anger-Defiance vs. Cooperation-Compliance. Conners' Teacher Rating Scale taps five orthogonal factors - conduct problem, inattentive-passive, tension-anxiety, hyperactivity and sociability.

For the investigator whose focus is the assessment of the two traits of social withdrawal and aggression, Kohn's scales provide the most direct measure. Also, more extensive information on reliability and validity of the measures is provided by Kohn (1977). There is the added advantage that Kohn's scales have been developed for use with the very young preschool children (and have been found to be reliable measures for that age), hence this makes early identification and treatment of deviant social competence possible. It is for these reasons that Kohn's scales are felt to be most promising. Further work with the scales might lead to a clearer and perhaps deeper understanding of social competence and its correlation with demographic, as well as social emotional scales.

Kohn designed the social competence scale in order to measure the young child's mastery of the preschool environment. The two factors on the social competence scale are: Factor one, Interest-Participation vs. Apathy Withdrawal, and, Factor two, Cooperation-

Compliance vs. Anger-Defiance. The Problem Checklist was designed "as an inventory of behaviors indicative of clinical impairment" which could be observed in the preschool setting. The two factors measured by the inventory are, one, apathy-withdrawal, and, two, anger-defiance.

In order to establish interrater reliability, Kohn had each child rated independently by the two full-time teachers in the class (in day care centres of New York City). The interrater reliability for each of the factors on the two scales was established (Problem Checklist factor one .69, factor two .77; social competence scale factor one .74, factor two .76). Cross instrument reliability of pooled teacher scores for corresponding factors was: checklist one vs. competence scale one = $-.74$; checklist two vs. competence scale two = $-.82$. For noncorresponding factors the reliability obtained was: checklist one vs. competence scale two = $-.22$; checklist two vs. competence scale one = $-.26$. Kohn took these results as evidence that the two major dimensions are relatively independent of each other. Kohn also pooled the scores on corresponding scores from each of the scales to get reliability scores on each of the two factors. The pooled reliability score on factor one was .83 and for factor two .83.

In an attempt to establish validity Kohn divided the day care sample into five groups: (1) well functioning, those children who were not in treatment or in need of treatment and were rated by teachers as 'well functioning' on a global measure; (2) moderately well functioning,

children who were not in treatment or in need of treatment and were rated by teachers as 'moderately well functioning'; (3) poorly functioning, children who were not in treatment or in need of treatment but were rated by teachers as being 'poorly functioning'; (4) remedial group, children in remedial treatment (e.g. speech disorders) or children in need of such treatment in the opinion of the head day care teacher; and (5) therapy group, children in psychological or psychiatric treatment or children needing such treatment in the opinion of the teacher. The first two groups were considered as healthy and the last three groups were considered disturbed, i.e. as being in need of treatment. In addition, three other independent reference groups were obtained, these being (1) the Director-Referred Group, children nominated by directors of 90 day care centres as requiring outside help (non-medical) or already receiving such help; (2) therapeutic day treatment group from three therapeutic day nurseries, and (3) mental hospital group, children hospitalized for psychiatric disorders. Teachers of all the children rated the children on the two Kohn scales. The last group - the Mental Hospital Group - was also rated by ward personnel and the teacher and ward personnel ratings were pooled and prorated for the number of raters. The results did not show the gradation between the disturbed groups that Kohn had expected. However, the children in the disturbed groups were significantly different from the healthy groups, i.e. the Well Functioning and the Moderately Well Functioning Groups. The data also discriminated children considered well functioning from children considered poorly functioning and

therefore in need of treatment. Kohn took this to be a positive indication of the validity of the instruments.

Kohn's longitudinal study (1977) provided further validation data. In this study 1,232 children were rated on the two scales in preschool and followed for five years through their elementary grades. Measures of academic achievement were administered each year simultaneously to measures of social competence (Peterson Problem Checklist and Schaefer Classroom Behavior Inventory used in years subsequent to the preschool year). The results showed scores high on Apathy-Withdrawal to be strongly correlated with poor cognitive functioning in all academic areas and Anger-Defiance syndrome related to poor performance on arithmetic and verbal tests (concurrent validity). Children who scored high on Apathy-Withdrawal in the preschool year failed in all academic areas in the first grade (predictive validity).

In another study (Kohn and Rosman, 1972a) it was demonstrated that high scores on Interest-Participation at school entry were indicators of academic success in later years, usually predicting above average performance in early school grades - another test of predictive validity.

Measures of the construct validity of the two scales have involved correlating factor scores with scores on similar factors of the Peterson Problem Checklist and Schaefer Classroom Behavior Inventory (Kohn, 1977; Kohn and Rosman, 1972b) and showing them to be significantly correlated. Another test of construct validity

involved obtaining ratings on the two scales as well as judgements by expert clinicians on the same children. It was demonstrated that children identified as being deviant on the two factors of the scales were similarly identified by the judges.

By means of above measures Kohn has provided extensive information about his scales and has thus made them very valuable instruments in the field of child personality and social competence.

PRESENT STUDY

The two-factor model of social competence is a very significant development in the area of child personality and etiology of adult psychopathology. Kohn's two scales, the Problem Checklist and the Social Competence Scale are felt to have potential of being valuable tools for constructing a workable model of social competence. An obvious next step is to study the constructs involved in the two-factor model as measured by the Kohn scales. Kohn has shown these factors to correlate well with similar constructs. However, the actual meaning of the constructs still remains vague. One way in which they can be made more meaningful is to identify children's overt behaviors that correspond to the ratings by the teachers.

Kohn has stated that both his instruments were designed to focus on overt classroom behaviors (Kohn and Rosman, 1973a). However, these are teacher rating scales, and teachers' ratings can be influenced by multiple factors other than overt classroom behaviors. Also, teachers may view similar behaviors by two different students in a different light because of other factors influencing their judgements. Comparing the teacher rating scores with indices of social competence factors based on observational data (obtained from ratings on an observational schedule) should provide an assessment of teachers' ratings. This procedure would not only provide a further test of construct validity if the ratings correlate highly, but will also enable a clearer grasp of the factors involved, allowing for practical application in the fields of child development, child management, and possible prevention of pathology. The testing of construct validity within this study will involve tests of convergent as well as discriminant validity.

METHOD

Subjects

One hundred children (50 boys and 50 girls) were randomly selected from 10 Carleton Public School Board kindergarten classes. The classes were from rural and suburban Ottawa schools, all serving middle to upper middle class populations.

Prior to selection, parents of all children in each of the kindergarten classes were informed of the classes' participation in the research. They were given the option to have their child's name removed from the initial selection list if they so wished. The mean age of the children was 5.9 years.

Nine teachers rated the subjects. All were female and had a minimum of seven years of teaching experience.

Measures

Teacher-Rating Scales

The teachers rated the children on the Kohn Social Competence Scale and the Kohn Problem Checklist (Appendices A and B respectively). The Social Competence Scale is comprised of 64 items which tap healthy and unhealthy dimensions of the two factors of social competence, Factor I, Apathy-Withdrawal vs. Interest-Participation, and Factor II, Anger-Defiance vs. Cooperation-Compliance. Each item is rated on a five point scale, (1) hardly ever or never, (2) seldom, (3) sometimes, (4) often and (5) very often or always. The Problem Checklist has 49

items and measures only the unhealthy dimensions, Apathy-Withdrawal and Anger-Defiance. The ratings on the checklist are (0) not at all typical, (1) somewhat typical, and (2) very typical. The scores from each of the scales are standardized and then pooled to give Kohn's Pooled Instrument (KPI) rating on each factor for each of the children. Appendix C may be consulted to get details of the scoring procedures for the Kohn scales. Information regarding the validity and reliability of these scales has already been presented in the preceding section.

The Observation Schedule

The observation schedule was constructed to directly reflect the behaviors rated on the two Kohn instruments. However the Kohn's scales combine to give ratings on 113 items and these had to be reduced in order to render observation possible. Initially items representing the same behavior in different forms were combined. As an example, the following items were all felt to relay a leadership quality in the child:

- (1) child's ideas have impact on many children in the classroom;
- (2) child easily gets attention of other children;
- (3) child succeeds in getting other children interested in what he or she is doing;
- (4) child can give ideas to other children, as well as go along with their ideas;

(5) child gets willing cooperation from most other children;

(6) other children copy the child's ideas for play.

As a result these were combined and are represented by item no. 4 on the observation schedule, "Leads activity successfully (peers follow suggestions enthusiastically)". Similarly several other items on the Kohn's scales were combined to form a single item on the observation schedule. This resulted in an initial list of 59 items for the observation schedule. Since this number too was unmanageable, items were further combined; for example, item no. 27 of the observation schedule represents several items from the Kohn scales that indicate irritation, frustration and anger on the part of the child. In addition, items representing a general attitude, observable only over a period of time, were deleted. Examples of such items are 'Fails to play with most other children' (Problem Checklist No. 46), 'Is overly sensitive; feelings easily hurt' (Problem Checklist No. 36), and 'Seldom smiles' (Problem Checklist No. 6), etc. 37 items remained after this second editing. These items were then categorized under four headings, (1) Interaction with Peers, (2) Interaction with Teacher, (3) Personal Disposition, and (4) Facial Expression and Body Movements. It was then decided that all items in the last category, Facial Expression and Body Movement, should be deleted. These were items such as 'Body appears stiff and rigid when standing, sitting, lying down or being held', and 'Moves head or body in a very slow way' (Items No. 1 and 9 respectively of the Problem Checklist). It was felt that these were not easily observable, would require very subjective ratings and would most probably be observed in extremely rare cases. This last

editing produced the final form of the observation schedule which consists of 28 items (Appendix D).

A total of four inter-observer reliability tests were performed prior to data collection. The two observers were the author and an honors student. On each occasion one child was observed by the two observers. They conducted simultaneous observations of 20 seconds each to a total of 5 minutes of observation. The number of observations for each item from one observation were correlated with number of observations made of the same behavior by the other observer. The correlations were obtained using the REGRESS.TSL program. The four reliability correlation coefficients were .93, .96, .95 and .99.

Inter-observer reliability re-checks were conducted on a couple of occasions during the process of data collection. These were carried out two and four weeks after the author had begun data collection. The reliability coefficients on these occasions were .99 and .98.

Procedure

Permission was obtained from the Carleton Board of Education's Research Committee to conduct the study in schools under this board's jurisdiction. Principals of several of the schools were approached for consent to involve their kindergarten classes in the study. After the Principal had consulted with his kindergarten teacher and both had indicated an interest in the project, a meeting was held with the principal and the teacher to explain their involvement. They were told that the purpose of the study was to assess social competence in children. They were shown the Kohn scales and the directions for filling out the scales were given verbally. The verbal directions

were the same as the ones attached to the rating scales (see Appendices A and B).

