

Why do ethnic minority (Indian) children living in Britain display more internalizing problems than their English peers? The role of social support and parental style as mediators

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The purpose of this paper was to examine explanatory mechanisms of differences in children's internalizing problems between ethnic minority (i.e., Indian) and ethnic majority (i.e., English) children living in Britain. Fifty-nine English children (31 girls) and 66 Indian children (30 girls), and their parents constituted the sample of this study. Both mothers and fathers reported on the children's internalizing problems, and provided reports of their own parenting style and social support. Analysis showed that maternal positivity, paternal negativity, and both parents' reports of social support mediated the link between ethnicity and internalizing problems. Furthermore, according to the best-fitting structural equation model, ethnicity did not have a direct influence on children's internalizing problems, nor on parental style. Ethnicity instead predicted parental reports of social support. Social support, in turn, contributed to children's internalizing problems directly as well as indirectly through parenting style. Finally, although parenting style significantly influenced children's internalizing problems, social support was a much stronger contributor. The role of the distal as well as the proximal environments on children's adjustment is discussed.

Background

Extensive research has identified risk and protective factors for problem behaviour (see Campbell, 1990, and Coie & Dodge, 1998). However, much less is known about the processes that may put children at risk. In the last few years more arguments have appeared stressing the need to identify not only risk or protective *factors* but also the developmental or situational *mechanisms* involved (e.g., Rutter, 1990). Accordingly, the present study was designed to identify processes associated with the development of problem behaviour. In particular, this study extends our previous finding that Indian children living in Britain displayed higher levels of internalizing problems than did their English peers (Atzaba-Poria, Pike, & Barrett, 2004), aiming to uncover the risk process underlying this group difference. The importance of parenting as well as social support for children's adjustment in general, and the adjustment of ethnic minority children in particular, are discussed in the following focused review. Furthermore, a mediation model is presented.

Ethnicity and adjustment

The increasing numbers of immigrants highlight the importance of understanding the adjustment of children from different ethnic groups. Children in different cultures may hold distinct values, and therefore behave differently. This happens through the socialization process: By encouraging one kind of behaviour and discouraging others, parents instil group norms into the young (Hackett & Hackett, 1993). A problem

may arise when children are exposed to two different cultures, as is the case for ethnic minority children (Ghuman, 1999). The values and competencies that children acquire or develop at home and in the community are often different from the ones they are encouraged to demonstrate at school. These differences in values and competencies may lead to conflict for ethnic minority children (Davies & McKelvey, 1998; Ogbu, 1988). Furthermore, changes in family structure, for example from extended- to nuclear-family households, may have negative consequences for children both directly and indirectly. For example, there is evidence that Pakistani Muslim children living in Britain were better adjusted when living in extended rather than nuclear families (Shah & Sonuga-Barke, 2000; Sonuga-Barke & Mistry, 2000). It is therefore important to study how children from ethnic minority groups cope with this situation, and to understand the mechanisms involved in adjustment.

Research concerning the psychiatric status of ethnic minorities and immigrant adults has led to contradictory findings, indicating both increased and decreased rates of psychiatric disorders and hospitalization for immigrants and ethnic minorities compared to the ethnic majority group (e.g., Bengi-Arslan, Verhulst, & Crijnen, 2002; Jarvis, 1998). However, little systematic investigation has been conducted of the psychological and social adjustment of ethnic minority children (Munroe-Blum, Boyle, Offord, & Kates, 1989; Rutter, Yule, Berger, Yule, & Bagley, 1974). The few studies that have examined whether children of ethnic minority groups are at risk of having more problem behaviour than majority children revealed inconsistent results. There is evidence

showing that ethnic minority children are not at higher risk for problem behaviour (e.g., Fuligni, 1998; Munroe-Blum et al., 1989), whereas other studies indicate increased rates of problem behaviour (e.g., Atzaba-Poria et al., 2004; Ogbu, 1988; Pawliuk et al., 1996; Rutter et al., 1974).

The inconsistency in these findings may be due to different ethnic minority as well as majority groups being examined (resulting in contrasting degrees of "cultural distance" between the groups), as well as consideration of distinct generations of immigrants. We found that Indian children from second and third generations, living in Britain, exhibited elevated levels of internalizing (but not externalizing) problems compared to their English peers (Atzaba-Poria et al., 2004). Of these, 16 (10 boys and 6 girls) out of 66 Indian children were above the clinical cut-off (Achenbach, 1991) compared to only 2 (1 boy and 1 girl) out of 59 English children. The aim of the current study was to explore the processes underlying this difference.

