

A Parental Locus of Control Scale

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ABSTRACT – This study set out to devise a sensitive, robust and psychometrically sound instrument that measured locus of control beliefs with respect to the development of children. A questionnaire was devised to measure three dimensions of parenting locus of control: internal (the belief that parents through example and instruction, to a large degree, dictate how their children will 'turn out') external/powerful others (the belief that societal forces and structures such as schools are the main determinants of children's development) and chance (the belief that random, luck or fate factors determine how children grow up). Two hundred adults completed a 60 item questionnaire that was factor-analyzed into a number of interpretable factors. These factors were then correlated with various demographic factors supplied by the participant: sex, age, whether or not they had children. Overall adults tended to have internal parental locus of control beliefs. Age and occupation, rather than whether they actually were parents, were strongly correlated with the domain specific locus of control beliefs.

To what extent do parents believe they are able to determine the health and happiness of their children? Are parents more or less instrumentalistic or fatalistic than non parents in their beliefs concerning their control over their children? What are the consequences of these beliefs for the way in which parents rear their children? This study reports on the development and validation of a locus of control scale specifically aimed at measuring the beliefs of adults with respect to parental locus of control.

One of the most widely explored concepts across many areas of psychology including clinical, developmental, occupational, personality and social psychology is the locus of control concept introduced by Rotter (1966) based on social learning theory. Locus of control is conceived as a belief that a response will, or will not, influence the attainment of reinforcement. However, locus of control is not an expectancy concerning a particular type of reinforcement, but a 'problem-solving' generalized expectancy, addressing the issue of whether behaviors are perceived as instrumental to goal attainment, regardless of the specific nature of the goal or reinforcer. Locus of control is seen to influence the specific goal expectancy in any given specific situation depending upon the novelty and the ambiguity of the setting, as well as the degree of reinforcement that the individual has directly experienced in that setting.

Rotter (1990) attempted to explain the 'enormous and somewhat surprising popularity' of the internal versus external control of reinforcement variable. He attributed the heuristic value of the variable to four factors: the variable was precisely defined; the construct was imbedded in a broader theory, namely social learning theory; the scale

developed to measure this variable was derived from psychological (social learning) theory (providing the best assurance of construct validity); and, finally, the construct was widely disseminated in a research monograph.

Although the locus of control concept has attracted a great deal of attention, both conceptual and methodological issues are frequently debated (Furnham & Steele, 1993). Methodological issues concern whether the locus of control concept is, or should be, uni- or multi-dimensional; whether one should separate locus of control beliefs for positive vs. negative outcomes; and whether one needs different scales for different domains. The past 20 years has seen a huge burgeoning of sphere or domain specific multi-dimensional measures with behavior or participant specific locus of control scales. For instance Furnham and Steele (1993) have identified over 15 health-specific locus of control scales measuring such things as dental health, mental health, drinking-related, weight and fetal health, cancer and dieting beliefs. They also noted five work related scales including career, driver, economic, safety and work-related locus of control. A number of measures have also been developed specifically to examine the locus of control beliefs of children and adolescents (Furnham, 1987).

Three quite different motives appear to have lead researchers to develop these different measures aimed at assessing the locus of control construct. For some the motive was to develop multi-dimensional measures where only uni-dimensional measures previously existed; for others, it was to develop sphere or behavior-specific instruments that measured particular attitudes and behaviors; and for others still, it was to develop a measure appropriate for a particular population group. Although many measures were shown to be multi-dimensional, many used Rotter's original scale to test the concurrent validity and in every instance the result was positive and significant. Furthermore, most were faithful to the original concept, except in the case of attribution based measures (Furnham, Sadka & Brewin 1992).

A number of interesting questions emerged from Furnham and Steele's (1993) review. The first concerns the overlap between the various locus of control measures. From the concurrent validity studies, it may be predicted that the average size of the correlation would be between .20 and .40, accounting for between 4 and 20 percent of the variance. The most interesting question concerns how to account for the rest of the variance? A clearly related and fundamental issue is that of incremental validity. The assumption underlying so many of the sphere specific locus of control scales is that by making the new items linked to, or salient with a particular setting (eg: work) phenomenon (eg: health), or group (eg: children) the scale would not only have increased face validity but also predictive validity. However, few studies have attempted to demonstrate that a specific locus of control scale is any better at predicting (specific) behavior than a general locus of control scale though intuitively it may seem to be the case. Whilst it may appear to some observers that this is obvious, it is very difficult to locate any evidence of any statistically significant increase in incremental validity through the development of specific measures. An exception is a study by Nowicki and Walker (1974) who compared the general Nowicki-Strickland scale for children with the academic-specific scale of Crandall et al (1965) namely the IAR scale. The former predicted academic achievement as well as the latter, even though the latter is more specific for school achievement.