A draft of a letter to the parents was then presented to the principal for his approval and signature. This letter was then sent to parents of all children in the kindergarten class of each of the schools. Only in one school did the majority of the parents object to involvement of their children in the study. This school was then not involved. One other parent from another school requested that their child's name not be included in the selection process.

In the week prior to the scheduled observation, the class list was obtained and names of the male and female students were placed in separate piles. Five names were then drawn from each pile. One of the schools had only six boys of which one boy moved away just prior to the study and one of the boys' parents objected to his involvement. Hence only four boys remained, all of whom were included in the study. This necessitated selection of 6 boys from one of the other schools.

After the subjects had been selected from each of the schools, the teachers were given the two Kohn scales to fill out on each of the subjects. They were specifically told not to discuss any of the children with the observer. Only after the observer had completed her observation and the teachers had rated the students on the Kohn scales, were any discussions held between the observer and the teacher.

The observer spent 6 consecutive half days in each of the classrooms, carrying out six 5 minute observations on each of the children. The children were observed only when they were with the particular teacher

who rated them on the Kohn scales. As a result, on most days only a five minute period observation was obtained for each child. The observations were broken down into periods of 20 seconds. The observer observed the child for 20 seconds, then stopped to check the behaviors observed. At that time, each of the items on the observation schedule were glanced at to make certain that none of the behaviors listed were left unchecked when they were indeed observed. It is felt that the breaking down of observations into 20 second periods and spreading the half hour observation for each child over a period of six days gave a balance to the observations and reflected more accurately the child's personal traits of social interaction. All observations were carried out in May and June of 1981.

ANALYSES

The tests of convergent and discriminant validity of each factor were conducted by means of the Multitrait-Multimethod Matrix Technique (Mellen and Crano, 1977).

Convergent Validity

Convergent Validity is concerned with the intercorrelations between different tests or measures which are said to assess the same psychological construct. It is expected that the different measures of the same underlying construct will exhibit a high degree of relatedness.

Hence, in the present study, the correlation between the two measures (Kohn's Pooled Instrument Ratings and the Observation Schedule) were tested for significance. This was done for each factor, for the total subject population, as well as for each sex separately.

Discriminant Validity

In contrast to convergent validity, discriminant validity is concerned with the strength of association between two theoretically unrelated constructs. It is expected that these unrelated constructs will exhibit only a chance intercorrelation, even though both might be measured on similar types of instruments. However, the Multitrait-Multimethod Technique calls for much more stringent measures of discriminant validity. According to this technique, discriminant validity is established when correlations within traits and across methods (i.e. monotrait-heteromethod correlations) exceed correlations having neither trait nor method in common (i.e. heterotrait-heteromethod correlations). In addition the Multitrait-Multimethod Matrix Technique calls for the monotrait-heteromethod correlations to exceed the heterotrait-monomethod correlations.

To comply with these criteria, the differences between the respective correlation coefficients were tested for significance by means of the Hotellings t test. Again, these tests were conducted separately on data for each sex in addition to data pooled for all subjects.

Additional Analyses

In addition to tests of convergent and discriminant validity, the analyses involve presentation of statistics such as means and standard deviations of the present study and comparison of these to Kohn's (1977) means and standard deviation. Further, Analyses of Variance were conducted on data for each factor in order to tap significant effects, if any, of the sex factor and school factor.

RESULTS

Convergent-Validity

Table 1 gives the Multitrait-Multimethod Matrix of correlations for Factor I and II. Factors I and II of the Kohn scales have already been defined. The Factors I and II of the Observation Schedule correspond directly to the Kohn factors as described earlier. This schedule was constructed to reflect the behavioral traits of Apathy-Withdrawal versus Interest-Participation in the case of Factor I, and Anger-Defiance versus Cooperation-Compliance in the case of Factor II. The pooled Factor I and Factor II scores from Kohn's Social Competence Scale and the Problem Checklist were correlated with Factor I and Factor II scores from the Observation Schedule. These correlations are entered in the matrix. As a test of convergent validity (i.e. whether the different measures are tapping the same trait or not), the Multitrait-Multimethod Matrix Technique calls for the validity coefficients (correlations between different measures of the same trait) to be both statistically significant, and of sufficient magnitude to warrant further study (Mellon and Crano, 1977). As observed in Table 1, Factor I, Apathy-Withdrawal vs. Interest-Participation measures of KPI (Kohn's Pooled Instrument) and OS (Observation Schedule) show a significant correlation of .30 ($p \leq .002$). These correlations were not significant for Factor II, Anger-Defiance vs. Cooperation-Compliance. Hence, when the teachers rate students as being apathetic-withdrawn, these children are also observed to display behaviors indicative of this trait. However, students being rated as

TABLE 1

The Multitrait-Multimethod Correlation Matrix
of Factors I and II Scores for All Subjects (N=100)

		KPI		OS	
		F ₁	F ₂	F ₁	F ₂
<u>KPI</u>	F ₁	1.000	.4300	.2996694	.06245
	F ₂	.4300	1.000	.05801	.1209446
<u>OS</u>	F ₁	.2996694	.05801	1.000	-.1429
	F ₂	.06245	.1209446	-.1429	1.000

KPI - Kohn's Pooled Instruments; OS - Observation Schedule; F₁ - Factor I Apathy-Withdrawal vs Interest-Participation; F₂ - Factor II Anger-Defiance vs Cooperation-Compliance.

angry-defiant by teachers are not necessarily displaying a high degree of observable angry-defiant behaviors.

Separate matrices were developed for boys and girls so that sex-factor effect, if any, on convergent validity of the two factors may be tapped. Tables 2 and 3 represent matrices for boys and girls respectively.

Tables 2 and 3 show Factor I, Apathy-Withdrawal vs. Interest-Participation to have a high degree of convergent validity ($p \leq .001$) for boys but none for girls. On the other hand, correlation of the two measures (KPI and OS) of Factor II, Anger-Defiance vs. Cooperation-Compliance, exhibit no convergent validity for boys, but do so to some degree for girls ($r = .24$, $p \leq .09$). In other words, when teachers rate pupils for absence or presence of Apathy-Withdrawal, the boys' classroom behaviors generally reflect those ratings, whereas the girls' classroom behaviors do not; when teachers rate pupils for presence or absence of Anger-Defiance, boys' classroom behaviors are not congruent with the ratings, whereas the girls' classroom behaviours reflect the ratings to a much higher degree.

The data for convergent validity of Factor I and II within each of the schools are presented in detail in Appendix E.

TABLE 2

The Multitrait-Multimethod Matrix
of Factors I and II Scores for Boys (N=50)

		KPI		OS	
		F ₁	F ₂	F ₁	F ₂
<u>KPI</u>	F ₁	1.000	.3020617	.5377649****	.0414696
	F ₂	.3020617	1.000	.0958245	.0348715
<u>OS</u>	F ₁	.5377649****	.0958245	1.000	.1790035
	F ₂	.0414696	.0348715	.1790035	1.000

KPI - Kohn's Pooled Instruments; OS - Observation Schedule; F₁ - Factor I, Apathy-Withdrawal vs. Interest-Participation; F₂ - Factor II, Anger-Defiance vs. Cooperation-Compliance probability levels ****p<.001.

TABLE 3

The Multitrait-Multimethod Matrix
of Factors I and II Scores for Girls (N=50)

		KPI		OS	
		F ₁	F ₂	F ₁	F ₂
<u>KPI</u>	F ₁	1.000	.5287855	.1258927	.0993071
	F ₂	.5287855	1.000	.0298903	.2437015*
<u>OS</u>	F ₁	.1258927	.0298903	1.000	.1271447
	F ₂	.0993071	.2437015*	.1271447	1.000

KPI - Kohn's Pooled Instruments; OS - Observation Schedule; F₁ - Factor I, Apathy-Withdrawal vs. Interest-Participation; F₂ - Factor II, Anger-Defiance vs. Cooperation-Compliance probability levels *p<.10.

Discriminant Validity

In order to establish discriminant validity, the Multitrait-Multimethod Matrix Technique calls for the fulfillment of two criteria. The first of these requires that correlations within traits and across methods (monotrait-heteromethod correlations) should exceed correlations having neither traits nor method in common (i.e. heterotrait-heteromethod correlations) (Mellon and Creno, 1977). For the purposes of this study it meant establishing that correlation coefficients of Factor I KPI vs. Factor I OS and correlation coefficients of Factor II KPI vs. Factor II OS should exceed correlation coefficients of Factor I KPI vs Factor II OS and Factor II KPI vs. Factor I OS. The difference between these correlation coefficients was tested for significance by means of the Hotelling's t test. This test is recommended as being most appropriate when testing for significance of difference between non-independent r 's (Edwards, 1960). Table 4 gives the Hotelling's t 's for each of these comparisons. Comparisons are made for all subjects and for boys and girls separately.

Factor I, Apathy-Withdrawal vs. Interest-Participation exhibits discriminant validity when Factor I scores on the two measures are correlated for boys and for all subjects. This discriminant validity of Factor I for all subjects and for boys is observable in the significant t ratios (Table 4) indicating Factor I KPI vs. Factor I OS correlation to be significantly higher than Factor I KPI vs. Factor II OS correlations and Factor II KPI vs. Factor I OS correlations.

TABLE 4

ALL SUBJECTS (N=100)

	F_1 KPI vs. F_2 OS	F_2 KPI vs. F_1 OS
F_1 KPI vs. F_1 OS	$t = 1.7313161^*$	$t^* = 2.3447158^*$
F_2 KPI vs. F_2 OS	$t = -.1209446$	$t = -1.1753924$

BOYS (N=50)

F_1 KPI vs. F_1 OS	$t = 3.1562878^{**}$	$t = 3.052175^{**}$
F_2 KPI vs. F_2 OS	$t = -.03832989$	$t = -.32783487$

GIRLS (N=50)

F_1 KPI vs. F_1 OS	$t = .1394291$	$t = 1.6848345$
F_2 KPI vs. F_2 OS	$t = 1.0520841$	$t = 1.143902$

F_1 KPI - Factor I (Apathy-Withdrawal vs. Interest-Participation) as measured on Kohn's Pooled Instruments; F_1 OS Factor I as measured on the Observation Schedule; F_2 KPI - Factor II (Anger-Defiance vs. Cooperation-Compliance) as measured on Kohn's Pooled Instruments; F_2 OS - Factor II as measured on the Observation Schedule.
p values *p<.05, **p<.01

Factor I for girls does not show similar discriminant validity.

Table 4 shows Factor II, Anger-Defiance-vs. Cooperation-Compliance, to exhibit no discriminant validity. Indeed the t 's for all subjects (boys and girls) and for boys only are negative, reflecting the fact that monotrait-heteromethod (i.e. FII KPI and FII OS) correlations in these instances are lower than the heterotrait-heteromethod (i.e. the Factor II KPI vs. Factor I OS and Factor I KPI vs. Factor II OS) correlations. Only in the case of girls are the Factor II KPI and Factor II OS correlations higher than the heterotrait-heteromethod correlations, but, here too, the difference does not approach significance.

