PEER ALIENATION: PREDICTORS IN CHILDHOOD AND OUTCOMES IN ADULTHOOD

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ABSTRACT

The paper examines whether individuals who are alienated from their peer group in childhood are at higher risk of depressive symptoms and less able to acquire and use economic and social capital in adulthood. Analyses are undertaken using longitudinal data from a 1970 cohort of British births. Existing literature is used to form hypotheses about the characteristics of children who are peer rejected and victimised, and data at age five and ten are used to test these hypotheses. The second part of the paper examines the adult outcomes associated with being alienated from peers as a child, using mental health and social and economic capital as outcomes at age 29. Evidence is found that peer alienation increased the odds of poor mental health, decreased the odds of having a partner, and decreased the odds of having a university degree. Peer alienation, however, was found to increase the likelihood of civic engagement. Findings are discussed in terms of the lifecourse perspective as well as Bourdieu's concept of habitus.

Peer Alienation: Predictors in Childhood and Outcomes in Adulthood

Introduction

There is little doubt that relationships forged in childhood have some impact on the adult lives of individuals. Sociologists tend to focus on the social networks of adults or "social capital" of individuals later in the lifecourse and how this is related to various correlates, such as earnings or educational attainment. Researchers from other disciplines, most notably psychology, have provided much evidence that peer relations in childhood can have lasting effects on the social development of individuals. While sociologists are aware that measuring characteristics about individuals that approximate their adult social functioning can predict earnings, career advancement, and other such phenomena, there has been little attempt to link childhood social development characteristics to adult life outcomes. The paper uses a lifecourse perspective to theorise that children who are alienated from their peer group may be at higher risk of depressive symptoms and be less able to acquire and use economic and social capital. Analyses are undertaken using longitudinal data from a 1970 cohort of British births. Existing literature is used to form hypotheses about the characteristics of children who are peer rejected and victimised, and data at age five and ten are used to test these hypotheses. The second part of the paper examines the adult outcomes associated with being alienated from peers as a child, using mental health and social and economic capital as outcomes at age 29.

Peer Victimisation and Peer Rejection

There are two distinct topics in the psychology literature that are remarkably similar but have taken on distinct and rarely overlapping research trajectories: peer victimisation and peer rejection. Peer victimisation tends to refer to children who are bullied by their peers, although this type of victimisation is not limited to physical assaults and can include emotional abuse inflicted on children by their peers. Peer rejection refers to children who are very unpopular and largely isolated in school by their peer group. This is typically measured by children being asked to identify their least favourite classmate or least desirable playmate.

Childhood Correlates of Peer Victimisation and Peer Rejection

With regard to the peer victimisation literature, a generous amount of the research on bullying has been devoted to determining what characteristics typical bully victims possess. Researchers have

determined that, not surprisingly, bully victims are weak in temperament (Smith and Myron-Wilson 1998; Hodges and Perry 1999), lack physical strength (Bernstein and Watson 1997; Hodges and Perry 1999; Smith and Myron-Wilson 1998), and are somehow different, in terms of looks (including race), dress, or physical ability (Bernstein and Watson 1997; Fried 1997). As well, bully victims are often targeted for being "too smart" (Fried 1997) or below average intelligence (Olweus 1978) and being of a lower socio-economic background (Bernstein and Watson 1997). Victim characteristics also differ by gender as male victims are often not "tough" (Shakeshaft and Barber 1995) and tend to have very close relationships with their mothers (Olweus 1992). Alternately, girls are bullied for being unattractive, not being dressed fashionably, and being physically overdeveloped (Shakeshaft and Barber 1995). Other research has concluded that bully victims, regardless of gender, tend to have overprotective mothers and emotionally "negative" fathers (Smith and Myron-Wilson 1998). Types of bullying also differ by gender, as male victims are more likely to experience physical abuse while females are more likely to be verbally harassed (Branwhite 1994). Additionally, bully victims tend to also have poorer family functioning and relationships with their parents, with girl victims reporting negative feelings towards their mothers and boy victims reporting negative feelings towards absent fathers in single mother families (Rigby 1993). Female victims have also been found to be more likely in dysfunctional families than male victims (Rigby 1994). As well, child victims also experience higher rates of emotional and physical maltreatment by parents and higher rates of childhood sexual abuse (Duncan 1999).

Turning to the literature on peer rejection, rejected children often display social skills that make them undesirable playmates and friends to other children. Children that act in an aggressive or disruptive manner account for about one third of children rejected by their peers (Crick and Dodge 1996). Peer rejected children, however, are not only aggressive children. Children who withdraw from peer interactions also limit their ability to fit into their peer group (Coie and Kupersmidt 1983; Dodge 1983). The inability to behave in ways that are socially acceptable can have many causes, such as parenting styles and disciplinary techniques in the home (Putallaz and Heflin 1990). Children of authoritarian mothers have been found to exhibit hostility and have difficulty being friendly with other children (Hinde and Tamplin 1983). Parental warmth and some degree of control over their children's behaviour are thought to be crucial in the development of children's social competence (Putallaz and Heflin 1990). As well, children who cannot engage themselves with the material being taught in the classroom may turn to disruption of peers due to boredom and frustration. Similar to peer victimised children, peer rejection may occur simply because a child is perceived as being different in some way

from other members of the peer group. This difference may be due to ethnic group membership, disability, physical attractiveness, or being a newcomer to the classroom (Asher et al. 1982).