Ecological system theory

Ecological models such as Bronfenbrenner's (1979) are useful for the understanding of processes related to ethnic or cultural variation. This model suggests a comprehensive perspective for examining children's behaviour and development. According to this model, the child is affected by his or her immediate social and physical environment (the microsystem) as well as by the interrelationships among the various settings of his or her immediate environment (the mesosystem). The child is further influenced by events occurring in settings in which he or she is not present (the exosystem), which, in turn, are influenced by cultural attitudes and ideologies (the macrosystem). In other words, an ecological perspective considers how the individual develops in interaction with the immediate environment, as well as how aspects of the larger context influence the individual and his or her immediate environment. Accordingly, we examined whether ethnic differences in problem behaviour can be explained through the influence of distal (i.e., social support) and/or proximal (i.e., parenting style) environmental factors. Furthermore, we hypothesized that the distal environment influences the proximal environment, and this in turn influences the child. This pattern follows Bronfenbrenner's ideas in which a child's environment "is conceived as a set of nested structures, each inside the next, like a set of Russian dolls" (Bronfenbrenner, 1979, p. 3).

Several decades of research have demonstrated a link between parenting and child development (Baumrind, 1993; Maccoby & Martin, 1983). These studies suggest that parents who demonstrate warmth, appropriate monitoring, and clear communication tend to have children with better social skills, cognitive functioning, and moral development, as well as better psychological adjustment. Similarly, in a meta-analysis of 47 studies, it was found that parenting variables, such as approval, guidance, and absence of coercive control, were negatively associated with children's behaviour problems (Rothbaum & Weisz, 1994). In contrast, parental styles characterized by hostility, rejection, and harsh discipline are linked to elevated levels of delinquency, psychopathology, academic failure, and adjustment problems (Baumrind, 1993; Maccoby & Martin, 1983). These findings highlight the need to understand factors that influence parental behaviours.

There is evidence for parenting acting as a mediator of the link between factors such as the marital relationship (e.g.,

Harrist & Ainslie, 1998), job stress (e.g., Crouter, Bumpus, Maguire, & McHale, 1999; Stewart & Barling, 1996), and SES (e.g., Kelley, Sanchez-Hucies, & Walker, 1993), with children's problem behaviour. This means that often children are affected by things occurring in their distal environment, not only directly, but also by the effect that these events and situations can have on parenting.

Another factor that has been linked to the quality of parenting is social support. Although the connection between this distal environmental factor and children's behaviour is less obvious than parental style, social support has consistently been reported to have an important indirect influence on children's behaviour (e.g., Crnic, Greenberg, Ragozin, Robinson & Basham, 1983). For example, several studies have postulated that social support serves to increase parental nurturance and reduce the probability of harsh and rejecting parenting (Belsky, 1984; Cicchetti & Rizley, 1981; Jennings, Stagg, & Connors, 1991; Powell, 1980). It was found that mothers who had regular interaction with friends were more responsive to their children than mothers who had less frequent interaction. Similarly, it has been reported that when mothers were more satisfied with the emotional support they received from their social network, they were more nurturing and less controlling (Jennings et al., 1991).

Another explanation is that frequent social exchanges with network members present more opportunities for behavioural regulation (Rook, 1990). Therefore, parents who are more socially isolated and have less effective and satisfying social support may be more punitive than parents who have larger and more effective social networks. Parenting by those without sufficient social support may be compromised not only because these parents may become frustrated and perhaps depressed, but also because there is less monitoring and regulation of their child-rearing practices (Garbarino & Sherman, 1980; MacPhee, Fritz, & Miller-Heyl, 1996).

Finally, the important role of social support in stressful life circumstances has been widely documented (Quamma & Greenberg, 1994; Wertlieb, Weigel, & Feldstein, 1987). We assert that belonging to a minority group is often characterized by multiple stressors (Santos, Bohon, & Sanchez-Sosa, 1998), for example, acculturation stress, an initial drop in overall socioeconomic status, the need to establish social status, discrimination and prejudice, as well as the need to see children succeeding in their schooling or work (Santos et al., 1998). Therefore, perceived social support may be a salient factor in the exploration of the behaviour and well-being of ethnic minority parents and children. Sonuga-Barke and colleagues conducted a study concerning the psychological problems of Pakistani-Muslim and Hindu families living in Britain (Shah & Sonuga-Barke, 1995; Sonuga-Barke & Mistry, 2000; Sonuga-Barke, Mistry & Qureshi, 1998). Surprisingly, they found that Pakistani mothers living in extended families had elevated levels of mental health problems (anxiety and depression) in comparison to mothers who were living in nuclear families (Shah & Sonuga-Barke, 1995). However, this finding was not replicated with the Hindu mothers living in Britain (Sonuga-Barke & Mistry, 2000). Two main points are raised by these findings. First, social support does not always have a positive influence. It may be deleterious if inappropriate, such as over-intrusiveness (Chase-Lansdale, Brooks-Gunn, & Zamsky, 1994). Second, it is important to examine perceived rather than objective support.