The second criterion required for the establishment of discriminant validity involves comparison of monotrait-heteromethod correlations with heterotrait-monomethod correlations. It is expected that the former values would significantly exceed the latter values. This is indeed a very stringent test of discriminant validity. In respect to the present study this meant that the Factor I KPI vs. Factor I OS correlation values and Factor II KPI vs. Factor II OS correlation values should exceed the Factor I KPI vs. Factor II KPI values and Factor I OS vs. Factor II OS correlations. Again Hotelling's t test was used to determine the significance of differences between these r 's. The results are presented in Table 5.

Once again the Factor I correlations were the only ones that met this criterion but that too to a limited extent, i.e. only when compared to Factor I OS vs. Factor II OS correlations in the case of

TABLE 5

ALL SUBJECTS

	F ₁ KPI vs. F ₂ KPI	F ₁ OS vs. F ₂ OS
F ₁ KPI vs. F ₁ OS	t = -1.087584	t = 3.3821857**
F ₂ KPI vs. F ₂ OS	t = -2.4958977	t = .16021771
BOYS		
F ₁ KPI vs. F ₁ OS	t = 1.4933652	t = 2.144411*
F ₂ KPI vs. F ₂ OS	t = -1.3881831	t = -.74744973
GIRLS		
F ₁ KPI vs. F ₁ OS	t = -2.3562313,	t = -.00649034
F ₂ KPI vs. F ₂ OS	t = -1.7613915	t = .59607

F₁ KPI - Factor I (Apathy-Withdrawal vs. Interest-Participation) as measured on Kohn's Pooled Instruments; F₁ OS Factor I as measured on the Observation Schedule; F₂ KPI - Factor II (Anger-Defiance vs. Cooperation-Compliance) as measured on Kohn's Pooled Instruments; F₂ OS - Factor II as measured on the Observation Schedule.

p values *p<.05, **p<.01

the entire subject population and boys, but not in the case of girls. One of the major reasons that this most stringent criterion of discriminant validity was not met to a higher degree was the high correlation between KPI Factor I and KPI Factor II scores. In the case of all subjects this correlation was .43, for boys .30, and for girls .53 (Tables 1, 2 and 3). These high correlations indicated that the teachers' ratings did not identify the two Factors as being strongly independent of each other. A higher than expected correlation ($r = .33$) was also found by Kohn between Factor I and Factor II scores of the Social Competence Scale (Kohn, 1977, p.46). It is interesting to note that in the case of girls in particular, the teachers made simultaneous observations of the two traits, i.e. Apathy-Withdrawal vs. Interest-Participation and Anger-Defiance vs. Cooperation Compliance.

The scores on Observation Schedule yielded minimal correlations between Factor I and Factor II scores, these being -.14 for all subjects, .18 for boys and .13 for girls. The fact that in the case of the total subject population and in the case of the male population, Factor I scores on the KPI and Factor I OS scores correlated significantly would lead one to believe that both instruments are measuring the same construct in the case of Factor I. However, for girls, even for Factor I there is not the same agreement between the two instruments. Also, the highest degree of correlation between Factor I KPI and Factor II KPI is seen when scores for girls are isolated, which would lead one to the conclusion that the KPI ratings do not significantly discriminate between the two Factors in this case. Hence for girls Factor I on the KPI is more similar to Factor II on the KPI than it is to Factor I on the OS.

Factor II scores did not stand up to this test of discriminant validity, again because of initial minimal correlations between scores on Factor II KPI and Factor II OS. The only instance these correlations approached even minimal significance was in the case of girls ($r = .24$ $p < .10$). But, as mentioned above, it was in the case of girls that the Factor I and Factor II scores of the KPI correlated so highly. Hence, even here the monotrait-heteromethod correlation (F_2 KPI vs. F_2 OS) remained below the heterotrait-monomethod (KPI Factor I vs. KPI Factor II) correlation. The monotrait-heteromethod correlation for Factor II was higher (not significantly) than the heterotrait-monomethod correlation only when the method in the latter case was the observation schedule and when comparisons were being made for all subjects and for girls.

To summarize, the tests of discriminant validity indicated a fair degree of validity for Factor I when the entire subject population or boys alone were considered, but not when girls alone were considered. Discriminant validity for Factor II was not established. One confounding factor was that teachers' ratings on the KPI did not adequately distinguish between Factors I and II, particularly in the case of girls.

Comparisons of Means and Standard Deviations for Sex and Schools

Table 6 gives the KPI Factors I and II means and standard deviations separately for each sex overall, as well as within each

TABLE 6

MEANS AND STANDARD DEVIATIONS

BY SEX	<u>BOYS (N=50)</u>		<u>GIRLS (N=50)</u>	
	MEAN	ST DEV	MEAN	ST DEV
FI - Apathy-Withdrawal vs. Interest-Participation	8.175604	153.3204	-.6876024	213.4994
FII- Anger-Defiance vs. Cooperation-Compliance	44.82300	183.8475	-20.044	183.2500

BY SCHOOL AND SEX	<u>BOYS (N=5)</u>		<u>GIRLS (N=5)</u>	
	MEAN	ST DEV	MEAN	ST DEV
FACTOR I				
School 1	25.412	104.18	-22.1	215.73
School 2	83.75	149.92	65.9	124.04
School 3	57.48	213.01	-102.45	94.32
School 4	68.55	87.98	-83.91	25.80
School 5	2.30	84.36	194.62	328.48
School 6	-72.71	44.84	-17.32	190.41
School 7	-187.52	197.14	-165.99	58.43
School 8	23.27	188.68	129.93	384.53
School 9 (N=10 for each sex)	-67.07	120.05	-2.79	163.59
FACTOR II				
School 1	135.65	262.75	-69.30	118.54
School 2	55.87	119.68	23.01	92.15
School 3	-13.29	110.15	-98.16	167.86
School 4	131.39	241.65	-80.14	58.91
School 5	260.11	138.58	-41.13	87.89
School 6	-129.43	51.59	-62.89	32.67
School 7	-21.28	206.48	-100.17	161.60
School 8	-11.13	55.37	14.25	232.95
School 9 (N=10 for each sex)	-2.75	186.94	21.63	316.41

school. A high score on the KPI indicates disturbance and a low score indicates health.

Since the Factor scores from each of the two Kohn instruments, the Social Competence Scale and the Problem Checklist were standardized and pooled to Kohn's Pooled Instrument (K.P.I.) score, the overall mean is 0 and the standard deviation is 2. A mean score above 0 would be in the direction of pathology, and a below zero mean to be in the direction of health.

As shown in Table 6, there is quite a discrepancy in the factor scores of the two sexes. On both factors the boys are exhibiting means well above the norm of 0.

The female population mean is close to 0 on Apathy-Withdrawal, but considerably healthier on the Anger-Defiance dimension. The standard deviations are normal (because the standardization procedure involved multiplying each score by a constant of 100, these are expected to be 200 (2×100) rather than 2). With a few exceptions, the data for each school follow the overall trend. Figures 1 and 2 show the between-sex and within-sex differences on the two dimensions of Apathy-Withdrawal and Anger-Defiance. Figure one shows the overall differences and Figure two shows these for each school.

Table 7 compares Kohn's means and standard deviations for each sex with those of this study. Both the preschool and Grade I means from Kohn's study are shown as it was hard to compare with one or the other, since the mean age for the present population is somewhere

FIG. I. Between-sex and within-sex differences on Factor I and Factor II

Note:- In order to avoid negative scores, a constant of 30 was added to each of the four scores in the figure.

BOYS

GIRLS

FIG. 2 Between sex and within sex differences on Factors I and II K.P.I. scores for each school.

BOYS
GIRLS

TABLE 7.

FACTOR MEASURES	BOYS				GIRLS			
	KOHN'S N = 628 PRESENT N = 50		KOHN'S N = 602 PRESENT N = 50					
	MEANS		MEANS		MEANS		MEANS	
	KOHN'S	PRESENT	KOHN'S	PRESENT	KOHN'S	PRESENT	KOHN'S	PRESENT
FI - Apathy-Withdrawal	¹ 2.72	8.176	165.15	109.39	-31.60	.69	158.0	213.50
vs. Interest-Participation	² 8.08	109.39	92.70	31.44	-8.87	116.26	87.32	29.41
<hr/>								
FII - Anger-Defiance	43.20	44.82	187.00	183.85	-29.33	-20.04	169.63	183.25
vs. Cooperation-Compliance	20.20	6.74	92.70	6.58	-20.74	7.9	81.23	6.04

*¹ Kohn's preschool measures (1977, p.103, TABLE 6.1). Age range 3 - 6 years. Assessed on Kohn's instruments.

*² Kohn's Grade I measures (1977, p.103, TABLE 6.1). Age range 6 - 8 years. Assessed on Peterson Problem Checklist and Schaefer Classroom Inventory.

between the two. The general trend for Kohn's population and present population is very similar. In both cases the male sample's scores were higher than the female sample's on each of the factors. However, the magnitude of the difference between scores on Factor I is much less for the present population. Also, the within-sex differences are similar in that the boys on the average score higher on the Anger-Defiance dimension than they do on the Apathy-Withdrawal dimension, while the reverse is true for the girls.

In 1973 Kohn had found the sex differences to be significant only for Factor II, Anger-Defiance vs. Cooperation-Compliance (Kohn and Rosman, 1973, p.38). In 1977 (Kohn, 1977), he found sex differences to be significant for both the factors. The present study tested for sex differences as well as school differences by conducting analyses of variance separately for each of the factors. Tables 8 and 9 give the results of these analyses for Factors I and II respectively.

Factor I analysis of variance results show minimal difference between means for boys and girls. Even the school differences are not significant at the .05 probability level. The moderately conservative Newman-Keuls multiple comparison test showed no significant differences between the schools for any sex.

Factor II analyses of variance show strong effects for both sex and school. However, there is no significant interaction between the two. Newman-Keuls multiple comparison test showed the boys in school 5 to be significantly different from majority of the other groups on this factor, as were the girls of school 9.

TABLE 8

Analysis of Variance Table for KPI Factor I,
Apathy-Withdrawal vs. Interest-Participation

SOURCE	df	SS	MS	F	SIG.
Sex	1	6.1455	6.1455	.00	.989
School	9	480170.00	53352.00	1.72	.099
Sex x School	9	398630.00	44293	1.42	.192
Within Cell	80	2486900.00	31087		
TOTAL	99	3365700.00			

TABLE 9

Analysis of Variance Table for KPI Factor II,
Anger-Defiance vs. Cooperation-Compliance

SOURCE	df	SS	MS	F	SIG.
Sex	1	140570.00	140570.00	5.01	.028*
School	9	667030.00	74115.00	2.64	.010**
Sex x school	9	366800.00	40756.00	1.45	.180
Within Cell	80	2242900.00	28037.00		
TOTAL	99	3417400.00			

Analyses of variance were also conducted for Factors I and II of the Observation Schedule; Tables 10 and 11 give the result of these analyses.