It has been found that peer abuse results in low self-esteem and depression (Boulton and Underwood 1993; Rigby and Slee 1995; Salmon and James 1998; Slee 1995; Smith and Myron-Wilson 1998; Solkhah, Olds, and Englund 1999), feelings of insecurity (Slee 1995; Solkhah, Olds, and Englund 1999), anxiety (Slee 1994), and social withdrawal (McCarthy 1997). Victims also tend to experience irritability (Sharp 1995), anxiety (Olweus 1992; Salmon and James 1998; Sharp 1995; Slee 1994), anger and self-pity (Borg 1998). Being bullied can also result in the victim becoming physically and/or mentally ill (Sharp 1995; Williams and Chambers 1996). Bully victims often report experiencing headaches, extreme sadness, insomnia, stomach-aches, and suicidal thoughts (Kaltiala-Heino, Rimpelä, Marttunen, Rimpelä, and Rantanen 1999). Child victims also report having recurring memories of the abuse (Sharp 1995) and being afraid to seek help (Slee 1994; Smith and Myron-Wilson 1998). As well, previous research has shown, that like bully victims, rejected children report being lonely (Asher, Hymel, and Renshaw 1984), and are more likely to be depressed (Vosk, Forehand, Parker, and Rickard 1982) than integrated peers.

In studies that have examined the relationship between peer abuse and rejection, Hodges and Perry (1999) found that a history of peer rejection contributed to an increase in peer victimisation over time. Additionally, Schuster (1997) found that children who were victimised were almost always peer rejected as well, although the reverse was not true, with only about half the total number of rejected children being victimised as well.

Adult Outcomes of Peer Victimisation and Peer Rejection

There are few published studies that examine the long-term effects of bullying and peer rejection. Olweus (1984, 1992) found that by age 23, male victims of bullying were more likely to be depressed and have lower self-esteem while Gilmartin (1987) revealed that adult males who were bullied as children were more likely to be “love-shy” than non-victims, suggesting that the social withdrawal experienced by bullied children appeared to lead to later problems in forming adult relationships. Duncan and colleagues found that adults who had been bullied as children reported significantly higher levels of loneliness than those who were not bullied (Tritt and Duncan 1997), and reported higher levels of emotional distress than non-victims (Duncan 1999). Swain (1996) found that victims were more likely to be reserved and independent than non-victims and that the more a respondent reported having been bullied as a child, the more introverted he or she was as a young

adult. Matsui et al. (1996) found that male Japanese university students who suffered from low self-esteem and depression prior to victimisation tended to have low self-esteem and depression in adulthood. They suggested that children with compromised psychological states prior to bullying were more likely to suffer negative long-term consequences in adulthood. Ambert (1994) reported that adults who were bullied as children had recurring memories of these events and that there is evidence of some psychological distress in their adult lives. She also found that the peer abuse negatively affected the victims' parents. More recently, Roth, Coles, and Heimberg (2002) found childhood peer victimisation to be associated with adult depression and various forms of anxiety.

With regard to peer rejected children, Roff (1990) found that peer rejection in childhood was associated with subsequent mental health problems in adulthood. Similarly, Bagwell, Newcomb, and Bukowski (1998) found that peer rejection in childhood was a significant predictor of psychopathological symptoms in adulthood, although the effects of peer rejection were mediated by the presence of a close friend in adolescence. Peer rejected children with no close friends were at the highest risk for psychopathological symptoms.

There appears to be considerable overlap, as peer rejection can be a clear result of peer victimisation, and therefore the two concepts are treated here as a larger single phenomenon of peer alienation: children who are not accepted by their peers. This alienation of children by classmates can take the form of both rejection and abuse by peers.

Sociological Relevance and Theoretical Considerations

The review of the literature on peer victimisation and peer rejection has provided insight into the characteristics of children that become alienated from their peer group. As well, a comparably limited body of literature has indicated that children who are bullied and rejected are likely to suffer from psychological distress in adulthood. There was also evidence that peer victimised children may grow into adults who may have intimacy problems (Gilmartin 1987). The mechanism that appears to be at work is that children who integrate poorly, for whatever reason, are likely to associate social situations with rejection, humiliation, and pain, and may learn at an early age to avoid social situations so as to avoid these negative feelings. This avoidance of social interaction further prevents them from having many positive social experiences due to their belief that most social interaction is associated with negative feelings (Roth, Coles, and Heimberg 2002). Along with preventing them from developing the skills necessary to function comfortably in the social world, these experiences may initiate a life-long cycle of social retreat and adversity (Roth, Coles, and Heimberg 2002). As well, internalising the judgements of peers can lead to a negative self-image that can manifest itself

in low self-esteem and other mental health problems (Coie 1990). Thorough reviews of the previous research on the role of friendship in the lifecourse by Hartup and Stevens (1997) and Crosnoe (2000) have determined that friendships have a bearing on various aspects of the social well-being of individuals across the lifecourse.

The effects of early peer interaction experiences have firm relevance in exploring issues of social well-being in adulthood, particularly if these phenomena are examined within a lifecourse perspective (Elder 1994,1998). The lifecourse perspective conceptualises individual lives as being influenced by their on-going and ever-changing historical specificities (Elder 1998). In this way, we can examine how childhood experiences with peer integration have lasting effects that extend into adulthood. This idea of people's lives being shaped by their personal histories is also closely linked to the concept of "habitus" proposed by Pierre Bourdieu. Habitus is the embodiment of dispositions and preferences that have emerged due to life experience. The habitus influences the ability of individuals to accumulate and effectively use their various stocks of "capital." While Bourdieu identified numerous "capitals", economic and social capital will be focused upon here. Economic capital refers to characteristics of the individual that are quickly and easily transferable into monetary reward, such as educational attainment, while social capital refers to an individual's collection of personal contacts and interpersonal connections (Bourdieu 1986).

Objectives of the Present Study

The current study has three research questions: 1) Is it possible to predict peer alienated children based upon their personal characteristics in childhood? 2) What is the effect of childhood peer alienation on adult well-being? and 3) What is the effect of childhood peer alienation on economic and social capital in adulthood? Peer integration in childhood is conceptualised as a characteristic in the lifecourse that has the potential to shape individuals' personal histories with respect to their later mental well-being, as well as their social position in terms of social and economic capital.

Methodologically, this study improves on previous research in various ways, using unique data from a cohort of British births that was collected over a period of twenty-nine years (rather than retrospective data) as well as multivariate techniques that examine the effects of peer alienation independent of other important determinants of the outcomes considered here.