The current study

In this study, we investigated differences in internalizing behaviours shown by English and Indian children. We suggest that the process putting Indian children at elevated risk for internalizing problems includes social support (an exosystem factor) as well as parenting style (a microsystem factor). Due to model limitations, we were unable to examine all direct and indirect links simultaneously; instead we examined two alternative models. Model I specifies that ethnicity has a direct as well as an indirect influence via social support on both parenting style and children's internalizing problems. Model II specifies that ethnicity has only an indirect influence on children's internalizing problems, through social support, and in turn parenting style. In addition, social support had both direct and indirect effects on internalizing problems.

Although there is research to support specific links in these models, the entire process from ethnicity to children's problem behaviour has not been studied in a single, systematic investigation.

Method

Eligibility criteria

Children were eligible to participate in this study if they were pupils in Year 3 or 4 at primary school (7–9 years old), and were either English or Indian. For the purposes of this study "English" was operationalized as white, of British nationality, and being resident in England continuously since birth. Children belonging to the Indian group (i.e., the ethnic minority group) were born in Britain, but had parents or grandparents born in India (i.e., children were second or third generation in Britain), and were of Hindu religion. Parents were required to speak in English and to read either English or Gujarati (i.e., one of the Indian languages). In addition, inclusion criteria specified that children in both groups be resident with both biological parents, or with a stepfather who had been in the father-role for the target child prior to the child's second birthday. Finally, in order to control for as many confounding variables as possible, all families were recruited from the same geographical areas.

Sample

The sample consisted of 125 families who were participating in the Family and Child Behavior Study (Atzaba-Poria, 2002). Fifty-nine children came from the English group (28 boys and 31 girls) and 66 from the Indian group (36 boys and 30 girls). In three families only mothers participated in the study, as the fathers refused or were unable to take part. In another three families, only the fathers took part in the study, as the mothers did not speak English, nor could they read Gujarati, and therefore were unable to complete the questionnaires or be interviewed. For the remaining 119 families, data were collected from both parents as well as the target child. Children's ages ranged from 7.0 to 9.6 years ($M = 8.51$, $SD = 0.62$). The vast majority of the English parents were born in Britain, whereas although some Indian parents were born in Britain, most were born in either India or East Africa. Furthermore, all Indian parents were of Hindu religion (with the exception of two mothers who were of Sikh religion, whose children were being brought up as Hindus), and the vast

majority of parents in both groups were married or cohabiting with the biological parent of the child. Two English fathers were not the biological parents; however, they had been in the father role since the child's birth.

The sample was also diverse in terms of parental education: 10% of the mothers and 15% of the fathers did not have any educational qualification; most of the mothers (71%) and fathers (56%) finished school with either the equivalent of a high school diploma or higher national diploma, and 19% of the mothers and 29% of the fathers were university graduates. Although this pattern was broadly similar for both ethnic groups, a significant difference, $t(118) = -2.41$, $p < .05$, was found for fathers' education, with English fathers holding lower educational qualifications than their Indian counterparts. Mothers' and fathers' current or most recent occupations were categorized using the Standard Occupational Classification (Office of Population Censuses and Survey, 1990). Most of the mothers had skilled occupations and fewer but still many mothers had managerial and technical occupations or partly skilled occupations. However, the picture was different for fathers; many fathers had managerial and technical occupations or partly skilled and unskilled occupations. A single SES composite was created using mothers' or fathers' highest educational level, mothers' or fathers' highest occupational status, and an index of crowding (i.e., the ratio of number of people in the household to number of rooms in the house). No significant differences were found for SES between English and Indian families.

Procedure and measures

In order to protect families' confidentiality, letters were sent via schools to the children's homes. Schools were asked to target those children from two-parent families of either English or Indian origin. However, we are unsure how accurate this procedure was, and not all schools agreed to target specific children. In addition, letters were sent home via the children, but there was no guarantee that parents received our letters. Because of this opt-in procedure, it was not possible to estimate refusal rates. Certainly, this volunteer sample represents a minority of eligible families. However, the sample included a wide range of SES families, and wide variability on most measures, including child IQ. Furthermore, as the majority of the Indian population in Britain is of Hindu religion, and the most popular language spoken by this population is Gujarati, this sample may be regarded as being broadly representative of the Indian community living in Britain.