No significant sex differences were found on Factor I of the Observation Schedule, however, strong differences exist between schools. It is quite likely that class structure and organization affect the Apathy-Withdrawal or Interest-Participation exhibited by the children. In this regard, School 3 was found to be significantly different from all other schools, while School 6 was seen to be significantly different from Schools 8, 9 and 10 on the Newman Keuhls Multiple Comparisons.

Factor II OS again reflected no differences between the two sexes, but significant differences were found between schools. School 5 was significantly different from six of the other nine schools, and School 6 from four of the other schools, Schools 3 and 2 were significantly different from Schools 9, 6 and 5. These differences were observed on multiple comparisons conducted by means of the Test of Least Significant Differences.

Multiple comparisons involving comparisons of schools by sex showed that in most cases (Schools 3, 2 and 5) where significant differences existed, it was the boys' behavior that varied significantly.

TABLE 10

Analysis of Variance Table for O.S. Factor I,
Apathy-Withdrawal vs. Interest-Participation

SOURCE	df	SS	MS	F	SIG.
Sex	1	1248.4	1248.4	2.00	.161
School	9	33613.0	3734.8	5.98	p<.001
Sex x School	9	6966.2	774.03	1.24	.284
Within Cells	80	50004.0	625.05		
TOTAL	99	91832.0			

TABLE 11

Analysis of Variance Table for O.S. Factor II,
Anger-Defiance vs. Cooperation-Compliance

SOURCE	df	SS	MS	F	SIG.
Sex	1	30.041	30.041	.88	.350
School	9	914.27	101.59	2.98	.004
Sex x School	9	191.43	21.27	.62	.773
Within Cells	80	2723.5	34.044		
TOTAL	99	3859.3			

Descriptive Characteristics of the Data

The data were further scrutinized and comparisons made in order to attain insight into any trends or characteristics of interest and relevance. For each factor of the KPI, 15 highest scoring boys and 15 highest scoring girls, as well as 15 lowest scoring boys and 15 lowest scoring girls, were compared in terms of their ratings on the two Kohn's instruments and their ratings on the Observation Schedule. Comparisons were also made for 15 boys and 15 girls with lowest scores on the Observation Schedule.

These comparisons showed that of the fifteen girls rated by teachers as being healthiest on Factor I, Interest-Participation vs. Apathy-Withdrawal, nine received above average scores on this factor of the O.S., one was average and five below average. The very noticeable difference between the two ratings was that the teachers rated these girls as being exclusively healthy, whereas the Observation Schedule frequently tapped behaviors such as day-dreaming, downcast expression and solitary play on the part of these girls. Some were also observed to display aggressive, bossy behaviors.

The fifteen boys rated healthiest on Factor I by teachers were not seen by teachers to be exclusively healthy. The teachers frequently rated them as extremely active, rowdy, defiant and attention seeking. However, on the Observation Schedule, none of these boys were rated as exhibiting rowdy, defiant behaviors but several were observed to be withdrawn (daydreaming, downcast, not involved in peer activities).

When the fifteen girls rated by teachers as being most apathetic and withdrawn were compared for ratings on the Observation Schedule, only 8 were rated by the latter as showing this tendency to a high degree. The other seven, on the other hand, were observed to be highly interested and participating. The teachers saw these girls as highly withdrawn, shy and requiring a great deal of urging to participate in classroom activities. However several of these girls were observed to be highly involved in cooperative peer activity.

The boys that were seen to be highly withdrawn and apathetic by teachers were also considered by them to be tense, jittery and easily irritated. The Observation Schedule did observe apathetic-withdrawn behavior on the part of several of these boys, but also rated several to be communicative and cooperative with peers as well as being happy, enthusiastic individuals. Of these teacher rated fifteen apathetic-withdrawn boys, six were observed to show such tendencies to a high degree, four were average, while five were observed to be highly interested and participating.

In summary then the Factor I ratings show teachers as rating girls exclusively healthy or exclusively unhealthy, on the other hand while boys too were seen to be exclusively unhealthy, they were never rated as exclusively healthy on this factor. The observation schedule tapped positive behaviour much more often on the part of the boys than the teacher ratings, especially in regards to peer relations. The teacher rated exclusively healthy girls were often rated on the observation schedule as displaying apathy-withdrawal.

Ratings on Factor II reflected some similar trends in that all fifteen highest rated girls on Cooperation-Compliance were given exclusively healthy ratings by teachers, whereas the Observation Schedule observed some degree of apathetic withdrawn behavior on the part of these girls. On the whole, however, there was close agreement between the two instruments when it came to the trait of cooperation-compliance among girls.

The high teacher rated 'cooperative-compliant' boys were also frequently felt by teachers to be shy, self-conscious and restrained. There was little congruence between the teacher ratings of these boys and the observation schedule ratings. Whereas the observation schedule did tap cooperative-compliant behaviours (listening, following teachers' directions, etc.), they were also frequently observed to exhibit rowdy, show-off behaviors.

Girls who were rated by teachers as being unhealthy on Factor II, i.e. as being angry-defiant, were frequently also rated by teachers as being shy and withdrawn. Their anger-defiance was seen by teachers to be reflected in behaviors such as quick irritation and refusal to participate in classroom activities. Seven of these fifteen girls were rated to be above average on cooperation-compliance by the Observation Schedule, two as average and six as exhibiting a high degree of anger-defiance. On the observation schedule they were most often found to be cooperative, communicative, enthusiastic and happy.

The fifteen boys rated as being most angry and defiant were seen by teachers to be bullies, refusing to cooperate, and to become upset when things did not go their way. Also, teachers often rated the same boys as being jittery, tense and to be easily irritated. The Observation Schedule, in addition to observations of rowdy, show-off, bossy behavior, made frequent observations of cooperative activity with peers on the part of these boys.

In summary, on Factor II there was close agreement between the teacher and observer ratings of cooperative-compliant girls with the exception that the Observation Schedule indicated tendencies towards shy, withdrawn behavior on the part of these girls. However, girls rated as being angry-defiant by teachers were most often found on the Observation Schedule to be cooperative, communicative and enthusiastic. Boys rated by teachers as being cooperative-compliant were often observed to display rowdy, show-off behaviors. There was closer agreement between the two instruments on the Anger-Defiance dimension for boys. However, the Observation Schedule also tapped frequent demonstrations of cooperative-compliant behaviors by these boys but the teachers did not perceive these boys to exhibit any such behaviors.

The data on boys and girls rated by the Observation Schedule as most pathological on the two factors were also analyzed. It was noted that the Observation Schedule ratings were much less negative than the teachers' ratings. The girls rated as being most apathetic and withdrawn were most often seen to indulge in daydreaming, solitary play

and aimless wandering. However all were observed to be communicative and cooperative. The boys receiving highest ratings on the Apathy-Withdrawal dimension were observed to be highly sensitive, tense and irritated. They also often appeared confused and bewildered. These boys received similar ratings from teachers whereas there were greater discrepancies between teacher and observer ratings for girls.

On Factor II again, the Observation Schedule ratings were much less negative than the teacher ratings. The girls rated to be most angry and defiant were observed to be bossy towards peers. But these girls were often seen to be enthusiastic, happy and interested in classroom activities.

The high 'Anger-Defiant' boys on the Observation Schedule were found to be bossy, aggressive and rowdy to a much greater extent than the girls who were rated high on this dimension. Again, the boys were also often seen to be excited, happy and cooperative.

In summary the magnitude of negative behaviors was much less on the Observation Schedule than on the teacher ratings. Often a better balance between negative and positive behaviours was observed, even in cases with the most negative scores.

The Observation Schedule never tapped behaviors such as hitting, kicking, and temper tantrums; some explanation was found in later discussions with teachers. The teachers noted that whereas several of the students had exhibited these behaviors earlier in the year, they did not do so now because teachers controlled for situations that might arouse these behaviors.

It was also obvious that in many cases the teachers were tuning in only to the negative behaviors, neglecting to acknowledge any positive behaviors. The opposite was also true where teachers perceived some female students as having no negative behaviors.

DISCUSSION

The discussion will consider the results as they bear on the construct validity of the Kohn Social Competence Scale and the Kohn Problem Checklist. These considerations will also reflect on the two-factor model on which the scales are based.

The results indicate support for convergent and discriminant validity of Factor I, Apathy-Withdrawal versus Interest-Participation. However, when the data are looked at separately for the two sexes, a high degree of validity is found for boys but not for girls. The data on Factor II, Anger-Defiance versus Cooperation-Compliance, do not indicate validity of either a convergent or discriminant nature for this factor. However, where marginally significant results are accepted, there is some evidence supporting a degree of validity of this factor for the female population.

There appear to be two factors contributing to the failure to establish the construct validity of Factor I for the female subjects. First, the lack of correlation between teacher ratings (Kohn Scales) and ratings on the Observation Schedule for female subjects affected convergent validity. Secondly, a very strong correlation between Factor I and Factor II teacher ratings on the Kohn Scales resulted in the failure to establish discriminant validity.

In analyzing the ratings for girls it was observed that teachers tended to rate the girls as being exclusively 'healthy', i.e. Interested and Participating, or exclusively 'Unhealthy', i.e. Apathetic and

Withdrawn. The Observation Schedule on the other hand consistently tapped Apathetic-Withdrawn behaviors, such as daydreaming, solitary play and aimless wandering, on the part of teacher-rated healthy girls. Also, whereas there was more agreement on the ratings of the Apathetic-Withdrawn girls, the teachers neglected to acknowledge any positive behaviors on the part of these girls, while the Observation Schedule regularly tapped behaviors such as 'involvement in carrying out required activity' and 'listening'.

It is quite likely that behaviors such as daydreaming and solitary play which Kohn's Scales and the Observation Schedule both rate as reflecting the negative aspect of Factor I, are not necessarily always seen as such by the teachers. They may be taking a more subjective view in regards to these behaviors - that is, the teachers may see these behaviors to be generally normal on the part of girls, becoming abnormal only when coupled with other deviant behaviors.