Data and Methods

The data used in the analyses were from the 1970 British Cohort Study (BCS70). All persons born in Great Britain between 5 and 11 April 1970 were subjects for the study, with data collected on

16771 live births and the families of the babies in England, Scotland, Wales, and Northern Ireland. Attempts to collect data from the full cohort occurred at ages 5, 10, 16, 26, and 29. While the focus of the inquiry at birth was largely medical, the scope of later data collection efforts broadened significantly. At age five, considerable data were collected on the educational and physical development of the children, while at ages ten and 16, indicators of social development were also added. In adulthood, cohort members (hereafter CMs) were asked also about topics pertaining to their economic development, living arrangements, and offspring.

This research has taken advantage of the longitudinal nature of the data and considers in the analyses characteristics of the CMs collected at ages 5, 10, and 29.[i] Data at age five are able to give indicators of potential characteristics a child may possess that may make him or her a likely target for peer alienation, such as behavioural difficulties. Information on 13,135 CMs was collected at this sweep. Data about the child and the family was collected via a maternal self-completion questionnaire, as well as by a medical health visitor who conducted a home interview and administered a test booklet to the study child which contained test items that assessed the child's ability in vocabulary, copying drawings, and reading. At age 10, information was collected from the mother and child, as well as from the child's teacher and school physician. Various educational tests were also conducted on the CM which included assessments of the child's competence in mathematics and reading. On this sweep, almost 13,000 CMs filled in questionnaires, while just under 14,000 of the mothers were interviewed. When the latest data was collected in 1999-2000, full survey information was collected on 11,116 CMs, which was just under 65 percent of the original 1970 cohort.

The first set of analysis which examined the predictors of peer alienation at age ten uses data from the age five and ten sweeps. Combing the data in this way results in 11,758 CMs from the original birth sample, with an additional 329 who are added at either age five or ten.[ii] The attrition from the original sample shows no systematic substantial attrition pattern apart the slight loss of CM's of single mothers who were originally 5.54% of the birth sample and represent 3.61% percent of those available in the age five and ten data. Additionally, CMs from Northern Ireland dropped from four percent of the cohort to almost zero as data collection in Northern Ireland ceased after the initial sweep. Statistical analyses performed on the data require that respondents have data for all items considered in estimations, which resulted in a further loss of cases to 7100. [iii]

In the analyses of adult outcomes, childhood characteristics were limited to age ten only in order to preserve cases. Approximately 8,700 cases were common to both subsets, although actual subsamples available for analysis varied by the predictors and outcome variables examined. The age

ten and 29 subsample experienced similar patterns of disproportionate attrition from single parent families and lower social class, as discussed above.[iv] Analysis of attrition from the BCS70 has found that under-representation was considerable for CM's of teenage and single mothers, those from low socioeconomic background, and those with a disability (Nathan, 1999).

Table 1: BSC70 compared to 29 and 30 year olds in 1999 UK Labour Force Survey

Characteristic	29 and 30 year olds, 1999 UK Labor Force Survey	BCS70 CMs
Married	47.04%	43.80%
Cohabiting	22.83%	19.50%
Single	28.97%	27.93%
Divorced	2.81%	2.35%
Separated	3.12%	1.49%
Working	74.92%	81.49%
Unemployed	5.08%	3.19%
Student	1.33%	1.28%
Family Care	10.33%	10.03%
Other	3.91%	3.88%
Missing	4.18%	--
Has University Degree	15.79%	19.95%

In terms of the representativeness of the sample at the final sweep, Table 1 compares the BCS70 CMs who completed the 1999/2000 sweep with 29 and 30 year olds from the 1999 UK Labour Force Survey on marital status, educational attainment, and economic activity. Compared to the LFS sample, the BCS70 sample was slightly less likely to be married or cohabiting and more likely to be employed and have a university degree.

Variables

Peer Alienation. Peer alienation was measured in two ways: the child's own perceived alienation, and the assessments of the child's teacher on indicators related to peer alienation. Perceived peer alienation was assessed by the CMs' answers to the following questionnaire items at age ten: "Do you often feel lonely at school?", "Do other children often break friends or fall out with you?", "Do you think that other children often say nasty things about you?", "Do you feel sad because you have nobody to play with at school?", "Do you often have to find new friends because your old friends are playing with somebody else?", "Do other people often think that you tell lies?", and "Are there lots of things about yourself you would like to change?" The response categories were "yes", "no", and "don't know". Each item was made into a dummy variable with "1" associated with a yes

response on the item. The items were added together to make a scale assessing perceived peer alienation (α=0.73).

Peer alienation was also measured by a teacher's assessment of the child at age ten. The CM's teacher was asked to assess how popular the child was with his or her peers by placing a mark on a line at which one extreme was labelled "is highly popular with his peers" and the other extreme labelled "is not at all popular with peers". As well, the teachers were also asked to assess the child's number of friends in a similar manner, with one end of a line being marked "has no friends" and the opposite end marked "has many friends". A single variable ranging from zero to seven (with seven indicating high peer alienation) was made from both items (α=0.91). Correlation between the two items measuring peer alienation was 0.238.

It should be re-emphasised that neither peer rejection nor peer victimisation were directly assessed, but that a more general concept of peer alienation was measured. Peer victimisation shares with it a close conceptual relationship with peer rejection in that peer victimisation often involves emotional abuse inflicted upon children by their peers. The items "Do other children often break friends or fall out with you?" and "Do you think that other children often say nasty things about you?" get at the emotional abuse aspects of peer victimisation. The concepts clearly favour peer rejection, but also have critical components that tap the emotional abuse aspects common to both peer rejection and victimisation. The fact that the two items are not highly correlated suggests that the concepts are assessing somewhat different dimensions. The perceived measure, obtained from the child, measures the extent to which the child feels excluded from his or her peer group and may also incorporate some issues of self-esteem. This measure also refers to the child's friends, which are not necessarily limited to those with whom the child attended school. The questions asked to the teacher assess the teacher's view of the child's popularity in the classroom. Previous research has shown that much bullying goes unnoticed by teachers (Stockdale, Hangaduambo, Duys, Larson, Sarvela 2002) and this may be reflected in the low correlation between the two items measuring peer alienation.