Families were visited at home, where parents were interviewed and completed questionnaires. In order to obtain a more representative sample within the Indian group, all parental questionnaires were translated into Gujarati. Gujarati is one of the languages spoken in India, in the area of Gujarat (i.e., West India). This language was chosen as it is the principle language used among most of the Hindu families in Britain (Modood, 1997). Two people fluent in both languages conducted the translation. A native speaker of Gujarati translated the English version of the questionnaires into Gujarati, and then it was back-translated into English by the other translator. All disagreements were discussed until a consensus was reached. This procedure was employed to ensure conceptual equivalence. Furthermore, internal consistency (Cronbach's alphas) of the measures were assessed for

each cultural group. This examination revealed that the scales exhibited similar psychometric properties for the two groups. In addition, the questionnaires were piloted on a small sample of Indian families to examine the semantic equivalence and ensure the cultural relevance of the items. Based on this pilot a few questionnaire items were altered or dropped, and minor changes made to the parental interviews. None of these adjustments affected the measures used in the current study; however, detailed information regarding the pilot is available from the first author.

Child problem behaviour. The Child Behavior Checklist (CBCL; Achenbach, 1991) is a parental report of problem behaviour for children 4–18 years of age. Parents were asked to indicate how true different statements of behaviours were about their child within the past 6 months, using a 3-point scale ranging from “not true” (0) through “somewhat true or sometimes true” (1), to “very true or often true” (2). Internalizing behaviour problems was formed by items measuring three scales: Withdrawn (9 items: e.g., “would rather be alone than with others”), Anxious/Depressed (14 items: e.g., “unhappy, sad, or depressed”), and Somatic Problems (9 items: e.g., “overtired”).

The CBCL has been used to document behavioural and emotional problems among children from diverse culture backgrounds. Similar age and gender patterns have been shown across 12 different cultures (Crijnen, Achenbach, & Verhulst, 1997). Furthermore, extensive research supports the reliability, stability, and validity of the CBCL (Achenbach, 1991). Internal reliability for internalizing behaviours was excellent for both maternal as well as paternal reports (.93 and .95, respectively).

Parental style. Parents completed a 48-item questionnaire regarding their parenting behaviour and their feelings about their relationship with the target child (Parent Report [PR]; Dibble & Cohen, 1974). The PR consists of eight positive categories and eight negative categories. Each item is rated on a 7-point scale, from 0 = “never,” through 3 = “half of the time” to 6 = “always.” The positive aspects of parenting included the following categories: acceptance of child as a person (“I see both the child’s good points and his faults”), child centredness (“I think of things that will please her/him”), sensitivity to feeling (“I encourage her/him to tell me what s/he is thinking and feeling”), acceptance of autonomy (“I like her/him to do things his way”), shared decision making (“I make decisions with her/him”), consistent enforcement of discipline (“I punish her/him for disobeying”), and control through positive discipline (“I explain to her/him why s/he is being punished”). Internal reliability coefficients for parental positive behaviour were very high both for mothers’ ($\alpha = .84$) and fathers’ ($\alpha = .91$) reports. The negative aspects of parenting included the following categories: detachment (“I forgot things s/he has told me”), intrusiveness (“I ask others what s/he does while s/he is away from me”), lax enforcement of discipline (“I ignore misbehaviour”), inconsistent enforcement of discipline (“I forget rules that have been made”), control through anxiety (“I warn her/him about future punishments to prevent her/him from acting badly”), control through guilt (“I let her/him know that I feel hurt if s/he does not do what s/he is told”), control through hostility (“I use physical punishment”), and withdrawal of relationship (“I avoid talking to her/him after s/he displeases me”). Cronbach’s alpha coefficients for parental

negative behaviour were .87 and .83, for mothers and fathers, respectively.

Parental social support. Parental social support was examined using Pollack and Harris’s Measurement of Social Support (MSS; Pollack & Harris, 1983). The MSS is a 23-item questionnaire in which parents indicate how much they agree with each statement, such as “people often go out of their way for me,” ranging from “not at all true” (1), to “extremely true” (4). Internal reliability was good, .80 and .69 for mothers’ and fathers’ reports, respectively. The MSS has been reported to have a 2-week test-retest reliability of .90 (Pollack & Harris, 1983), and criterion validity against clinician ratings was found to be high (Nehra, Kulahra, & Verma, 1996). The MSS has been used in different cultures including the Indian culture (Nehra et al., 1996).

Plan of analysis

In order to examine a mediation model the following steps were taken. First, *t*-tests were conducted to compare mean-level differences between the two ethnic groups for each of the study variables (i.e., parenting style and social support). Only those variables that differentiate the two ethnic groups can play a role in accounting for the ethnic group difference in children’s internalizing problems. Second, in order to examine associations between the variables (i.e., parenting style, social support, and internalizing problems), Pearson correlations were conducted. Such intercorrelations are a necessary prerequisite for mediation analyses (Baron & Kenny, 1986). Only variables that varied significantly between the ethnic group and which were significantly intercorrelated were included in the models. Finally, the mediation adjustment models exploring the influence of ethnicity on children’s internalizing problems were tested using structural equation modelling (SEM). Although structural equation modelling cannot prove causal relations among variables, it can assess whether inferences about causality are consistent with the data. Further, it allows one to determine whether one model fits the data better than another model. Data was analysed using the AMOS 5 program (Arbuckle, 1999) to obtain estimates. Missing data were handled via a theoretically based approach, using maximum likelihood estimation (Arbuckle, 1996).