In regards to teachers not acknowledging behaviors such as 'listening' and 'involvement in required activity' etc. on the part of negatively rated female subjects, it would be interesting to note here that initially Kohn and Rosman themselves had felt these to exhibit a low degree of competence, depicting "...a child who is very submissive to and fearful of adult authority". (Kohn and Rosman, 1972, p.442). Although Kohn & Rosman felt these to not necessarily be positive behaviors from the modern mental health point of view, because the teachers consistently rated them as positive they were given positive

ratings on the scales. The present study however indicates that whereas generally teachers may view these as being positive behaviors, when coupled with other Apathetic-Withdrawn behaviors, they may no longer be viewed as such.

This tendency on the part of the teachers to rate girls as exclusively 'healthy' (halo effect) or exclusively 'unhealthy' is also responsible for the high degree of correlation between Factor I and Factor II ratings on the Kohn's Scales. The girls rated 'healthy' on one factor were also rated 'healthy' on the other factor. Those rated 'unhealthy' were 'unhealthy' on both the factors. More specifically, the girls rated as shy and withdrawn were also rated as being irritated, jittery and unwilling to cooperate, whereas girls rated as having a high degree of Interest-Participation were also rated as being Cooperative-Compliant.

There was much more congruence between the teacher ratings and the Observation Schedule ratings for boys on Factor I. The teachers did not show the bias in rating boys as exclusively healthy. Both the teachers and the observer appeared to have a similar degree of sensitivity to behaviors reflecting Apathy-Withdrawal on the part of the boys. Perhaps this reflected certain expectancies about boys' behavior as a result of which any deviance became sharply noticeable. Although there was a significant correlation for boys between FI and FII teacher ratings on Kohn's scales indicating similar ratings on both factors (healthy or unhealthy), the data on closer scrutiny do not show the bias being in

favour of the healthy boys. The bias that exists is found to be against 'unhealthy' boys in the sense that those boys who were rated unhealthy on Factor I also received negative ratings on Factor II.

Factor II Anger-Defiance versus Cooperation-Compliance ratings for girls yielded a stronger correlation between the Kohn instruments and the Observation Schedule. Both showed considerable agreement when rating girls positively. However, the Observation Schedule often tapped aggressive, bossy behaviors on the part of these girls, whereas the teachers failed to acknowledge any such behaviors. These girls were most often seen as Interested-Participating and Cooperative-Compliant by the teachers. They (the teachers) did not appear as concerned about peer conflicts where girls were concerned. This could be due to the fact that this conflict was more of a verbal nature and did not demand the immediate attention of the teachers.

The lack of convergent validity of Factor II for boys appears to be a result of two factors, one, the teachers rating cooperative-compliant boys as shy and constrained while the Observation Schedule rated them as having aggressive tendencies, and, two, the teachers not acknowledging cooperative behaviors on the part of the negatively rated boys, while the Observation Schedule consistently tapped such behaviors. There is a strong indication that whereas Kohn's Scales allow for a comparatively broad definition of Anger-Defiance and Cooperation-Compliance, teachers take a narrower view of it. Perhaps this is due to the relatively profound effect that overt, physically aggressive, angry-defiant behaviors have on the smooth

functioning of the classroom and on the teachers own self-concept, as well as her reputation as a successful teacher. Another factor affecting these ratings may be the sex of the teacher. It is likely that definitions of Anger-Defiance by male and female teachers differ along with their level of tolerance for these behaviors. Studies comparing ratings by female and male teachers on this factor might yield significant differences.

The inability, on the part of teachers, to differentiate between Factor I and Factor II KPI for girls, in particular, as well as for 'unhealthy' boys, resulted in lack of discriminant validity for the factors. On the Observation Schedule the two factors appeared quite independent of one another, there being very little correlation between the two. This discrepancy between the two ratings, the observer's and the teacher's, could be due to the fact that the observer was aware of the theoretical distinction of the two factors, while the teachers were not even aware of the fact that there were two factors involved.

In finally relating these findings to the constructs involved in the Kohn scales, it would appear that Factor I, Apathy-Withdrawal versus Interest-Participation, involves a fairly clear construct where the boys are concerned, and the behaviors identified by Kohn very adequately represent this factor in boys. However, there appears to be certain other criteria affecting teacher judgements about girls on this factor. Some of these 'other' criteria may be reflected in

teachers' ratings of girls on the Kohn Scales. The Observation Schedule seems to be insensitive to these 'other' criteria which appear to be subtle in nature. Behaviors generally thought to be Apathetic-Withdrawn or Interested and Participatory are not necessarily always seen to be so for girls. On the other hand, there is also the possibility that teachers are overlooking certain tendencies in girls, specifically those of Apathy-Withdrawal. This might account for Kohn's (1977) findings of a small but significant inverse relationship where children rated high on cooperation-compliance in pre-school, showed a tendency to be shy and withdrawn during elementary school. Watt, Stolorow, Lubensky and McClelland (1970) looking at early school records of hospitalized adult schizophrenics also found that the female schizophrenics had been primarily sensitive, conforming, and introverted, and were rated to be better adjusted in school by the teachers. In this regard further follow-up studies are warranted where the teachers' relationships with their female students may be studied more closely, and where girls rated as cooperative-compliant by the teachers but seen to have Apathetic-Withdrawn tendencies on measures such as the Observation Schedule are followed up through their elementary school years.

This study also brings out certain differences between Kohn's New York City population and the Suburban Ottawa Population. The difference seems to be more in the behavioral standards and the teacher expectations. As an example, it is noted that in the present study,

all children, irrespective of the ratings they received (i.e. healthy or unhealthy), conformed to certain behavioral expectations. More specifically, all listened to the teacher's instructions and carried out required activities in a fairly interested manner. Hence it is quite likely that the teachers are rating children in the context of these expectations. For the teachers 'listening' and 'carrying out required activity' may not be as relevant to the child's social competence. Kohn himself acknowledges the relevance of the social expectations when he says, "It seems reasonable, therefore, to assume that in order to achieve higher predictions of Factor I and Factor II behavior of the child, not only his personality traits but also the dimensions of the social climate in which he functions must be taken into account". (Kohn and Rosman, 1972, p.443).

This study has failed to provide evidence of a high degree of validity for the two factors (indeed Factor II was not validated). Yet in the case of both the factors, there was a high degree of agreement between the KPI scores and the OS about children exhibiting severest pathology. It is encouraging to note successful identification of such a nature, however it is evident that the follow-up to any identification would require not only behavior management but also the development of a sensitivity on the part of the children to prevailing social standards and expectations. A major aspect of changing the child's feelings of incompetence would involve the development of further insight and a higher degree of sensitivity on

the part of the teacher and other adults so that they may view the child's behavior in its totality in the sense of being perceptive of and acknowledging positive behaviors in children otherwise having low competence. There also appears a need on the part of the adults to develop keener sensitivity in regards to the presence of traits of Apathy-Withdrawal in children who normally don't cause major disruptions.

Certain interesting questions are raised by the present study and future research aimed at answering these questions might prove to be very beneficial both in terms of the concept of social competence and in terms of the ability of adults (parents, teachers and therapists) to aid children in becoming socially competent individuals. Such research should be directed at (1) studying the teacher-girl pupil relationship where the girls' behaviors and teacher reactions are closely analyzed; (2) Follow-up studies of girls who are rated as highly cooperative-compliant by teachers in order to determine whether there is any significant relationship between this rating and future identification of these girls as pathologically withdrawn; (3) Differences between ratings by male teachers and female teachers especially as they relate to the sex of pupils; (4) Identification of behavioral traits that are free of cultural influence, hence being perhaps more relevant to identification of socially incompetent individuals.

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APPENDIX A

Rating Instructions for the
Social Competence Scale

Child's Name: _____ School: _____
Child's Age: _____ Teacher: _____

This scale consists of 64 statements about a child's behavior. You are asked to rate each statement in terms of the frequency with which you have observed the behavior during the most recent week. The ratings consist of five categories of frequency ranging from "Hardly ever or never" to "Very often or always". Please circle the number (1, 2, 3, 4, or 5) which, in your judgement, is most descriptive of this child's behavior during the most recent week.

SOCIAL COMPETENCE SCALE

	Hardly ever or never	Seldom	Some- times	Often	Very often or always
1. Child seems eager to try new things	1	2	3	4	5
2. Child seeks adult attention by crying	1	2	3	4	5
3. Child easily loses interest and flits from one activity to another	1	2	3	4	5
4. Child is responsible in carrying out requests and directions	1	2	3	4	5
5. Child seeks physical contact with teacher	1	2	3	4	5
6. Child adds freely (verbally or nonverbally) to teacher's suggestions	1	2	3	4	5
7. When making a change from one activity to another, child resists entering the new activity	1	2	3	4	5
8. Child shies away and withdraws when approached by other children	1	2	3	4	5
9. Child responds with immediate compliance to teacher's direction	1	2	3	4	5
10. Child shows enthusiasm about work or play	1	2	3	4	5
11. Child frowns, shrugs shoulders, pouts, or stamps foot when suggestion is made by teacher	1	2	3	4	5
12. Other children copy this child's ideas for play	1	2	3	4	5
13. Excessive praise and encouragement from teacher is required for child to participate in activities	1	2	3	4	5
14. Other children seem unwilling to play with this child	1	2	3	4	5
15. Child is unwilling to carry out reasonable suggestions from teacher even when having difficulty	1	2	3	4	5
16. Child feels comfortable enough with other children to be able to express his/her own desires or opinions	1	2	3	4	5

KOHN SOCIAL COMPETENCE SCALE (cont.)

	Hardly ever or never	Seldom	Some- times	Often	Very often or always
17. Child hits teacher	1	2	3	4	5
18. Child is fearful in approaching other children	1	2	3	4	5
19. Child can accept teacher's ideas and suggestions for play or ways of playing	1	2	3	4	5
20. Child gets willing cooperation from most other children	1	2	3	4	5
21. Child gives the appearance of complying with teacher's suggestions, but does not do suggested activity	1	2	3	4	5
22. Child is bossed and dominated by other children	1	2	3	4	5
23. Child's ideas have impact on many children in the classroom	1	2	3	4	5
24. Child rebels physically, for example: has temper tantrums, hits, kicks, etc.	1	2	3	4	5
25. Child easily gets attention of other children	1	2	3	4	5
26. Child has difficulty defending his/her own rights with other children	1	2	3	4	5
27. Child cooperates with rules and regulations	1	2	3	4	5
28. Child dawdles when required to do something	1	2	3	4	5
29. In play with other children, child can shift between leading and following, depending on the situation	1	2	3	4	5
30. Child reacts negatively to teacher's ideas and suggestions for play activities	1	2	3	4	5
31. Child is unable to occupy himself/herself without other children directing activities for him/her	1	2	3	4	5
32. Child is willing to turn to other children for help and assistance	1	2	3	4	5

KOHN SOCIAL COMPETENCE SCALE (cont.)