Childhood Physical characteristics. Height and weight data at age ten were used to assess whether the child exhibited physical characteristics that were different from the average child at that age. A body mass index was calculated by dividing weight by height. A child with a BMI of over 25 was considered overweight, in accordance with the standards set by the British Medical Association. Health visitors were also asked to assess whether the child exhibited any evidence of the onset of puberty. If any signs of puberty (which most frequently were associated with breast and pubic hair development) were noted by the health visitor at age ten, the child was given a given a score of "1" for being an early

developer. Finally, whether or not the child had a disability at age ten was assessed by asking the parent "Do you consider that the child has a physical or mental disability or handicap, or any other disabling condition which interferes with normal everyday life, or which might be a problem at school?" The child was considered to have a disability if the parent answered "yes, slight disability" or "yes, severe disability. The child's ethnic group was created with a variable that located the ethnic group of the study child as being English, Irish, other European, West Indian, Indian, Bangladeshi, Pakistan, and other. A variable denoting non-white status was assigned to all children who were not identified as English, Irish, or other European.

Early behavioural indicators. At age five and ten, the Conners Hyperactivity Scale (Conners 1969) was administered to the CM's teacher (α=0.722 at age five was 0.722, α= 0.792 at age ten). The correlation between the years was 0.428.

Family characteristics. Total household income at age ten was measured with a seven-category variable in which the lowest income category was "under 35 pounds per week" and the highest income category was "250 or more pounds per week." Number of siblings was also assessed through a variable that measured number of children in the household at age ten. A variable was created that measured if a child was in an "intact" family at age 10. This was coded one if the child lived with both his or her natural mother and natural father. Residential mobility of the family was measured by a question that asked the responding parent how many places the child had lived for six months or more since birth.

Mothers' Characteristics. The mother's score on the Malaise Inventory and a scale measuring the extent to which she believed in authoritarian child rearing were measured when the child was age five. Higher scores on the Malaise Inventory scale (α= 0.802) are associated with poor mental health, and high scores on the authoritarian child rearing scale (α=0.705) are associated with strong beliefs about authoritarian child rearing. Some example items from the scale are "Such activities as painting and playing should take second place to teaching reading and arithmetic in infant schools" and "Increases in vandalism and delinquency are largely due to the fact that children nowadays lack strict discipline."

Social Support in Childhood. Unfortunately, children were not asked about their number of close friends or feelings towards their teachers during the sweeps at ages five and ten. Because social support has been shown to mediate the negative effects of peer victimisation, a variable that measured the relationship between mother and child was constructed from seven items that were asked to the mother when the child was ten (α=0.639). The mother was asked how often her and the child

participated in the following activities: “go out for walks together”, “go for outings together”, “have breakfast or tea together”, “go for holidays together”, “go shopping together”, “have a chat or talk with the child for at least five minutes”, and “go out and eat in a restaurant together”. The response categories were: rarely or never (1), sometimes (2), and often (3).

Child’s Ability. The child’s ability at age five was assessed by three items. The English Picture Vocabulary Test (EPVT) is an adaptation of the American Peabody Picture Vocabulary Test (Brimer and Dunn 1962). This item was designed to assess the subject’s level of “listening vocabulary.” The score was standardised and higher scores are associated with greater vocabulary. The CM was also administered a test which assessed his or her ability to draw human figures. According to Harris (1963), the ability to draw human forms measures the intellectual development and maturity of children. The drawings were scored using the Harris method (Harris 1963) and then standardised. Higher scores are associated with higher intellectual development. The third measure of ability at age five was the CM’s score on a copying design exam, which assessed visual-motor co-ordination. As with the previous indicators, the score was then standardised and higher scores were associated with higher visual-motor functioning.

At age ten, CMs completed several examinations that assessed their cognitive ability. Considered a proxy for intelligence (Elliot et al, 1978), standardised scores from the British Ability Scales were used in these analyses with higher scores being associated with higher intelligence.

Social Support in Adulthood. Marital status of the CM was asked at age 29. Another variable was created that simply measured whether or not a respondent had a partner, and a score of one was given to those who were married or cohabiting. A dummy variable measuring civic engagement was also created where one indicated that the CM was involved in a voluntary organisation at the time of the survey at age 29.

Psychological Well-being in Adulthood. Two indicators assessed well-being in adulthood: the General Health Questionnaire (GHQ) and the Malaise Inventory (Rutter 1970). The GHQ is a well-established test used to assess mental health. In this instance, the twelve-item scale was self-administered at age 29. Higher values are associated with poor mental health (α=0.847). The Malaise Inventory is a well-established set of 24 items used to assess psychiatric morbidity (α=0.814) where higher scores are again associated with poor mental health. Validity of the instrument has been demonstrated elsewhere (Rodgers et al, 1990).

Qualifications in Adulthood. A dummy variable was created which assessed whether or not a CM had a university degree (undergraduate degree or higher) at age 29. All other qualifications were coded 0.

Other Characteristics in Adulthood. A variable that measured whether or not the respondent had a child in the household was used to assess parenthood. Main economic activity at age 29 was also included in the analyses.

Analyses

The first part of the analyses focus on the predictors of peer alienation in childhood, while the latter part of the analyses focus on the outcomes of peer alienation in adulthood. Table 2 presents the descriptive statistics for the analysis of girls, while Table 3 presents the descriptive statistics for the analysis of boys. Many of the proceeding results are presented as odds ratios, in which a value of greater than one is associated with a percentage increase in the odds of an outcome and where a value of less than one is associated with a percentage decrease in the odds of an outcome.