Results

Preliminary analyses

Mean-level differences between ethnic minority and majority groups for all variables were examined using *t*-tests. As can be seen in Table 1, only maternal positivity and paternal negativity at the microsystem level, and maternal and paternal social support at the exosystem level, were significantly different between the groups. That is, Indian mothers reported lower levels of maternal positivity, $t(120) = 2.17$, $p < .05$, and Indian fathers higher levels of paternal negativity, $t(120) = -2.28$, $p < .05$. No significant ethnic differences were revealed for maternal negativity, $t(119) = -1.22$, *ns*, or paternal positivity, $t(120) = -0.99$, *ns*. In addition, Indian mothers and fathers reported lower levels of social support, $t(108) = 4.33$, $p < .001$; $t(114) = 3.60$, $p < .001$, respectively.

Table 1

Correlation matrix, means (and standard deviations) of model variables by ethnic groups

	1	2	3	4	5	6	English mean (SD) n = 53-59	Indian mean (SD) n = 57-84
1. Internalizing problems (maternal report)	1.00						5.86* (5.93)	8.44* (6.41)
2. Internalizing problems (paternal report)	.59***	1.00					5.76* (5.19)	7.78* (6.23)
3. Maternal positivity	-.26***	-.19*	1.00				112.62* (10.93)	107.72* (13.75)
4. Paternal negativity	.17*	.28***	.03	1.00			49.83* (14.99)	56.93* (19.05)
5. Maternal social support	-.51***	-.23**	.27***	-.17*	1.00		72.40*** (8.00)	65.84*** (7.87)
6. Paternal social support	-.32**	-.22**	.07	-.28***	.43***	1.00	69.83*** (7.30)	65.45*** (5.77)

* $p < .05$; ** $p < .01$; *** $p < .001$ (one-tailed).

Therefore, the roles of these variables as mediators were investigated further. Next, Pearson correlations were examined among maternal positivity, paternal negativity, and both maternal and paternal reports of social support and of children's internalizing behaviours. As can be seen in Table 1, as expected, maternal positivity was positively associated with social support and negatively correlated with internalizing problems, whereas paternal negativity was negatively associated with social support and positively correlated with internalizing problems. Finally, maternal and paternal reports of social support were highly intercorrelated, and were each negatively correlated with children's internalizing problems.

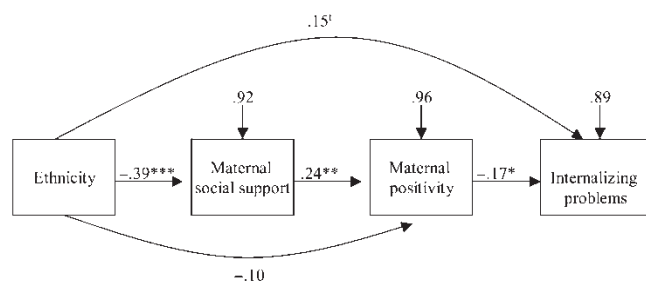
The group differences as well as the patterns of correlations seen in Table 1 suggest the possibility of the model outlined in the introduction. However, as significant ethnic-group differences were found for maternal positivity and paternal negativity, we decided to test distinct models for mothers and fathers. Furthermore, in order to avoid single rater inflation, we examined one parent's reports of social support and parenting with the other parent's report of children's internalizing problems. For example, the maternal mediation model consists of maternal reports of social support and positivity, and paternal reports of children's internalizing problems.

A mediation model of ethnicity and adjustment: Model estimation

In order to test the models, SEM analyses were conducted. We evaluated the fit of Model I, proposing direct influences of ethnicity on parenting and children's internalizing problems, by examining multiple fit indices. A good model fit is indicated by a nonsignificant χ^2 statistic or when the ratio of the χ^2 to the degrees of freedom is less than 2, a Bentler-Bonnet normed fit index (NFI) of .9 or above, and root mean square error of approximation (RMSEA) of .05 or below (Tabachnick & Fidell, 1996). It was found that Model I only marginally fit the data for mothers, $\chi^2(1, N = 125) = 2.14, p = ns$; NFI = .942; RMSEA = .096, and did not fit for fathers, $\chi^2(1, N = 125) = 6.28, p < .05$; NFI = .833; RMSEA = .210. An examination of β coefficients suggests that in both maternal as well as paternal mediation models, although ethnicity may be directly linked to internalizing problems, it is only indirectly linked to parental style through social support (the direct paths did not yield significant estimates). Social support, in turn, was indirectly linked to internalizing problems through parenting style (see Figures 1a and 1b).