If indeed incremental validity cannot be demonstrated, then the whole enterprise of developing specific measures seems a very expensive attempt at face validity and ease of interpretation. Furthermore the proliferation of new measures means that they are not always directly comparable because of subtle but important differences between the measures. The crucial question remains: have these studies (using new measures) told us anything new, or simply repeated the same findings in a hundred different ways? It is perhaps for this reason that despite manifold well rehearsed criticisms of the original scale (Rotter, 1966), the majority of locus of control investigators continue to use it, making it among the most popular research tools in psychology.

Yet recently researchers have shown how sphere - domain or topic-specific scales have both improved face and content validity. Although they cannot always demonstrate a significant increase in predictive validity sphere - specific scales frequently show marginally greater predictive validity. More importantly the greater face validity of these scales makes them useful in applied research.

This study reports on the development of a sphere-specific measure concentrating on parental locus of control beliefs - the extent to which people believe that the parents of children can and do shape the future of the children's lives. There are some related scales. Miller, Lefcourt and Ware (1983) set out to develop and test the Miller Marital Locus of Control Scale which was designed specifically to examine perceptions within the marriage. The measure has obvious applications in marital therapy. The Fetal Health Locus of Control (FHLC) Scale (Labs & Wurtale, 1986) aimed to apply Levenson's (1974) three-factor model, successfully applied by Wallston et al (1978), to the specific domain of beliefs concerning fetal health. Internal consistencies for the three subscales of internality, chance and powerful others were good (.76-.88); satisfactory concurrent validity with the MHLC (Multidimensional Health Locus of Control) (Wallston et al., 1978) was reported; social desirability was controlled for; and predictive validity in terms of womens' ($N=63$) beliefs and behaviors during pregnancy yielding interesting finding (Labs & Wurtale, 1986). For example FHLC-I (internal) scores predicted smoking status and the intention to participate in child-birth classes.

More relevant perhaps are the studies which have shown that actual parents' locus of control beliefs (usually measured on the original Rotter scale) is predictably correlated with childrens' locus of control (Baring, 1982) parent-child communication patterns (Bugental, Caporae) & Shennum, 1980) and parents perceptions of the cause of childrens' problems (Harris and Nathan, 1973). Presumably the strength of these correlations would be enhanced by sphere-specific, multi-dimensional measures.

This study aimed to examine adults beliefs over the sort of control parents have over their children. Over the past twenty years there has been a great growth in research concerning parents' expectations and attitudes (Schwarz and Mearns, 1989; Yamasaki, 1990). Naturally child rearing practices have also commanded research attention (McNally, Eisenberg & Harris, 1991; Richter, Richter & Eisemann, 1991). Studies have examined both the content and quality of parental ideas. For instance there are a number of relevant studies in the area of education concerned with the different perspectives of concerned groups; parents, teachers, pupils and educational psychologists (Bar-Tal & Guttman, 1981; Zelko, Duncan, Barden & Masters, 1986).

There have also been a number of studies on parents' beliefs about child rearing, parenting and education as well as studies on this knowledge of behavioral principles (McLoughlin, 1985). For instance, Lawton et al. (1984) found that parents appeared to be more certain of their actual parenting and its relation to their children's social development followed by intellectual development, and least certain of its relation to their physical development. Others have been interested in how parental beliefs (particularly about sex-typing) influence the behavior towards the child, and still others have been interested in attitudes to particular types of education. Recently Stevens (1988) found mothers had more inaccurate expectations for normative development than fathers but that more accurate fathers had spouses who were also inaccurate even when education was controlled.