Table 2: Descriptive Statistics for Analysis of Girls (N=3423)

	Mean	S.D.	Min	Max
Child's Perceived Peer Alienation	2.216	1.861	0	7
Teacher's Assessment of Child's Alienation	2.066	1.429	0	7
Race (1=white)	0.974	0.159	0	1
Disabled (1=yes)	0.057	0.231	0	1
BMI>25 (1=yes)	0.291	0.454	0	1
Early Onset Puberty	0.249	0.433	0	1
Behaviour at age 5	1.399	0.241	1	3
Closeness to Mother	2.504	0.310	1	3
Family Intact (1=yes)	0.851	0.356	0	1
Family Income at age 10	4.054	1.225	1	7
Residential Mobility	2.175	1.216	1	14
Number of Children in Household	2.528	1.060	1	10
English Peabody Vocabulary Test Score	-0.304	1.327	-5.000	3.045
Drawing Exam Score	0.121	1.065	-5.000	3.805
Copy Designs Test Score	0.007	0.997	-5.000	1.654
Authoritarian Child Rearing	0.050	0.983	-2.659	2.733
Mother’s Malaise Score	4.315	3.613	0.000	21.913

Table 3: Descriptive Statistics for Analysis of Boys (N=3579)

	Mean	Std Dev	Min	Max
Child's Perceived Peer Alienation	1.959	1.743	0	7
Teacher's Assessment of Child's Alienation	2.109	1.471	0	7
Race (1=white)	0.974	0.159	0	1
Disabled (1=yes)	0.073	0.260	0	1
BMI>25 (1=yes)	0.221	0.415	0	1
Early Onset Puberty	0.041	0.197	0	1
Behaviour at age 5	1.428	0.245	1	3
Closeness to Mother	2.467	0.311	1	3
Family Intact (1=yes)	0.855	0.352	0	1
Family Income at age 10	4.015	1.235	1	7
Residential Mobility	2.139	1.177	1	12
Number of Children in Household	2.539	1.012	1	9
English Peabody Vocabulary Test Score	-0.126	1.410	-5.000	3.045
Drawing Exam Score	-0.166	1.185	-5.000	3.488
Copy Designs Test Score	0.029	1.049	-5.000	1.654
Authoritarian Child Rearing	0.039	0.993	-2.814	2.807
Mother's Malaise Score	4.310	3.575	0.000	20.000

Table 4 presents the results of the ordered logistic regression predicting child perceived peer alienation (hereafter PA) and teacher assessed peer alienation (hereafter TAA) by sex. Predictors were selected based upon significant determinants identified in previous research on peer abuse and peer rejection, as discussed above. Where possible, determinants were selected at age five to demonstrate that such characteristics in early childhood predicted peer alienation at a later point in childhood (age ten). The causal ordering is less certain in the case of predictors taken at age ten, although arguably, items such as family income and whether or not a family was intact are unlikely to be strongly affected by peer alienation. The peer alienation measures were only assessed at age ten, however, and it should be noted that it may be the case that children may have been alienated for many years prior to age ten, which may itself have affected their health, ability, and perhaps even the functioning of their parents.

Table 4. Ordered Logistic Regressions Predicting Peer Alienation by Sex

Odds Ratios

	Girls		Boys	
	Perceived (PA)	Teacher Assessed (TAA)	Perceived (PA)	Teacher Assessed (TAA)
Race (1=white)	1.165	0.964	1.075	1.159
Disabled (1=yes)	1.475**	1.531**	1.479**	1.715**
BMI>25 (1=yes)	1.058	1.195**	1.240**	1.149*
Early Onset Puberty	0.959	0.977	0.917	1.001
Behaviour at age 5	1.367*	1.297	1.713**	1.453**
Closeness to Mother	0.789*	0.759**	0.857	0.822
Family Intact (1=yes)	0.913	0.819*	0.859	0.872
Family Income at age 10	0.900**	0.972	0.954	0.939*
Residential Mobility	1.052*	1.038	1.041	1.060*
Number of Children in Household	1.061*	1.039	1.092**	1.009
Mother's Malaise	1.027**	1.009	1.033**	1.021*
Authoritarian child rearing	0.919**	0.968	0.965	1.004
Standardised EPVT	0.973	0.939**	0.966	0.929**
Human Figure Drawing	0.951	0.926*	0.971	0.96
Copy designs	0.875**	0.759**	0.871**	0.843**
Observations	3469	3600	3631	3759
Log Likelihood	-6489.65	-6053.55	-6485.41	-6417.08
Pseudo R-squared	0.014	0.019	0.015	0.016

*p<0.05, **p<0.01, two-tailed

With regard to PA, being disabled, behaviour at age five, number of children in the household, mother's malaise, and score on the copying designs test were significant predictors of peer alienation for both boys and girls. Being disabled increased the odds of being in a higher category of PA by about 48 percent for boys and girls, while higher scores on the behaviour at age five index increased the odds of being in a higher category of PA by 37 percent for boys and 71 percent for girls. Each additional child in the household at age ten also increased the odds of being in a higher category of PA by six percent for girls and nine percent for boys. Each additional increase on the mother's malaise scale increased the odds of being in a higher category of PA by about three percent for both girls and boys, while higher scores on the copy designs test decreased the odds of being in a higher category of PA by about 13 percent for both sexes.

Closeness to mother, family income, residential mobility, and authoritarian child rearing were significant predictors of PA for girls only, while a BMI of greater than 25 was a predictor of PA for boys only. For girls, each additional score on the closeness to mother scale decreased the odds of being in a higher category of PA by 20 percent, while each additional increase in the family income variable

decreased the odds by ten percent. For girls as well, authoritarian child rearing decreased the odds of being in a higher category of PA by about eight percent for each additional increase in the child rearing scale.