	Hardly ever or never	Seldom	Some- times	Often	Very often or always
33. Child actively defies teacher's rules and regulations	1	2	3	4	5
34. Child can give ideas to other children as well as go along with their ideas	1	2	3	4	5
35. Child expresses open defiance against authority	1	2	3	4	5
36. Child appears at a loss in unstructured free-play types of activities	1	2	3	4	5
37. Child easily makes the change from one activity to the next	1	2	3	4	5
38. Child seems to enjoy both play with others and by himself/herself	1	2	3	4	5
39. Child is hostile or aggressive with other children, for instance: pushes, taunts, bullies, etc.	1	2	3	4	5
40. Child can be independent of adult in overcoming difficulties with other children or activities	1	2	3	4	5
41. Child has to be a leader in order to participate in activities with other children	1	2	3	4	5
42. Child participates in a half-hearted way	1	2	3	4	5
43. Child takes possession of other children's equipment without their permission	1	2	3	4	5
44. Child demonstrates little interest in things and activities	1	2	3	4	5
45. Child is open to the ideas and suggestions of other children	1	2	3	4	5
46. Child is responsible in following through on routines, for example: getting dressed or undressed, washing hands	1	2	3	4	5
47. Child is quarrelsome	1	2	3	4	5
48. Child can communicate his/her needs to the teacher	1	2	3	4	5

KOHN SOCIAL COMPETENCE SCALE (cont.)

	Hardly ever or never	Seldom	Some- times	Often	Very often or always
49. Child is bossy and dominating with other children	1	2	3	4	5
50. Child spends time sitting around, looking around, or wandering around aimlessly	1	2	3	4	5
51. Child can remain alert and interested in an activity	1	2	3	4	5
52. Child prevents other children from carrying out routines	1	2	3	4	5
53. Child succeeds in getting others interested in what he/she is doing	1	2	3	4	5
54. Child shows interest in only a few types of things	1	2	3	4	5
55. Child puts things away carefully	1	2	3	4	5
56. Child is unwilling to play with other children except on his/her own terms	1	2	3	4	5
57. Child responds well when the activity is planned or directed by the teacher	1	2	3	4	5
58. Child disrupts activities of others	1	2	3	4	5
59. Child seeks adult aid for each step of activity	1	2	3	4	5
60. Child can participate actively in structured activities as well as free-play type of activities	1	2	3	4	5
61. Child resists going along with the ideas of other children	1	2	3	4	5
62. Child easily gives up when confronted with a difficulty	1	2	3	4	5
63. Child can be independent of adult in having ideas about or planning activities	1	2	3	4	5
64. Child has trouble keeping to the rules of the game (disregard when child does not know or understand rules)	1	2	3	4	5

Revised 2/72

SCORING FORM FOR 64 ITEM
SOCIAL COMPETENCE SCALE (KCS)
(for half-day programs)

Name or I.D. Number _____

Scored by _____

Checked by _____

A	B	C	D	E	F
	2	3	X	4	5
6	7	8	9	10	11
12	13	14	X	X	15
16	17	18	19	20	X
X	21	22	X	23	24
25	X	26	27	X	28
29	30	31	X	32	33
34	35	36	37	38	39
40	41	42	X	X	X
X	43	44	45	46	47
48	49	50	X	51	52
53	X	54	55	X	56
57	58	59	X	60	X
X	61	62	X	63	64
+	X	-	X	+	X
X	-	X	+	X	-

F1

F11

Rating Instructions for the
Problem Checklist

The checklist consists of 49 items. Please rate each item in terms of how well it describes the behavior of this child during the most recent week. The ratings consist of three categories: "Not at all typical", "Somewhat typical", and "Very typical". You are asked to circle the number (either 0, 1, or 2) that in your judgement most appropriately describes this child's behavior during the most recent week.

KOHN PROBLEM CHECKLIST

	Not at all Typical	Somewhat Typical	Very Typical
1. Body appears stiff and rigid when standing, sitting, lying down, or being held	0	1	2
2. Eats, sucks, or drinks inedible substances such as plaster, ink, sand, cloth, wood, toys, etc.	0	1	2
3. Is restless and unable to sit still	0	1	2
4. Has mournful, downcast expression; seems sad	0	1	2
5. Has temper tantrums (e.g., screaming, kicking, stomping, holding breath, etc.)	0	1	2
6. Seldom smiles	0	1	2
7. Is listless or apathetic	0	1	2
8. Screams or bangs objects, etc., when angry, irritated or frustrated	0	1	2
9. Moves head or body in a very slow way	0	1	2
10. Gets easily irritated or bothered by things or by people	0	1	2
11. Is tense or jittery in everyday situations or activities	0	1	2
12. Hardly speaks at all	0	1	2
13. Gets angry when interrupted at play by adults as part of normal routine (not punishment)	0	1	2
14. Speaks in a faint or weak voice (not due to known physical causes)	0	1	2
15. Is shy or bashful with most adults	0	1	2
16. Appears jealous when teacher pays attention to other children	0	1	2
17. Acts overly fearful and cautious	0	1	2
18. Often starts fights with other children	0	1	2
19. When working with materials, becomes bothered or upset when he/she cannot make things "just right" or put them in perfect order	0	1	2

KOHN PROBLEM CHECKLIST (cont.)

	Not at all Typical	Somewhat Typical	Very Typical
20. Acts extremely frightened to the point of screaming and crying (disregard where child screams or cries out of anger)	0	1	2
21. Says he/she is going to kill himself/herself	0	1	2
22. Is self-conscious	0	1	2
23. Is preoccupied and in a world of his/her own to the point of being unresponsive to things or to people	0	1	2
24. Talks about death and killing	0	1	2
25. Does not defend himself/herself when others shove, hit, accuse, or criticize him/her	0	1	2
26. Disobeys directions or instructions of adult	0	1	2
27. Is unresponsive to friendly overtures by adults or children	0	1	2
28. Stays close or clings to mother or adult	0	1	2
29. Seeks attention through rowdy or "show-off" behavior	0	1	2
30. Is shy or bashful with most children	0	1	2
31. Behaves like a little adult, for instance: does not seem to have fun, acts in a restrained manner	0	1	2
32. Bullies, hits, or picks on other children	0	1	2
33. Has an aloof and distant manner	0	1	2
34. Gives excuses for not following classroom procedures or rules of the game	0	1	2
35. Is extremely active; has always to be "on the go"	0	1	2
36. Is overly sensitive; feelings easily hurt	0	1	2
37. Hurts others, tells untruths, or destroys property without seeming to feel badly	0	1	2
38. Is very much a follower; does not initiate play with other children	0	1	2

KOHN PROBLEM CHECKLIST (cont.)

	Not at all Typical	Somewhat Typical	Very Typical
39. Occupies himself/herself continuously with one type of activity and resists leaving it to do anything else	0	1	2
40. "Talks back" to adults in a defiant and fresh manner	0	1	2
41. Exhibits drowsiness throughout the day	0	1	2
42. Swears or curses, using "hell," "damn," or other four-letter words	0	1	2
43. Is destructive in regard to own and/or others' property	0	1	2
44. Requires urging to take part in activities	0	1	2
45. Deliberately maltreats other children	0	1	2
46. Fails to play with most other children	0	1	2
47. Stares blankly into space without appearing to be looking at or thinking about anything	0	1	2
48. Is easily aroused to anger	0	1	2
49. Appears bewildered or confused	0	1	2

Scoring Form for the Kohn Problem Checklist

Name or I.D. Number _____

Scored by _____

Checked by _____

							TOTALS	
1	9	17	25	33	41	49		X
2	10	18	26	34	42	X	X	
3	11	19	27	35	43	X	X	
4	12	20	28	36	44	X		X
5	13	21	29	37	45	X	X	
6	14	22	30	38	46	X		X
7	15	23	31	39	47	X		X
8	16	24	32	40	48	X	X	

F I F II

APPENDIX C

86.

THE FACTOR SCORES: WHAT THEY MEAN
AND HOW TO CONSOLIDATE THEM

What Do The Scores Mean?

High factor scores on the Social Competence Scale indicate healthy functioning within the preschool environment. High scores on the Problem Checklist indicate a high incidence of problems.

Factor I

On either scale, Factor I deals with the general topic of utilization of opportunity in the classroom. Factor I gives information about the extent of a child's interest, curiosity, and assertiveness and his ability to elicit the cooperation of peers, on the one hand; his withdrawal from classroom opportunity and failure to elicit cooperation, on the other.

Example 1. A child who is enthusiastic about work or play, is able to get others interested in what he is doing, and also can go along with the ideas of other children will have a low Factor I score on the Problem Checklist and a high Factor I score on the Social Competence Scale.

Example 2. A child who shows little interest in the things or activities of the classroom, is unable to occupy himself without others directing him, cannot secure the interest or cooperation of peers, and/or stares blankly and wanders aimlessly will have a high Factor I score on the Problem Checklist and a low Factor I score on the Social Competence Scale.

Factor II

Factor II deals with the general topic of conforming to the rules, regulations and routines of the classroom. This factor indicates the extent to which a child can live within the structure of the classroom and comply with the teacher's requests and suggestions, on the one hand; defiance or the creation of disturbances which upset the normal classroom routines, on the other.

Example 1. A child who cooperates with the rules and regulations of the classroom, is able to accept the teacher's suggestions for play, and handles materials with care, will have a low Factor II score on the Problem Checklist and a high Factor II score on the Social Competence Scale.

Example 2. A child who often disrupts the activities of others, is openly defiant of the teacher's rules and regulations, and/or teases, taunts, or bullies other children will have a high Factor II score on the Problem Checklist and a relatively low Factor II score on the Social Competence Scale.

The Relationship of Social Competence and Problem Checklist Scores

The Social Competence Scale is bi-polar and measures degrees of health as well as degrees of disturbance; the Problem Checklist, however, is uni-polar and only differentiates disturbance from its absence; therefore, the range of behavior measured by the Social Competence Scale is considerably greater than that measured by the Problem Checklist. As can be seen in Table 5, in spite of this difference in range, the correlation between the two instruments is quite high. Factor I scores on the Problem Checklist correlate $-.75$ with Factor I scores on the Social Competence Scale.

Factor II scores on the two instruments correlate $-.79$. The correlations are negative since the scales go in opposite directions--with high Social Competence scores indicating health and high Problem Checklist scores indicating disturbance.

Table 5

Correlations Between Competence and Symptom Factors (N = 407)*

Problem Checklist	Social Competence Scale	
	Factor I	Factor II
Factor I	$-.75$	$-.25$
Factor II	$-.13$	$-.79$

*From "A Social Competence Scale and Symptom Checklist for the Preschool Child: Factor Dimensions, Their Cross-Instrument Generality, and Longitudinal Persistence" by M. Kohn and B. L. Rosman, Developmental Psychology, 1972, 6, 435. Copyright 1972 by the American Psychological Association, Inc. Reprinted by permission.