'Naive' or lay theories of child development are, however, culture specific. Keller et al (1984) found numerous differences between German and Costa Rican mothers' beliefs about child development and optimal parenting. For instance, German women expect infants to see, think, understand words and identify pictures of objects earlier than do Costa Ricans. This study suggests that parental ideas of development and education are culture-specific, and also, possibly, class-specific. The question remains however as to both the etiology and consequences of these parental beliefs in terms of child-rearing activities (Holden, 1988).

There are a number of reasons why the study of parental beliefs has been considered important. Goodnow (1984) has argued that parents' beliefs illuminate effects of culture and class, but more importantly because parental beliefs relate to child rearing practices, which in turn have developmental outcomes in the child. Goodnow (1985) was particularly interested in the question: "How can one account for the change and variation in parents' ideas about parenting and development". She notes how parents' perceived influence and perceived responsibility are crucial variables (Fischer & Fischer, 1963). She notes: "There seems to be no quantitative study on variations in areas of perceived responsibility, or of other ideas to which perceived responsibility might be related. One possibility is that the perception of responsibility has its closest tie to a parent's sense of satisfaction with his or her own competence as a parent. To feel that one has the responsibility for influencing a child's behavior and the means to do so, but is not doing as well as one might, must be an uncomfortable state of affairs. Far more comfortable is the state of power but no responsibility, or the absence of both. In similar fashion, it cannot be easy for a mother to deny responsibility for a child's emotional well-being or character in a social setting that stresses that unique responsibility of mother" (Goodnow, 1985, p242).

This study therefore set out to develop a reliable and valid measure to assess adult's parental locus of control beliefs. It was expected that the scale would have an interpretable factor structure along the lines set out by Levensohn (1974). It was also predicted that the more exposure adults had to children the less likely they were to be internal.

Method

Participants

In all 201 participants took part in this study, of which 92 were male and 99 female. Their mean age was 37.17 ($SD=11.47$). The participants were from a variety of occupations and data were recorded on their (and their spouses') occupation. In all 68 (35.1. %) were married, while the rest were single, divorced or separated. Of the total sample 78 (35.5 %) had children, the modal number being 2, and their mean age being 12.2 years. Participants were also asked if they had brothers and children; whether they liked children (92.7% said yes) and whether they had regular contact with children. Whilst this sample was not particularly large nor a representative quota sample it was considered to be sufficiently large and diverse to test the set hypotheses.

Questionnaire

A 60 item questionnaire was constructed based on the item from a number of other questionnaires including two health locus of control scales (Lau & Ware, 1981; Wallston & Wallston, 1981) the economic locus of control (Furnham, 1986) and general multi-dimensional scales (Levenson, 1974; Paulus & Christie, 1981). Over 80 statements were developed but pilot work suggested some were ambiguous, others repetitive and still others relatively obscure. Statements were loosely categorizable (a-prior) into the three dimensions - internal, powerful others and chance - but no effort was made to ensure equal numbers of each. As is the case even with sphere-specific locus of control measures, not all items were related to child-rearing. After pilot work 60 items were retained, which are shown in Table 1. Each item was responded to a 9 point agree-disagree scale

Procedure

Participants were tested in a variety of settings (at work, leisure centers etc). Most participants were obtained from a university participant panel. The questionnaire took about 15 minutes to complete. Where possible, participants were de-briefed.

Results

Table 1 presents the item-by-item analysis. The item participants agreed with the most were 45 (There are a lot of children's emotional problems that can be serious indeed) ($X=7.70$); 2 (Parental care and attention is a key factor in having well adjusted children) ($X=7.64$); 56 (When I get what I want, it is usually because I have worked hard for it) ($X=7.11$) and 57 (My life is determined by my own actions) ($X=7.06$) while those they disagreed with most were 41 (In the western world there is really no such thing as neglected children) ($X=1.62$); 59 (Only children with money can possibly afford to become parents of well adjusted children) ($X=2.10$); 52 (Getting what I want for my children requires pleasing those above me) ($X=2.52$) and 19 (Children's adjustments in the hands of God) ($X=2.57$). About 10 to 20% chose the mid-point, uncertain, rating per item. Most items showed a fair amount of discrimination but some (items 1, 2, 3, 10, 20, 24, 26, 39, 45 and 57) showed over three-quarters agreed while others (items 19, 29, 32, 35, 40, 41, 52, 53, 58 and 59) showed three quarters disagreed.