Post hoc model modifications were performed in an attempt

(a) Maternal mediation model I



(b) Paternal mediation model I

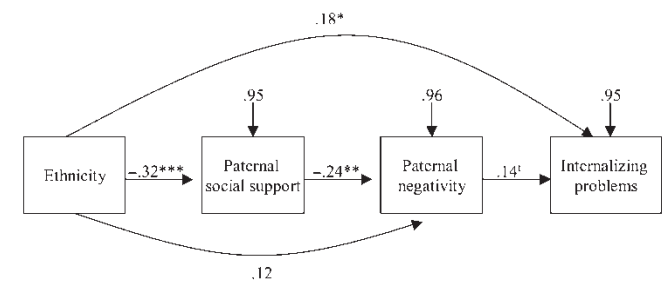


Figure 1. SEM results of (a) maternal mediation model I: direct and indirect influences of ethnicity on maternal positivity and children's internalizing problems (paternal report); and (b) paternal mediation model I: direct and indirect influences of ethnicity on paternal negativity and children's internalizing problems (maternal report).

† $p < .15$; † $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

to develop a better fitting and possibly more parsimonious model. The modification included the omission of the nonsignificant direct paths between ethnicity and parental style (see Figures 1a and 1b). The examination of the fit indices indicated that the altered model did improve the fit for mothers, $\chi^2(2, N = 125) = 3.28, p = ns$; NFI = .911; RMSEA = .072, this improvement was not significant, $\chi^2(1, N = 125) = 1.14, ns$. For fathers, the modified model still did not fit the data, $\chi^2(2, N = 125) = 8.14, p < .05$; NFI = .784; RMSEA = .157.

Next we examined Model II, proposing indirect influences of ethnicity on internalizing problems as well as direct and indirect influences of social support on internalizing problems, for mothers and fathers. This model fit the data adequately for both mothers, $\chi^2(2, N = 125) = 2.21, ns$; NFI = .940; RMSEA = .029, and fathers, $\chi^2(2, N = 125) = 3.55, ns$; NFI = .906; RMSEA = .079. β coefficients and error estimations are presented in Figures 2a and 2b. In this model, ethnicity had an indirect effect on children's internalizing problems through social support, and in turn parenting style. Social support, however, makes both a direct and indirect contribution via parental style to internalizing problems.

Finally, in a further attempt to improve the models, we combined information revealed in the two hypothesized models. Specifically, a path between ethnicity and internalizing problems was added to Model II. The examination of fit indices indicated that this model fit the data well for mothers, $\chi^2(1, N = 125) = 1.22, ns$; NFI = .967; RMSEA = .042, and marginally fit for fathers, $\chi^2(1, N = 125) = 1.99, ns$; NFI = .947; RMSEA = .089.

However, chi-square difference tests between Model II and the combined model revealed that the combined model did not significantly improve the model for either the mothers', $\chi^2(1, N = 125) = 1.99, ns$, or the fathers' model, $\chi^2(1, N = 125) = 1.56, ns$. Accordingly, Model II (Figure 2a and 2b) was determined to be the best model, based on fit and parsimony. It is suggested in Model II that Indian parents had lower social support than their English counterparts. Social support, in turn, was related directly to parental style and to internalizing problems. Finally, parental style was directly linked to internalizing problems. The model did not include any direct effect for ethnicity.

Discussion

The purpose of this study was to explore the mechanisms behind the link between ethnicity and internalizing problems. In other words, it was of interest to examine "how" and "why"

Indian children exhibit higher levels of internalizing behaviours. Results support a model in which parental social support and parenting style mediate the link between ethnicity and children's problem behaviour. For mothers, ethnicity was linked to social support; Indian mothers reported lower levels of social support. Next, direct negative links were found between both social support and maternal positivity to internalizing problems. In addition, social support was also linked to children's internalizing problems through parenting. Among fathers, the same general picture was found, but with one difference. As with mothers, ethnicity was linked to social support. Social support in turn was related both directly and indirectly to children's internalizing problems. However, social support was related indirectly not through paternal positivity, as it was with mothers, but through paternal negativity.