With regard to TAA, being disabled, having a BMI of greater than 25, standardised EPVT score and copy designs score were significant predictors for both boys and girls, independent of the effects of the other variables. Being disabled increased the odds of being in a higher category of TAA by 53 percent for girls and 72 percent for boys while the corresponding percentage odds increase for being overweight was 20 and 15 percent for girls and boys respectively. Each one unit increase in the EPVT decreased the odds of being in a higher category of TAA by about six percent for both sexes, while each unit increase in the copy designs test decreased the odds of being in a higher category of TAA by 24 percent for girls and 16 percent for boys. For girls, every unit increase in the closeness to mother measure decreased the odds of being in a higher category of TAA by 24 percent, while being in an intact family at age ten decreased the odds of being in a higher category of TAA by 18 percent. As well, each unit increase in a girl's score in the human figure drawing test decreased her odds of being in a higher category of TAA by around seven percent. For boys, behaviour at age five was a significant predictor of TAA such that every unit increase on the scale increased the odds of being in a higher category TAA by about 54 percent. Higher family income was associated with decreased odds of being in a higher category of TAA for boys only. As well, residential mobility and mother's malaise were associated with increased odds of being in a higher category of TAA for boys only.[v]

The next set of analyses was concerned with the outcomes of peer alienation. Table 5 presents the descriptive statistics for the adult sample. Six adult outcomes were examined. In each model, relevant childhood variables were added initially, followed by both measures of alienation, followed by adult predictors (where relevant). This method acknowledges the temporal ordering of the predictors and allows for an examination of the mediating effects of the alienation measures. In each model, interactions of the predictors by sex were examined, with significant interactions included in the final model. This was preferred over running separate models for each sex due to space constraints.

Table 5. Descriptive Statistics (Adults)

Variable	N	Mean	Std	Min	Max
Perceived Peer Alienation	8610	2.083	1.807	0	7
Teacher Assessed Peer Alienation	8927	2.096	1.442	0	7
Male (1=yes)	9845	0.484		0	1
Family Income at 10	8987	4.062	1.260	1	7
Residential Mobility (Age 10)	9335	2.246	1.301	1	23
Behaviour at Age 10	9685	22.959	11.598	0	100
Disabled at 10 (1=yes)	9676	0.072		0	1
Intact Family at Age 10 (1=yes)	9759	0.847		0	1
Employed (1=yes)	10362	0.738		0	1
Self employed (1=yes)	10362	0.078		0	1
Unemployed (1=yes)	10362	0.032		0	1
Full time Student (1=yes)	10362	0.013		0	1
Homemaker (1=yes)	10362	0.100		0	1
Other inactive (1=yes)	10362	0.039		0	1
Degree (1=yes)	10366	0.199		0	1
Number of Siblings at Age 10	9701	2.526	1.047	1	13
Child in Household at 29 (1=yes)	10330	0.433	0.496	0	1
British Ability Scale Score (age 10)	10399	0.075	0.979	-1.723	1.945
Married (1=yes)	10399	0.438		0	1
Cohabiting (1=yes)	10303	0.228		0	1
Single (1=yes)	10303	0.290		0	1
Separated (1=yes)	10303	0.015		0	1
Divorced (1=yes)	10303	0.028		0	1
Widowed (1=yes)	10303	0.001		0	1
Malaise Scale	10266	0.147	0.146	0	1
GHQ Scale	10268	1.519	0.406	0.333	3.583
Has partner (1=yes)	10399	0.670		0	1
Civic Engagement at Time of Survey (1=yes)	10369	0.097		0	1

Table 6. OLS Regression of GHQ on Peer Alienation and Controls

Unstandardised Coefficients

	(1)	(2)	(3)
Male	-0.075**	-0.072**	-0.086**
Disabled at 10	0.039*	0.030	0.015
Behaviour at 10	0.002**	0.002**	0.002**
Family Income at 10	-0.004	-0.001	0.002
Perceived Alienation		0.013**	0.013**
Teacher Assessed Alienation		0.012**	0.008*
Employed			0.000
Self Employed			-0.031
Unemployed			0.245**
Full Time Student			0.036
Family Care			0.037*
Other Inactive			0.198**
Self Employed*Male			0.046
Unemployed*Male			-0.098
Full Time Student*Male			-0.004
Family Care*Male			-0.024
Other Inactive*Male			0.139**
Cohabiting			0.025
Married			0.000
Single			0.075**
Separated			0.064
Divorced			0.023
Widowed			-0.016
Cohabiting*Male			0.007
Single*Male			0.010
Separated*Male			0.174*
Divorced*Male			0.049
Widowed*Male			0.186
Children in Household			0.010
Constant	1.511**	1.458**	1.410**
Observations	7068	7068	7068
Adjusted R-squared	0.013	0.018	0.047

*p<0.05, **p<0.01, two-tailed

Table 7. OLS Regression of Malaise Score on Peer Alienation and Controls

Unstandardised Coefficients

	(1)	(2)	(3)
Male	-0.029**	-0.027**	-0.029**
Disabled at 10	0.034**	0.028**	0.022**
Behaviour at 10	0.001**	0.001**	0.001**
Family Income at 10	-0.007**	-0.005**	-0.004**
Perceived Alienation		0.008**	0.008**
Teacher Assessed Alienation		0.006**	0.005**
Employed			0.000
Self Employed			0.002
Unemployed			0.058**
Full Time Student			0.027
Family Care			0.021**
Other Inactive			0.115**
Self Employed*Male			0.018
Unemployed*Male			-0.023
Full Time Student*Male			0.008
Family Care*Male			0.064*
Other Inactive*Male			0.074**
Married			0.000
Cohabiting			0.019**
Single			0.024**
Separated			0.039**
Divorced			0.035**
Widowed			0.026
Children in Household			0.003
Constant	0.152**	0.121**	0.097**
Observations	7067	7067	7067
Adjusted R-squared	0.032	0.048	0.097

*p<0.05, **p<0.01, two-tailed

Tables 6 and 7 present the results of the OLS Regression of mental well-being on the alienation measures and controls. The same predictors were used to estimate both GHQ and Malaise Inventory scores. Disability at age ten was included to account for the difficulties that those with disabilities experience, while behaviour at age ten was included to account for the likelihood that individuals who suffered from hyperactive disorders as children may be more likely to suffer from psychiatric problems in adulthood (Fischer, Barkley, Smallish and Fletcher 2002). Family income at ten was included to control for the effects of childhood poverty on adult well-being (Reynolds and Ross 1998). Economic activity at age 29 was included to account for the disproportional rates of depression among the unemployed (Strandh 2000), while marital status at 29 was included to control for the

"protective" function that marriage serves from depression (Kim and McKenny 2002), while having a child in the household was included to control for the effects of parenting on well-being.[vi] Table 6 presents the findings of the OLS regression of GHQ on the alienation measures and controls. Of specific interest is the statistical significance of both PA and TAA in the second model. The effects of TAA are mediated by the effects of the controls added in the third model, but both measure of alienation remained statistically significant, independent of the effects of other variables in the model. Similar results are found in the regression of the Malaise Inventory on the alienation measures and controls (Table 7).