A more precise picture of the relationship between corresponding factors of the two instruments would also take into account the following:

1. At the lower end of the Social Competence Scale, as scores decrease (indicating increasing lack of competence), scores on the Problem Checklist increase rather sharply (indicating increasingly severe disturbance).
2. On the upper end of the Social Competence Scale, however, there is a considerable range over which Problem Checklist scores are low and relatively unchanging while Social Competence scores are still increasing.

This curvilinear relationship suggests that the absence of pathology, at least as measured by gross behaviorally evident symptoms, does not necessarily indicate optimal social functioning or competence. While children who show low levels of overt symptoms are unlikely to be among the most disturbed, they are not necessarily among the most competent. It should be noted that, conversely, children who show some pathological symptoms may nevertheless function at a high level of social competence.

Pooled Scores

Pooled Teacher Ratings. The Problem Checklist and the Social Competence Scale were developed on children in Day Care. Since Day Care Centers generally employ two full-time teachers, a head teacher and an assistant teacher, it was deemed desirable to incorporate both teachers' knowledge about the child into the factor scores by having both teachers rate each child independently and then adding together, or pooling, their scores

on each factor. This was done separately for each of the two scales. Pooling two independent ratings in this manner not only incorporates both teachers' knowledge about the child into one score, it also increases the reliability of the rating. In some instances, where only one teacher or observer rated a child, each factor score was doubled. Doubling a teacher's score, while it does not lead to a gain in reliability, is necessary to maintain consistency if some scores have been pooled.

Pooled Instrument Scores. Because of the high correlation between corresponding factor scores on the Problem Checklist and the Social Competence Scale, the additional step of pooling scores between the two instruments may be taken. This further increases the reliability of the scores, in addition to further consolidating the data. In order to pool scores between instruments, teachers' raw scores, either pooled or unpooled, must first be converted to standard scores.* Then, since the two instruments have been rated in opposite directions, (high Problem scores indicating disturbance; high Competence scores indicating health), the sign of the standardized scores from one of the instruments must be reversed. It has been the practice, throughout the development of the scales, to reverse the sign of the Social Competence Scale. Once this has been done, the standardized Factor I score from the Problem Checklist can be added to the standardized Factor I score from the Social Competence Scale to yield a pooled instrument Factor I score (KPI-I). Similarly, standardized Factor II scores can be added together to yield a pooled instrument Factor II score (KPI-II). High pooled instrument scores indicate disturbance.

The various steps, from raw score to pooled instrument score, are enumerated in the computing guide on page 31. If two teachers or observers have rated a child, their scores must first be pooled (steps 1 and 2 in the computing guide). If one person has rated the child, only steps 3-6 need be applied.

Standard Scores

A standard score indicates how far above or below the mean a particular score lies in terms of units equal to one standard deviation. By replacing a child's raw factor score (regardless of whether this is a single or a pooled score) with a standard score, the position of the raw score relative to the mean of the group can be seen.

*For instructions on computing standard scores, see Cronbach, Lee J. Essentials of Psychological Testing. New York: Harper & Row, 1949/

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9.

Computing Guide: Converting Raw Scores to
Pooled Instrument Scores

Procedure	Example						
1. Add the raw scores of two raters on Factor I of the Problem Checklist (KPC) to obtain pooled KPC-I.	1. Rater 1 = 10 Rater 2 = $\frac{14}{24}$						
2. Add the raw scores of two raters on Factor I of the Social Competence Scale (KSC) to obtain pooled KSC-I.	2. Rater 1 = -18 Rater 2 = $\frac{-13}{-31}$						
3. Enter an appropriate table of standard score equivalents or use the z score formula to obtain the standard score for each factor score so far obtained.	<table><tr><th>Pooled factor score</th><th>Standard score</th></tr><tr><td>KPC 24</td><td>.5</td></tr><tr><td>KSC -31</td><td>-1</td></tr></table>	Pooled factor score	Standard score	KPC 24	.5	KSC -31	-1
Pooled factor score	Standard score						
KPC 24	.5						
KSC -31	-1						
4. Change the sign of the pooled Social Competence score.	4. - [-1] = +1						
5. Add the two pooled factor scores to obtain a pooled instrument score (KPI).	5. KPI = 1 + .5 = 1.5						
6. Repeat for Factor II.							

*If only one person has rated a child but the conversion table is based on pooled or doubled scores, then the one score should be doubled.

**If one person has rated a child and the conversion table is based on single scores (neither Appendix A nor B is), then omit steps 1 and 2 and begin at 3.

Use of Conversion Tables. Tables for converting raw factor scores to standard scores have so far been developed for three groups of children: girls in full-day preschool programs; boys in full-day preschool programs; and boys in half-day kindergarten programs. These tables are presented in the appendix for illustrative purposes.*

Appendix A is the conversion table for both boys and girls in full-day programs who have been rated on the Problem Checklist and the 73-item Social Competence Scale. The standard score equivalents in this table are based on the scores of 604 girls and 628 boys who made up a 20% random sample of all children in 90 of the 92 Day Care Centers operating within the Division of Day Care, New York City Department of Social Services, in September 1967. The children ranged in age from 35 to 70 months at the time of this rating. They came from predominantly lower to lower-middle class families. Slightly more than 50% came from broken homes. Fifty-six percent of the youngsters were black, 27% were white, and 16% were Puerto Rican. Of the children's mothers, 45% had not completed high school, but 12% had attended college. Nine percent of the families had an annual income below \$3,000; approximately 45% had incomes below \$5,000. Nineteen percent of the families received public assistance.

Appendix B is the conversion table for boys in half-day programs. The standard score equivalents in this table are based on the scores of 287 boys who were rated on the Problem Checklist and the 64-item Social Competence Scale. Of these boys, 70 were in Day Care and 217 were in public school kindergartens at the time of the rating. Their mean age was 69 months. The sample was approximately evenly divided between black and white. Twenty-six percent of the boys came from Hollingshead Social Classes III, II, and I (middle and upper-middle), 38% from Hollingshead Social Class IV (lower-middle), and 36% from Hollingshead Social Class V (lower class) homes. The boys were rated by either one or two teachers as well as by a trained observer. Because there appear to be small but consistent differences in the magnitude of observer ratings as opposed to teachers ratings, a separate set of standard score equivalents was developed for each. In Appendix B norms based on teacher ratings appear on the left side of the table; norms based on observer ratings appear on the right.

It is recognized that the distribution of any group of scores is influenced to an unknown extent by the characteristics of the specific sample. There is also evidence, from related work with disturbed children,** that ratings by teachers working with special groups of children are subject to a frame-of-reference effect. This frame-of-reference effect tends to diminish the magnitude of differences between scores obtained by groups of highly disturbed as compared with groups of normal children. For these reasons it is advisable that each investigator work with the mean and standard deviation of his/her own group of subjects whenever the sample is adequately large.

* The factor scores presented in Appendices A and B are all either pooled or doubled scores. Therefore, before a raw factor score can be compared with any score in either of these tables, that score must either be pooled or doubled.

Standard scores in Appendices A and B were computed from the formula
$$z = 100 \times \frac{\text{raw score} - \text{mean}}{\text{standard deviation}}$$
 The standard scores were in effect multiplied by 100 for ease in handling.

** Kohn, M., & Rosman, B. L. A two-factor model of emotional disturbance in the young child: Validity and screening efficiency. The Journal of Child Psychology and Psychiatry, 1973, 14, 31-56.

SUMMARY

Through ratings on the Problem Checklist and the Social Competence Scale, observations by teachers or observers of the social-emotional behavior of young children in a preschool setting can be incorporated into two summary scores: A Factor I score, which is a measure of the child's interest and participation versus apathy-withdrawal; and a Factor II score, which is a measure of the child's cooperation and compliance versus anger and defiance.

A raw Factor I score is obtained on either the Problem Checklist or the Social Competence Scale by adding up the teacher's or observer's scores for all the Factor I items on that instrument. A raw Factor II score is obtained on either instrument in the same way. The observations of two teachers or observers can be incorporated into each of the two factor scores, and the reliability of the ratings can thus be increased, by pooling the ratings of two teachers on one child. This procedure, of course, is optional.

Because of the high correlation between corresponding factor scores of the Problem Checklist and the Social Competence Scale, the corresponding scores from the two instruments can be pooled. This can be done by first converting raw scores to standard scores and then changing the sign of the Social Competence scores. Pooling the scores of the two instruments results in greater convenience of data handling and to a further increase in reliability. The steps from raw factor score to pooled instrument score are presented in summary form in Appendix A.

Appendix A

Conversion Chart for the Problem Checklist and

73 Item Social Competence Scale (Full day programs only)

Standard scores	Pooled factor scores							
	Females (N = 604)				Males (N = 628)			
	Problem Checklist		Competence Scale		Problem Checklist		Competence Scale	
	I	II	I	II	I	II	I	II
-400	Health ↑		-223		Health ↑		233	-45
-350			-192	105			203	75
-300			-162	133			-173	105
-250			-132	162			-143	134
-200			-101	190			-113	164
-150			-71	218			-83	194
-100	33		-41	247	4	2	-53	224
-50	11	6	-10	275	11	10	-23	254
0	18.46	13.02	20.25	303.12	18.89	18.28	7.01	284.15
50	26	20	51	331	27	26	37	314
100	34	26	81	360	34	34	67	344
150	42	33	111	388	42	42	97	374
200	49	39	142	416	49	50	127	404
250	57	46	172		57	58	157	434
300	65	53	203		65	66	187	
350	73	60			72	74		
400	80	66			80	82		
x	18.460	13.025	20.248	303.118	18.895	18.282	7.010	284.151
SD	15.469	13.311	60.782	56.581	15.246	15.832	59.923	59.866
1/2 SD	7.735	6.656	30.391	28.291	7.623	7.916	29.962	29.933

Note.--High Symptom scores indicate pathology; high Competence scores indicate health

Appendix B

Conversion Table for the Problem Checklist and
64 Item Social Competence Scale
(Based on both Teacher and Observer ratings of 287 boys)^a

Standard scores	Factor scores pooled or doubled							
	Teacher ratings ^b				Observer ratings ^c			
	Problem Checklist		Competence Scale		Problem Checklist		Competence Scale	
	I	II	I	II	I	II	I	II
-400			-81	-166			-39	-88
-350			-59	-150			-22	-79
-300			-37	-134			-5	-60
-250			-15	-117			12	-50
-200			7	-101			29	-49
-150			29	-85			46	-39
-100			51	-69			62	-29
-50	6	5	72	-52	2	1	79	-19
0	13.91	11.28	94/28	-36.06	6.61	3.74	96.26	-9.54
50	22	18	116	-20	11	7	113	0
100	30	25	138	-4	16	9	130	10
150	38	31	160	13	21	12	147	
200	45	38	182		25	15	164	
250	53	45			30	18	181	
300	61	51			34	20		
350	69	58			39	23		
400	77	65			44	26		
$\bar{x}$	13.906	11.275	94.278	-36.058	6.606	3.735	96.459	-9.540
SD	15.728	13.355	43.744	32.540	9.272	5.586	33.973	19.705

a. See detailed description of sample characteristics on page 32.

b. Raw scores were pooled for two teachers and doubled where only one teacher rated a child.

c. Raw scores always doubled.