Table 1
The Mean Standard Deviations and Percentages of Agreement for Each Item

	<i>X</i>	<i>SD</i>	Agree	?	Disagr.
1. Having well-adjusted has little or nothing to do with chance.	6.91	1.94	79.9	6.0	14.1
2. Prenatal care and attention is a key factor in having well-adjusted children.	7.64	1.39	92.4	3.4	3.3
3. Whether or not my children are well-adjusted depends mainly on my ability to look after and teach them.	6.92	1.40	84.8	8.6	6.6
4. Psychologists can't do very much for uncaring parents.	5.10	2.08	40.0	20.7	39.3
5. Anyone who can learn a few basic principles about caring parenting can go a long way to prevent their children from becoming poorly adjusted.	6.23	1.65	74.7	13.3	12.0
6. Poor adjustment in children results from parents' idleness and lack of caring.	5.85	1.77	59.8	19.2	21.2
7. To a great extent my life is controlled by accidental happenings.	4.09	2.18	24.0	19.3	56.7
8. Teachers help few poorly-adjusted children.	5.15	1.96	41.2	20.3	38.5
9. In spite of parents training, a child's values change after he/she starts school.	5.85	1.75	65.8	14.8	19.5
10. Parental expectations of their children have a direct effect on their achievement.	6.39	1.75	75.6	10.6	13.9
11. Most parents feel confident that their children will live up to their expectations.	5.74	1.61	52.7	29.36	18.0
12. Children learn their bad behavior mostly from their friends.	5.37	2.15	47.7	20.5	31.8
13. The choice of a particular school for children is crucial in ensuring their personal adjustment.	6.31	1.87	73.5	9.3	17.2
14. Essentially all children are responsible for their own adjustment.	4.40	2.31	3.67	7.3	55.0
15. Teachers play a vital role in ensuring that a child is well-adjusted.	5.89	1.77	65.6	11.3	23.2
16. A child's poor adjustment usually results from restricted opportunities at school.	4.86	1.85	37.1	17.9	45.0
17. The school has too much control over the child's development and adjustment.	3.94	1.85	20.0	18.0	62.0
18. Children help each other to overcome obstacles to their development and adjustment.	5.77	1.76	61.0	18.5	20.5
19. Children's adjustment is in the hands of God.	2.57	2.35	12.1	7.4	80.5
20. Irrespective of the amount of good parenting given to children, poor schooling could seriously undermine good work.	6.73	1.88	79.2	6.0	12.8
21. Other influences, like television, exert more control over children's adjustment than either home or school.	4.51	2.21	35.1	18.5	46.4
22. It is an impossible task to ensure that one's children are well adjusted.	4.22	2.41	30.0	12.7	57.3
23. Parents know best what is good for their children.	5.29	2.21	47.7	17.2	35.1
24. To a great extent parents can control their child's mental and emotional development.	6.45	1.79	75.8	10.1	14.1
25. Parents have the ability to mould their children's character.	5.94	1.92	67.5	11.9	20.5
26. Children's attitudes reflect those of their parents.	6.47	1.57	80.8	11.3	7.9
27. When it comes to bringing up children, it is really a hit or miss affair.	3.64	2.19	20.0	13.3	66.7
28. I feel that children's adjustment is mostly determined by powerful people.	4.17	20.8	25.0	18.9	56.1
29. There is little one can do to prevent children from going "off the rails."	3.34	1.99	15.9	7.9	76.2
30. No matter what anybody does, there will always be poorly-adjusted children.	6.08	2.43	65.6	9.9	24.5
31. When I make plans, I am almost certain to make them work.	5.91	1.91	62.3	19.9	17.9
32. Whether or not people have well-adjusted children is due to luck.	3.16	1.93	7.5	16.4	76.1
33. People who never have problems with their children are just plain lucky.	4.50	2.50	37.7	11.3	51.1
34. Often there is no chance of protecting children from bad	5.98	2.10	62.0	16.7	21.3

Table 1 cont ...