Table 8. Logistic Regression of Whether or Not CM Has Partner on Peer Alienation and Controls

Odds Ratios

	(1)	(2)	(3)
Male	0.728**	0.726**	0.729**
Intact Family at 10	1.097	1.070	1.087
Behaviour at 10	0.994**	0.997	0.996
Perceived Alienation		0.984	0.980
Teacher Assessed Alienation		0.897**	0.893**
Degree			0.813**
Observations	7829	7829	7829
Log Likelihood	-4895.24	-4872.93	-4867.23
Pseudo R-squared	0.005	0.010	0.011

*p<0.05, **p<0.01, two-tailed

Table 8 presents the results of the logistic regression of having a partner at age 29 on the alienation indicators and controls. Whether or not a CM lived in an intact family at age ten was used as a control to account for the findings of previous research which indicate that individuals whose parents divorced were more likely themselves to experience failed marriages and partnerships (Teachman 2002). Behaviour at ten was included to account the strong likelihood that pronounced behavioural disorders in childhood are likely to manifest themselves in adult conduct disorders (Kratzer and Hodgins, 1997) which make them undesirable mates. Having a degree in adulthood was used to account for the finding that prolonged education serves postpone marriage and partnership formation (Thornton, Axinn, and Teachman 1995). The peer alienation indicators were added in the second model, where TAA achieved statistical significance. The additional of educational attainment at age 29 had little effect on the effect of TAA on whether or not a CM had a partner at age 29 – each additional unit increase in TAA decreased the odds that a CM would have a partner by 11 percent.

Table 9. Logistic Regression of Civic Engagement on Peer Alienation and Controls

Odds Ratios

	(1)	(2)	(3)
Male	0.641**	0.634**	0.648**
Family Income at 10	1.116**	1.123**	1.047
Residential Mobility (age 10)	1.020	1.019	1.019
British Ability Scale Score (age 10)	0.988**	0.987**	0.988**
Perceived Peer Alienation		0.974	0.989
Teacher Assessed Peer Alienation		1.105**	1.121**
Employed			1.000
Self-Employed			1.147
Unemployed			0.511
Full time Student			1.174
Homemaker			1.433**
Other			0.782
Self Employed*Male			0.740
Unemployed*Male			2.045
Full Time Student*Male			0.292
Other Main Activity*Male			2.823*
Has Degree			2.426**
Observations	6903	6903	6903
Log Likelihood	-2157.79	-2152.01	-2107.33
Pseudo R-squared	0.013	0.015	0.035

*p<0.05, **p<0.01, two-tailed

Table 9 presents the results of the logistic regression of whether or the CM was involved in a voluntary organisation at age 29. Because civic engagement has been found to be predicted by social class endowments and level of education (Egerton 2002), controls for family income and intelligence at age ten as well as whether or not the CM had a degree in adulthood were included in the model. Residential mobility has been found to have a negative impact on civic engagement (Coleman 1988), and therefore was added as a control. Intelligence at age ten as assessed by the BAS was included to account for the non-random effects of movement into higher education. Economic activity in adulthood was controlled for to account for the fact that individuals in various main economic activities have differential amounts of possible time to devote to voluntary associations. TAA was statistically significant when added to the estimation in the second model and remained so when adult characteristics were added. Contrary to what was hypothesised, each additional increase in TAA increased the odds of civic engagement at age 29 by 12 percent.

Table 10. Logistic Regression of Having a Degree on Peer Alienation and Controls

Odds Ratios

	(1)	(2)
Male	1.126	1.322**
Total gross family income at 10	1.507**	1.489**
Number of children in household at 10	0.857**	0.864**
British Ability Scales	2.286**	2.556**
Behaviour at Age 10	0.982**	0.986**
British Ability Scale*Male		0.740*
Perceived Alienation		0.904**
Teacher Assessed Alienation		0.901**
Observations	7188	7188
Log Likelihood	-3206.84	-3173.73
Pseudo R-squared	0.088	0.114

*p<0.05, **p<0.01, two-tailed

Table 10 presents the results of the logistic regression of having a degree at 29 on characteristics at age ten and the alienation measures. Family income was included, as much previous research has identified class differences in educational attainment (Egerton 2002).[vii] Number of children in the household at age ten was included in order to account for the "dilution of resources" thesis (Downey 2001) which states that the greater the number of siblings, the more resources that must be divided up among them, which may include the parents' ability to fund further education. Intelligence clearly accounts for the non-random assignment of individuals into higher education, while behaviour at age ten was included to control for the effects of behavioural disorders that are likely to affect an individual's academic career. Both measures of alienation were found to decrease the odds of an individual having a higher degree, as each unit increase in the alienation scales decreased the odds of having a degree by about ten percent.

Discussion and Conclusion

The first set of analyses set out to confirm that the predictors of peer alienation were similar to those identified by the peer victimisation and rejection literature. Several of the predictors did achieve statistical significance. There was strong suggestion that being disabled, overweight, and having a behavioural problem at age five strongly increased the odds of a CM experiencing alienation from his or her peer group at age ten. For girls, having a close relationship to their mothers served to reduce the odds of experiencing peer alienation. There was also some evidence that number of children in the household and mother's Malaise Inventory score were positively associated with the likelihood of a child experiencing peer alienation. On the other hand, higher scores on the standardised EPVT and

copy designs tests were associated with a decrease in the odds of being peer alienated. The findings were reasonably similar to what has been found by previous research, although the significance of variables varied by sex and the alienation indicator used. The reasons for why the determinants varied by the alienation measure are likely due to the differences that each measure is tapping, as discussed above. Educational tests were more important predictors of TAA than PA, suggesting that teacher's perceptions of peer alienation were more influenced by their perception of the child's intelligence than was the child's own perception of his or her peer alienation.