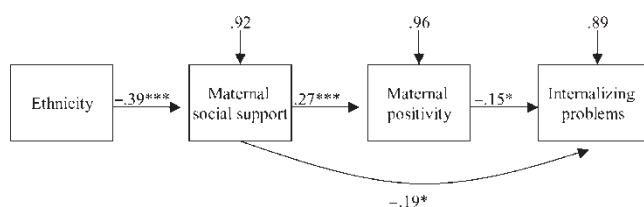
Why did Indian parents report lower levels of maternal positivity and higher levels of paternal negativity?

The results in this study suggest that one possible explanation for the lower levels of maternal positivity and higher levels of paternal negativity that Indian parents reported may be their lower levels of social support. A lack of social support may increase feelings of stress. This lack of social support may be further compounded as these Indian parents experienced the immigration process (a highly stressful life experience), resulting in minority group status. Several studies have reported a link between life stress and reduced quality of parenting (e.g., Conger et al., 1992; Steinberg, Catalano, & Dooley, 1981). Immigrant families leave familiar surroundings (e.g., the environment, habits, language, and climate) behind, and must adapt to a new country, language, culture, and people. Furthermore, the prejudice and discrimination that many ethnic minority people experience may increase their vulnerability. However, the lack of support for a direct link between ethnicity and parental style, alongside evidence for the mediation of the link between ethnicity and parental style by social support, suggests that ethnic minority parents exhibit more negative and less positive behaviour in part due to reduced levels of perceived social support rather than ethnic status per se.

The role of social support: Why did the Indian parents report lower levels of social support?

The lower levels of social support Indian parents reported may be explained in two ways. First, in comparison to English parents, Indian parents may experience elevated levels of social

(a) Maternal mediation model II



(b) Paternal mediation model II

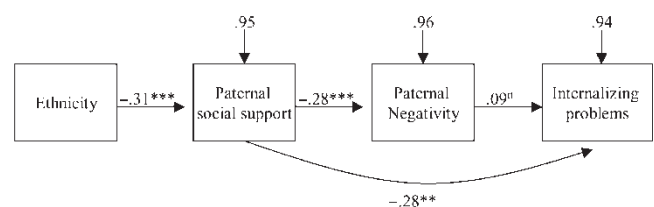


Figure 2. SEM results of (a) maternal mediation model II: indirect contribution of ethnicity and both direct and indirect influences of social support; and (b) paternal mediation model II: indirect contribution of ethnicity and both direct and indirect influences of social support.

ⁿ $p < .15$; ^t $p < .10$; * $p < .05$; ** $p < .01$; *** $p < .001$.

isolation due to recent immigration, language difficulties, and discrimination. Furthermore, belonging to an ethnic minority group may engender feelings of not being an integral and equal part of British society. Second, many of the Indian families experienced a change in family structure, which may be reflected in their feelings of lower levels of social support. That is, most of the Indians experienced a change from life in an extended family to life in a nuclear family (Modood, 1997). This change was often required more than wanted (i.e., due to the smaller houses in London), and this change to residence in a nuclear family may have modified the support children and parents received. For example, when grandparents live with their children's new families in extended families, they have direct effects on their grandchildren (as sources of affection and care), and indirect effects through the support they provide to parents, assisting in maintaining family cohesion and stability (Al Awad & Sonuga-Barke, 1992). This support is reduced in many families, as some grandparents have not immigrated to Britain, and therefore do not participate as a source of regular support. In addition, even in those families with grandparents living in Britain, they are not usually living in extended families any longer; thus direct and indirect support may be reduced and be less intensive. These changes also seem to be reflected in the direct influence found for social support on children's problem behaviour. Perceived reduction or lack of social support may be seen as a symptom of cultural change, where the family construct is in a state of flux, and people are still in the process of adaptation to a new way of life. In support of this idea, post hoc analyses indicate that the longer the fathers had lived in Britain, the more social support both parents reported.

Therefore, it may be that the geographical distance between family members and relatives (who may still live in the same neighbourhood, but not in the same house) reduced the actual support between members in the community. Furthermore, it may be that the differences in support reported by English and Indian parents reflect different expectations between the two groups. Indian parents who live in a subculture where the links between the individual and the collective are considered strong (Laungani, 1999) may expect higher levels of support and therefore may feel more discontented. The English parents, however, may not expect so much, and therefore may be satisfied with objectively lower levels of support. In either case, the fact remains that parental social support was linked to both maternal positivity and paternal negativity, which were in turn linked to children's internalizing problems. The direct as well as indirect influence of social support on children's adjustment is in line with previous literature (e.g., Cochran & Brassard, 1979). It seems that in middle childhood children have the potential to benefit not only indirectly but also directly from their parents' social support system.