35. The seriousness of disturbed children is overstated.	2.97	2.06	16.2	5.4	78.4
36. When it comes to the adjustment of children, there is no such thing as "bad luck."	5.46	2.30	52.0	16.7	31.3
37. When I get what I want, it's usually because I'm lucky.	3.62	2.13	20.0	13.3	66.7
38. In the long run, people who take very good care of their children stay happy.	5.88	1.92	64.7	14.7	20.7
39. Preventing childhood delinquency, truancy, and maladjustment requires good hard work more than anything else.	6.54	1.93	77.5	9.9	12.6
40. Although I might have ability, I will not become a successful parent without appealing to those in position of power.	3.11	2.02	12.7	10.7	76.7
41. In the Western world, there is really no such thing as neglected children.	1.62	1.15	1.2	1.3	97.7
42. Becoming the parent of a happy well-adjusted child has nothing to do with luck.	6.39	2.19	70.2	7.3	22.5
43. How many friends I have depends on how generous I am.	2.82	2.07	15.2	7.9	76.8
44. Most people are helped a great deal when they go to an educational psychologist.	5.10	1.81	38.4	33.6	28.1
45. There is a lot of children's emotional problems that can be very serious indeed.	7.70	1.67	92.0	4.0	4.0
46. People like myself have little chance of protecting our children when they are in conflict with those from strong pressure groups.	4.22	2.11	27.5	18.8	53.7
47. Regarding children, there isn't much you can do for yourself when you are poor.	3.19	2.22	19.5	7.9	73.5
48. Politicians can do very little to prevent childhood neglect.	3.88	2.64	27.2	8.6	64.2
49. It's not always wise for me to worry too much about my children because many things turn out to be a matter of good or bad fortune.	3.60	2.17	27.9	16.6	65.6
50. If I have poorly adjusted children, it's usually my own fault.	5.65	2.02	59.6	15.2	25.2
51. Family security is largely a matter of fortune.	3.41	2.02	14.7	14.7	70.7
52. Getting what I want for my children requires pleasing those people above me.	2.52	1.74	6.2	6.9	86.9
53. Whether or not I get to be a parent of a happy child depends on whether I'm lucky enough to be in the right place at the right time.	2.86	2.01	10.7	9.3	80.0
54. I can pretty much determine what will happen to my children.	4.67	2.18	40.0	18.7	41.3
55. I am usually able to protect my children's interests.	6.44	1.54	74.0	18.0	8.0
56. When I get what I want, it's usually because I worked hard for it.	7.11	1.57	70.7	14.7	14.6
57. My life is determined by my own actions.	7.06	1.58	83.8	8.1	8.1
58. It is chiefly a matter of fate whether I have adjusted or poorly adjusted children.	2.94	1.85	9.6	11.9	79.5
59. Only those who have money can possibly afford to become parents of well adjusted children.	2.10	1.67	6.0	4.6	89.4
60. Children's adjustment is all in the genes.	3.37	2.11	19.5	15.2	66.2

Note: Means are rated on a 9 point (agree/disagree) score. Items rated 9,8,7,6 were considered agreement, 5 not certain, and 4,3,2,1 disagreement.

In order to determine the factor structure the items were subjected to a VARIMAX rotation factor analysis. Four factors emerged which accounted for nearly 40% of the variance. The first factor was labeled *Fate* and accounted for nearly 16% of the variance. Most of the items loading >0.30 on this factor implied that people's lives in general, and those of children's were controlled by chance factors. The second factor was labeled *Responsibility* and accounted for 10.1 % of the variance items loading on the factor suggested the parents, teachers and schools were primary responsible for children's

adjustment. The third factor and the fourth factor were both bi-polar and accounted for 8.1 and 7.2 % of the variance respectively. They were labeled *fate/denial* and *personal efficacy*. The third factor seemed to include items that strongly suggested the power of fate while the fourth factor seemed to concern typical internal locus of control beliefs. Though all these factors were readily interpretable they did not fit really into the three-dimensional solution proposed by Levenson (1974). This is essentially what Furnham (1986) found in the development of another sphere - specific locus of control measure. Factor scores were then derived by arithmetically adding together the scores of items loading on each factor. These were then correlated with the demographic variables obtained each participant.