INTERACTION WITH PEERS

	1 min	2 min	3 min	4 min	5 min	TOTAL
1. Passively accepts domination or aggression of peers						
2. Communicates comfortably with peers, expresses opinions and desires freely to them						
3. Involved in cooperative activity with peers (building models, playing house etc.)						
4. Leads activity successfully (peers follow suggestions enthusiastically)						
5. Bosses peers						
6. Grasps things from peers						

INTERACTION WITH TEACHERS

7. Clinging to teacher or other adult						
8. Tenses or withdraws when approached by peer or teacher						
9. Communicating feelings to teacher, e.g., "I can't understand this", "It's hard for me", "I'm hurt"						
10. Adding verbally to teachers suggestions, making suggestions or volunteering ideas to teacher or peers						
11. Purposely seeks attention of teacher when teacher actively involved with another child						
12. Hits teacher						
13. Seeks special attention at lunch, snack time or naptime, e.g., giggles, throws food, etc.						
14. Follows teacher's directions immediately						
15. Responds positively to teacher's ideas on playing or ways of playing						
16. Willingly changes activity, e.g., takes materials out for new activity or walks over to join in new activity						
17. Puts things away carefully						

PERSONAL DISPOSITION

18. Listening						
19. Daydreaming, staring into space, blank look, downcast expression						
20. Appears confused or bewildered						
21. Sitting or playing by himself or wandering aimlessly						
22. Crying and screaming (not out of anger)						
23. Involved in carrying out required activity in an alert and interested manner						
24. Handles academic or social difficulties independently in a suitable manner						

follow suggestions enthusiastically)

5. Bosses peers

6. Grabs things from peers

INTERACTION WITH TEACHERS

7. Clinging to teacher or other adult

8. Tenses or withdraws when approached by peer or teacher

9. Communicating feelings to teacher, e.g., "I can't understand this", "It's hard for me", "I'm hurt"

10. Adding verbally to teachers suggestions, making suggestions or volunteering ideas to teacher or peers

11. Purposely seeks attention of teacher when teacher actively involved with another child

12. Hits teacher

13. Seeks special attention at lunch, snack time or naptime, e.g., giggles, throws food, etc.

14. Follows teacher's directions immediately

15. Responds positively to teacher's ideas on playing or ways of playing

16. Willingly changes activity, e.g., takes materials out for new activity or walks over to join in new activity

17. Puts things away carefully

PERSONAL DISPOSITION

18. Listening

19. Daydreaming, staring into space, blank look, downcast expression

20. Appears confused or bewildered

21. Sitting or playing by himself or wandering aimlessly

22. Crying and screaming(not out of anger)

23. Involved in carrying out required activity in an alert and interested manner

24. Handles academic or social difficulties independently in a suitable manner

25. Enthusiastic, happy, excited, does tasks vigorously

26. Throwing temper tantrums, screaming, kicking, stomping, holding breath

27. Responds in irritated manner to tasks or people— verbalizes frustration or anger, throws books, talks back to teacher, yells, frowns, shrugs shoulders, pouts or stamps foot

28. Exhibits rowdy or 'show-off' behavior, i.e., speaks aloud, jumps up and down, clowns, climbs furniture, etc.

DEFINITIONS

1. Passively accepts domination
When a child allows another to boss, push, hit or grab things from him without retaliation of any kind.
2. Communicates comfortably
All natural communication with peers, child appearing at ease and comfortable in the situation.
3. Involved in cooperative
Child of own choice involved in activity with one or more children - the activity not required by teacher.
4. Leads activity successfully
Child initiates activity, makes suggestions which are followed by peers.
5. Bosses peers
Tells others what or what not to do, commands others.
6. Grabs things from others
Takes objects that a peer is using without asking permission first.
7. Clinging to teacher or other adults
Constantly staying by the teacher's side or holding on to the teacher's hand, skirt, etc.
8. Tenses or withdraws
Body tenses or moves farther away when approached by peer or teacher.
9. Communicating feelings to teacher
Any positive communication with teacher which is not a suggestion related to classroom activities.
10. Adds verbally
Makes suggestions or gives ideas during formal, teacher directed classroom activities.

11. Puposely seeks attention

Calls out to teacher, grabs teachers arm or puts paper under her face, when teacher involved with another child.

12. Hits teacher

Hits, kicks, bites teacher.

13. Seeks special attention at lunch

Seeks attention of teacher at lunch or nap time through negative behaviors.

14. Follows teacher's direction

Child follows teacher's direction willingly and immediately.

15. Responds positively

During informal, free activity teacher's ideas or suggestions are accepted and followed.

16. Willingly changes activity

Child willingly follows teacher's directions to change activities.

17. Puts things away carefully

Put materials away carefully, i.e. neatly and in place.

18. Listening

Listening to teacher talking, giving instructions, reading a story, etc.

19. Daydreaming

Tuned out of what is happening in the classroom, unaware of what is going on around him, face expressionless, sad looking or frowning.

20. Appears confused

Child's face registers confusion, appears not to understand or know how to organize or carry out an activity.

21. Sitting or playing by himself or wandering aimlessly

When the child chooses to sit or play by himself (not required to do so by the teacher), or the child may walk around the class without any purpose or intent.

22. Crying and screaming (not out of anger)

Crying or screaming from some emotion other than anger, such as frustration, fear, humiliation, etc.

23. Involved in carrying out

Child is actively involved in carrying out the activity required by the teacher; he/she is concentrating, alert and interested.

24. Handles academic or social

When the child manages academic or social problems adequately on his/her own, without help from teacher or other adult.

25. Enthusiastic

Face and body registers happiness, smiling, laughing, jumping with excitement about any classroom activity.

26. Throwing temper tantrum

Gets furious about some event in the classroom and reacts in above manner - tantrum may be out of anger or frustration.

27. Responds in irritated manner

Expresses annoyance by words or gestures towards some task or person.

28. Exhibits rowdy, show-off behavior

Child exhibits attention getting behaviors which are disruptive.

APPENDIX D

99.

Name of Child _____

Scored by _____

A	B	C	D	E	F
1		2			
		3			
		4	5		
			6	7	
8		9			
		10	11		
			12		
			13		14
	15				16
	17	18		19	
20				21	
22		23			
		24			
		25	26		
			27		
			28		
FI		+			=
FII	+		-	+	=

Scoring form for 28-item Bennett-Ali Khan Social Competence
Observation Schedule

APPENDIX E

Convergent Validity of Factors I and II for Each School

Table 12 gives the Factors I and II validity coefficients for each school.

TABLE 12

Factors I and II Validity Coefficients by School for All Subjects and Boys and Girls Separately.

	S ₁ (N=10)	S ₂ (N=11)	S ₃ (N=10)	S ₄ (N=9)	S ₅ (N=10)	S ₆ (N=10)	S ₇ (N=10)	S ₈ (N=10)	S ₉ (N=20)
FACTOR I									
All Subjects	.5370166	.4756891	.2303470	.76(99337)	.5621945	.5470440	.9168549	.0576393	.5974392
Boys	.9095057	.5033915	.6402015	.8889598	.6694461	.8285843	.9818747	.2254268	.7177833
Girls	.5179549	.5525454	.1469178	.5740820	.8794303	.5415843	.2254268	.0370353	.5335637
FACTOR II									
All Subjects	.2768063	.2129801	.2348151	.0392698	.2043072	.0888634	.0494006	.3498629	.3817159
Boys	.3845311	.0313307	.2704986	.2672549	.6609072	.4178911	.1704599	.5606365	.4242464
Girls	.1788423	.7695987	.0793001	.1402841	.7861882	.8333714	.6350619	.4405365	.6759097

S₁...S₁₀ - School No. 1 to School No. 10.

Factor I - Apathy-Withdrawal vs. Interest-Participation.

Factor II - Anger-Defiance vs. Cooperation-Compliance.

p values - *p<.05, **p<.01, ***p<.005, ****p<.001.

NOTE: Although the correlation for S₄ boys Factor I is high (r = .8889598), it is not significant as N is only 4.

The Factor I validity coefficients for all subjects (boys and girls combined) are highly significant in three of the nine schools with probability ranging from .01 to .001. Three of the remaining six schools have coefficients that are significant at the .10 level (S_1 $r=.54$, S_5 $r=.56$, S_6 $r=.55$). S_8 has the lowest correlation of .06, however, it is observed that this particular teacher's ratings do not correlate significantly on either of the factors, either when all subjects are considered or when boys and girls are considered separately. When the two sexes are considered separately Factor I correlation coefficients for boys are highly significant (p ranging from $\leq .01$ to $\leq .001$) for three of the nine schools, i.e. S_1 , S_7 and S_9 . The correlation for S_6 ($r=.83$) is significant when $p \leq .10$. All remaining validity coefficients for boys, with the exception of one (S_8), are .5 or above, however they do not approach significance. For girls Factor I does not have the high degree of validity it does for boys. Only for S_5 do the two measures of Factor I scores (KPI and OS) correlate significantly ($r=.88$, $p \leq .05$). Five of the other eight schools' scores have correlations above .5 indicating some degree of convergence. These results establish a high degree of convergent validity for Factor I, i.e. Apathy-Withdrawal vs. Interest-Participation for the total subject population as well as for boys alone.

Validity coefficients for Factor II, Anger-Defiance vs. Cooperation-Compliance, as observed in Table 12, do not give support for convergent validity of this factor. None of the nine teachers

ratings on Factor II for boys and girls combined, relate significantly to ratings of classroom behavior obtained on the observation schedule. Similarly, for boys alone, no significant correlations are obtained. In the latter case, a couple of schools show somewhat high, though nonsignificant, correlations (S_5 $r=.66$ and S_8 $r=.56$). There is more support for convergent validity of Factor II when correlations for girls in each class are considered. S_9 has a coefficient of .68 which is significant at the .05 level of probability. Several other schools show high correlations (S_2 $r=.77$, S_5 $r=.79$, S_6 $r=.83$, S_7 $r=.64$). These do not approach significance at the .05 level of probability due to low Ns. The correlation coefficient for S_6 is significant at the .10 level. Whereas these results do not establish convergent validity of Factor II, Anger-Defiance vs. Apathy-Withdrawal, there is some support for validity of this trait in the data for girls but none for boys.

END

0 | 8 | 0 | 6 | 8 | 3

FIN