The potential impact of peer alienation on mental well-being was examined using GHQ and Malaise Inventory scores in adulthood as outcome measures. There was evidence that both forms of alienation had a positive impact on both scores, independent of the effect of the controls. Therefore, there is indication that experiencing peer alienation at age ten had carryover effects on mental well-being almost twenty years later. One must also consider the size of the effects – the unstandardised coefficients for PA and TAA in the estimations predicting GHQ, for example, were 0.013 and 0.008, respectively. These effect sizes, while very small, were nonetheless statistically significant. It is safe to assume that the alienation indicators did not explain a lot of the variance in the adult mental health of CMs. But the important consideration here is that one would *not expect* huge effects from these alienation measures, particularly since we are looking at a twenty-year gap in the points in data collection. As well, the PA measure required a considerable amount of self-reflection on the part of the ten year old CMs—a characteristic that is likely to be rather underdeveloped at that age. The fact that these items achieved statistical significance at all is a striking message that even though peer experiences do not explain a large proportion of variance in adult mental health, the findings suggest that the effects of these experiences of alienation have some residual effect on the mental well-being of adults in later life.

The third question that this research aimed to address was the role of peer alienation in the acquisition of human and social capital. It was suggested that, in accordance with Bourdieu, that experiences of peer alienation in childhood may be incorporated into the habitus such that the act to impair the ability of individuals to accumulate social and economic capital. Social capital was conceptualised in two ways: whether or not a CM reported civic engagement activity and whether or not the CM had a partner. Arguably, having a partner is not "social capital" in the traditional sense of the concept, but it does give some indication of social functioning and the willingness or ability of the CM to form close relationships. The findings suggested that TAA reduced the odds of a CM having a partner,

while it had the opposite effect on predicting civic engagement. The PA measure failed to achieve statistical significance in both instances.

The findings pertaining to having a partner in adulthood give some indication that peer alienation is associated with difficulty with intimate relationships in adulthood. The finding that peer alienation was positively associated with civic engagement, however, is contrary to the predictions made above. Taken alongside with the finding that peer alienation reduced the odds of being in a partnership, it may be the case that voluntary associations provide a form of social contact that requires less emotional investment than non-institutionalised relationships. An interpretation of these findings is that peer alienated individuals are drawn to these forms of socialising because they are somewhat "ready-made" and their chances of experiencing rejection is significantly reduced.

Finally, both forms of peer alienation were found to reduce the odds of a CM having a degree. This lends further support to the idea that peer alienation, as incorporated into the habitus, acts to reduce the ability of individuals to accumulate economic capital over the lifecourse. Individuals who failed to integrate into their peer group as children may view scholastic institutions as settings for uncomfortable and unpleasant social exchanges, and therefore minimised their exposure to potentially negative experiences by not pursuing extended educational careers.

The findings here suggest that failure to integrate into one's peer group has lasting effects beyond childhood. The existence of a unique panel data set spanning almost thirty years has allowed for an examination of the role of peer alienation in determining three major adult life outcomes: mental well-being, social capital, and economic capital. It should be noted, however, that these findings are likely biased in the respect that panel attrition (as well as incomplete data) was disproportionately concentrated among CMs from disadvantaged backgrounds, and therefore the findings should be interpreted with this shortcoming in mind.

Evidence of peer alienation having some effect on all of these outcomes was established which lends support to the notion put forward by Elder (1994, 1998) that individuals are products of their unique histories and that analyses of social phenomena must account for the dynamic and complex nature of the lifecourse. This perspective was augmented by Bourdieu's concept of *habitus*, which is in many ways similar to the concepts discussed by Elder, but is more directly theoretically tied to social and economic capital outcomes.

This theoretical perspective and the findings produced here have highlighted the importance of considering the significance of events that occur early in the lifecourse on key adult life outcomes. This research also sends an important message to sociologists regarding the way in which the processes of

mental well-being and social stratification are conceptualised. Mental well-being is a condition that is a product of myriad life experiences that occur over several years in which individuals learn skills that enable them to cope in the social world. Negative experiences with social interaction early in life can greatly impede the ability of individuals to adjust and interact in the social world without considerable distress. As well, the abilities of individuals to accumulate social and economic capital are just that – abilities– that may be influenced by early socialisation experiences.

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Endnotes

[i] While characteristics at age 16 arguably have a place in this analysis, the data are subject to extreme attrition and incomplete data due to a teachers’ strike that occurred during data collection. Therefore, to retain as many cases as possible, data from this sweep are not included in the analyses.

[ii] The overwhelming majority of these added cases are foreign births. Additional sweeps targeted children born between 5 and 11 April, 1970, regardless of their inclusion in the original sample.

[iii] An analysis of the differences between means on various indicators in the data set between those who completed all items and those were excluded due to incomplete information indicated significant mean differences between the groups on various indicators. CMs who had incomplete information were more likely to be disabled, be ethnic minorities, come from single parent homes, have lower household income, and perform less well on the standardised tests used as predictors here. It is possible to interpret this as a social class effect whereby those from disadvantaged backgrounds are less likely to have the literacy skills to fully complete lengthy questionnaires (Huisman 1998).

[iv] As well, the use of multiple models necessarily resulted in different numbers of cases at each estimation and therefore, estimations were restricted only to cases where full data were available. Outcomes were compared to the listwise sample in each stage of estimation with no notable differences.

[v] Interactions were tested for significant differences between the predictors for boys and gives. Only in the case of the copy designs test on the TAA analysis did the interaction coefficient achieve statistical significance.

[vi] The measure of being a parent is likely biased towards women, as it asks the CM if a child is living in the same household and is therefore likely to misclassify some cases.

[vii] It would have been desirable to control for the effects of parental education, but data on parental education when the CM was ten is very incomplete. Family income is used as a proxy.