Table 2
Factor Loading on the Few Factors Resulting from the VARIMAX Analysis

Factor 1

7. To a great extent my life is controlled by accidental happenings.	.57
9. In spite of parents training, a child's values change after he/she starts school.	.36
14. Essentially all children are responsible for their own adjustment.	.45
17. The school has too much control over the child's development and adjustment.	.36
19. Children's adjustment is in the hands of God.	.36
21. Other influences, like television, exert more control over children's adjustment than either home or school.	.42
22. It is an impossible task to ensure that one's children are well adjusted.	.47
27. When it comes to bringing up children, it is really a hit or miss affair.	.58
29. There is little one can do to prevent children from going "off the rails."	.54
32. Whether or not people have well-adjusted children is due to luck.	.50
33. People who never have problems with their children are just plain lucky.	.49
35. The seriousness of disturbed children is overstated.	.44
37. When I get what I want, it's usually because I'm lucky.	.59
40. Although I might have ability, I will not become a successful parent without appealing to those in position of power.	.43
41. In the Western world, there is really no such thing as neglected children.	.40
42. Becoming the parent of a happy well-adjusted child has nothing to do with luck.	-.42
44. Most people are helped a great deal when they go to an educational psychologist.	.32
46. People like myself have little chance of protecting our children when they are in conflict with those from strong pressure groups.	.43
47. Regarding children, there isn't much you can do for yourself when you are poor.	.43
49. It's not always wise for me to worry too much about my children because many things turn out to be a matter of good or bad fortune.	.62
51. Family security is largely a matter of fortune.	.71
52. Getting what I want for my children requires pleasing those people above me.	.48
53. Whether or not I get to be a parent of a happy child depends on whether I'm lucky enough to be in the right place at the right time.	.64
58. It is chiefly a matter of fate whether I have adjusted or poorly adjusted children.	.63
59. Only those who have money can possibly afford to become parents of well adjusted children.	.54
60. Children's adjustment is all in the genes.	.37

Table 2 cont...

Factor 2	
1. Having well-adjusted has little or nothing to do with chance.	.37
2. Prenatal care and attention is a key factor in having well-adjusted children.	.43
3. Whether or not my children are well-adjusted depends mainly on my ability to look after and teach them.	.55
5. Anyone who can learn a few basic principles about caring parenting can go a long way to prevent their children from becoming poorly adjusted.	.50
6. Poor adjustment in children results from parents' idleness and lack of caring.	.52
12. Children learn their bad behavior mostly from their friends.	.40
13. The choice of a particular school for children is crucial in ensuring their personal adjustment.	.52
15. Teachers play a vital role in ensuring that a child is well-adjusted.	.42
16. A child's poor adjustment usually results from restricted opportunities at school.	.41
23. Parents know best what is good for their children.	.50
24. To a great extent parents can control their child's mental and emotional development.	.55
25. Parents have the ability to mould their children's character.	.43
38. In the long run, people who take very good care of their children stay happy.	.47
39. Preventing childhood delinquency, truancy, and maladjustment requires good hard work more than anything else.	.48
50. If I have poorly adjusted children, it's usually my own fault.	.38
54. I can pretty much determine what will happen to my children.	.33
Factor 3	
30. No matter what anybody does, there will always be poorly-adjusted children.	-.44
34. Often there is no chance of protecting children from bad luck happenings.	-.50
36. When it comes to the adjustment of children, there is no such thing as "bad luck."	.45
43. How many friends I have depends on how generous I am.	-.46
45. There is a lot of children's emotional problems that can be very serious indeed.	-.36
Factor 4	
18. Children help each other to overcome obstacles to their development and adjustment.	-.45
20. Irrespective of the amount of good parenting given to children, poor schooling could seriously undermine good work.	-.47
55. I am usually able to protect my children's interests.	.31
56. When I get what I want, it's usually because I worked hard for it.	.44
57. My life is determined by my own actions.	.42

Table 3
Correlations Between the 4 Factors and the Demographic Data

	F1	F2	F3	F4
Sex (1 = female, 2 = Male)	.01	.13*	-.12*	.01
Age	.05	.14*	-.05	.13*
Occupation (1-MC, 2-WC, 3-Unemployed)	.16**	.00	.12*	-.13*
Marital Staus (1-single, 2-married)	.10	.13*	.03	-.03
Have Children	.03	.17*	.04	-.06
Age of Children	.03	.17*	.04	.14*
N of Siblings	.12*	.08	.02	.09
Do you like children (1-Yes, 2-No)	.15*	.23**	.08	.09
Do you have regular contact (1-Yes, 2-No)	.00	.18*	.10	.09

Note: *** $P < .001$ ** $P < .01$ * $p < .05$

Factor 1, associated with *fatalistic* beliefs showed three significant correlations. Working class and unemployed participants, those with few siblings and those who did not like children tended to have more fatalistic parental locus of control beliefs compared to the middle class, those from bigger families and those who liked children.