Finally, an important finding revealed in this study is that social support was a stronger predictor of internalizing problems than was parenting. This finding is surprising given the central role of parenting on children's problem behaviour, in both theory and research (Hoghugh & Long, 2004). Two different explanations may be suggested for this finding. First, social support may influence children's adjustment through the parent-child relationship, but there are other parental factors involved that were not examined in this study. For example, it may be that social support affects children's problem behaviours through its influence on parental mental health (e.g., feelings of anxiety and depression). Second, it may be that

during middle childhood, when cognitive and social abilities are developed enough to perceive and understand what occurs in the wider context, distal environmental factors can directly impact children.

Differences between mothers' and fathers' models

The differences between the fathers' and mothers' models stress the importance of examining different qualities of the parent-child relationship and its links with children's behaviour. Although both mothers and fathers exhibited lower levels of positivity and higher levels of negativity in their parental behaviour when experiencing less social support, their children were more sensitive to reductions in maternal warmth and increases in paternal negativity.

Why is it that mothers' positivity rather than negativity mediated the link between social support and internalizing behaviours? One possible explanation is that mothers more than fathers are important source of warmth and understanding (Greene & Grimsley, 1990); children may be more sensitive to these aspects from their mothers. Therefore, mothers lacking in social support may be more preoccupied with themselves and their unhappiness, and less available and warm to their children. Children, in turn, seem to be affected by their mothers' behaviours and may perceive it seriously as a loss, which will be reflected in their elevated levels of internalizing behaviours. In the case of fathers, negativity rather than positivity was important. This finding may be explained by the nature of relationship that many children have with their fathers. Fathers are almost always less involved with their children than are mothers (Pleck, 1997), therefore lower levels of warmth may be less apparent to children. However, fathers' stress may escalate tensions and disagreement among family members, resulting in a negative emotional climate (Galambos, Sears, Almeida, & Kolaric, 1995). Children seem to be more affected by the negative parenting behaviour which is more apparent.

Limitations and future directions

There are several limitations to this study. First, although we have selected the measures used in this study from existing well-validated questionnaires, most of which have been used within the Indian culture, there is no guarantee that parents in both cultures conceptualized all of the questions in a similar manner. Therefore, our findings should be interpreted with caution. Next, the study was cross-sectional, thus conclusions cannot be drawn as to the developmental changes of risk factors or the adjustment of children. Replication of this study in different developmental periods would be necessary in order to understand change and continuity in risk influences. Furthermore, risk factors and problem behaviour were all measured at only one time point, and due to the nature of the study, variables were not manipulated experimentally. Accordingly, the nature of the data is correlational and confidence in the causal interpretation of results is limited. However, as the direction of hypotheses and interpretations were theory-driven, we postulate that the interpretations suggested in this study are reasonable for the understanding of children's problem behaviour. Although a longitudinal study would not necessarily be indicative of causality, it would enable more confident inferences regarding causal direction.

Furthermore, in the current study, we examined one

specific ethnic minority group—children of Indian origin and Hindu religion. As adjustment models may be distinct for parents and children from different minority groups (e.g., Berry, 1997), we suggest replication with other ethnic minority groups. Such a replication may indicate whether the results seen in this study are unique to the Indian group living in Britain, or whether they can be generalized to other ethnic groups. Finally, the number of participants in this study met the minimum required for conducting SEM analysis. A replication of this study with a larger sample may provide further support for these results, and would also enable the examination of separate models for different ethnic groups.

Summary and conclusions

Our model of ethnic adjustment supports ecological models (Bronfenbrenner, 1979) in which it is proposed that children's behaviours are influenced not only by their own characteristics, but also by the child's proximal as well as distal environments. It is well recognized that children's behaviour is influenced by their relationship with their parents (Baumrind, 1993; Cummings, Davies, & Campbell, 2000). This study highlights the salience of examining environmental factors beyond the microsystem level, to consider also the exosystem, (Bronfenbrenner, 1979), exemplified here by social support. Furthermore, the importance of considering the influence of the macrosystem (Bronfenbrenner, 1979), as well as the inter-related nature of these subsystems, is supported by our mediation model.

Our findings highlight the importance of exploring the processes involved in ethnic variation. The fact that Indian children exhibited elevated levels of internalizing behaviours does not in itself provide useful information for prevention or intervention, nor satisfactory explanation for research purposes. However, the identification of processes underlying this link enables better understanding of the reality that children from ethnic minority groups experience, and may provide useful knowledge.

To conclude, families are embedded in networks of relatives, neighbours, and friends. These social networks have been theoretically related to children's behaviour and development (Bronfenbrenner, 1979; Campbell, 1990). In addition, previous research indicated that social support plays an important role, especially during stressful times, in the link between life events and behavioural outcomes (Pryor-Brown & Cowen, 1989; Quamma & Greenberg, 1994). In the current study, the role of social support in stressful situations such as the one that immigrants experience has been demonstrated.

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