The second factor *responsibility* which reflected internal parental locus of control correlated significantly with two-thirds of the factors. These indicated that males more than females, older more than younger, married more than single, those with older vs. younger children, those that liked vs. disliked children and those with more child contact endorsed this factor. The third factor *fate/denial* only correlated with sex and occupation: males more than females and the middle more than the working class appeared to deny the possibility that fate accounted for children's outcomes.

Predictably the fourth factor, like the second, showed a similar pattern of correlation only fewer. Older rather than younger, middle rather than working class, and those with older rather than younger children tended to have *self efficacy beliefs*.

Discussion

This study set out to develop a parenting locus of control scale and examine its structure and correlates. Such a scale could be useful for a number of reasons. Firstly because most items refer specifically to the role of parents, teachers, others and fate in determining children's adjustment it is useful simply in measuring public opinion. Certainly this sample appeared to believe that parents have a powerful role in determining children's adjustment either through their direct behavior ("Parental care and attention is a key factor in having well-adjusted children"; $X=7.64$) and beliefs ("Parental expectations of their children have a direct effect on their achievement; $X=6.39$). But they did not underestimate the role of other secondary socializing agents like schools ("The choice of a particular school for children is crucial in ensuring their personal adjustment"; $X=6.31$) and ("Irrespective of the amount of good parenting given to children poor schooling could seriously undermine good work"; $X=6.73$).

It is important to point out a major cause of the factor analysis not confirming the simple pattern suggested by Levenson (1974) names internal, powerful others and chance. Unlike many other locus of control questionnaires this one considered a person's (adults) beliefs about their control over another's (children's) behavior. Few naturally believe that they have total or exclusive control but that they could exert considerable influence who else (ie. teachers) and how (ie. schools) other parties (powerful others) influence children. Hence internal and powerful other items might be highly correlated as adults/parents see themselves working through organizations and other professionals to influence the behavior and beliefs about children. Similarly genetic factors and the availability of specific facilities and specialists may lead the fatalistic external locus of control beliefs to be mixed.

Nevertheless the pattern of correlations between parenting locus of control beliefs and demographic variables was interpretable. Lower socio-economic adults and those that did not like children tended to be more fatalistic and external in their beliefs, while those who held internal, instrumentalistic beliefs tended to be older, in regular contact with children and relatively favorably disposed towards them. The correlation were not large but in the expected direction.

Various studies have shown the importance of adult locus of control beliefs on children. Levenson (1973) demonstrated that students' perceptions or memories of how their parents reacted to them were systematically related to their own locus of control beliefs. For instance, parental demanding punishing and controlling - type behaviors were positively related to expectations that powerful others are in control. Similarly consistent and predictable parental behaviors were negative correlated with belief in fate and chance. The results showed "High perception of control by powerful other are associated with (a) low paternal nurturance, (b) high paternal affective punishment, (c) high paternal achievement pressure, (d) high maternal affective punishment, (e) high maternal achievement pressure, (f) high paternal protectiveness, (f) high paternal protectiveness (for males only), and (g) high maternal physical punishment (for males only). High perception of change control are associated with (a) low paternal nurturance, (b) low paternal predictability of standards, (c) high paternal achievement pressure, (d) low maternal predictability, (e) high maternal affective punishment, (f) high paternal deprivation of privileges (for males only) and (g) high maternal deprivation of privileges (for males only)." (p. 262).

Furnham (1987) found positive correlations between both mothers and fathers of students (analyzed separately) in their chance and powerful others (but not internal) locus of control beliefs. Ackerman and Ackerman (1987) found a positive but not significant correlation between children (university undergraduates) and their parents locus of control beliefs.

These results tend to indicate that parental locus of control beliefs influence those of their children though it is not clear what the mechanism is (socialization, genetic). However these studies all looked at generalized rather than sphere-specific locus of control and it is possible that the latter are even more closely associated with children's ultimate locus of control beliefs than the former (Furnham & Steele, 1992).

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