



Acta Genet Med Gemellol 36: 165-170 (1987)
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Restrictiveness-Permissiveness of Their Environment as Perceived by Kibbutz Twins and Singletons

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Abstract. This research compares similarities and differences between kibbutz twins and singletons on individual perceptions of extent of restriction imposed by their fathers and mothers, teachers, caretakers and peers with regard to the children's choices, plans, and actual activities. During the past two years, the parents of all kibbutz twins in Israel of age 1 to 18 have been contacted. They provided background information about themselves and their twin children. In each kibbutz, two control singletons were selected of the same sex and age for each twin pair, yielding a "quartet". With the aid of a mapping sentence, questionnaires were constructed to help ascertain the child's role in life areas such as family, friendship, school, hobbies, work, amusement. Questionnaires with the same facet design are being administered to children (twin and singleton), mothers, fathers, teachers, and caretakers. In addition, each child is given a battery of tests — including the verbal WISC, Block Design, Raven Matrices, and Reading Comprehension. The children will be interviewed and tested in three successive years, beginning either in grade 4 or 5. Data will thus be obtained on changes in perception of permissiveness-restrictiveness and their relation to performance at ages 9 to 13. To date 9-year-olds in 14 kibbutzim have been interviewed. Analyses of responses to four questions are presented in this paper. The preliminary analyses indicate that twins and singletons have similar means and distributions with regard to the extent to which the children feel they are told what to do by either parent.

Key words: Restrictive environment, Permissive environment, Mental development, Kibbutz, Twins

INTRODUCTION

Fischbein has elaborated a model of nature-nurture interaction [3-5] in different types of environments, with special reference to levels of restrictiveness/permissiveness. She hypothesized that a permissive environment would lead to *divergence* of similarities of MZ vs DZ twins, ie, DZ twins would become progressively less similar with increasing age. A restrictive environment would lead to *convergence* of similarities: correlations between DZ twins would become higher with age, while MZ correlations would remain constant.

The Israel kibbutz provides a unique opportunity for testing these hypotheses. The kibbutz is a relatively small, voluntary community with a collective economy and a collective system of child rearing. There are over 200 kibbutzim in Israel. Though they differ in size, economic status, and political outlook, they are similar in social structure and essential socialization practices. Children spend most of their time in special children's houses, where members of the same peer group share caretakers, kindergarten teachers, and have the same educational experiences. In spite of the collective upbringing, the parents and family in the kibbutz have a strong impact on the developing child. Thus, the kibbutz society lends itself particularly well to comparing the effects of shared environments on twins and on unrelated pairs. Fischbein has argued [4, pp 33-34] that since the kibbutz imposes a large number of restrictions on its members within the framework of collective living, and since collective education is considered essential for the realization of the values and goals of kibbutz, considerable controls by the kibbutz on the educational system are needed. Therefore, one may assume that the kibbutz child will grow up in a more restrictive environment than the same age urban youngster.

A different opinion has been expressed by Quarter [10] who views kibbutz education as being quite permissive and individualistic, despite the collective character of the kibbutz society.

The questions raised above have led us to propose a definition of restrictiveness-permissiveness as a multifaceted concept which needs to be assessed in different populations. This has resulted in a joint research project by Siv Fischbein (Stockholm) and ourselves on "A cross-cultural comparison of interaction between heredity and environment", which aims to compare influences of restrictiveness/permissiveness on twins in a Swedish school system with twins and singletons in the kibbutz environment in Israel. The study is sponsored by the Swedish Council for Research in the Social Sciences and the Scheinfeld Center for Human Genetics in the Social Sciences at the Hebrew University of Jerusalem.

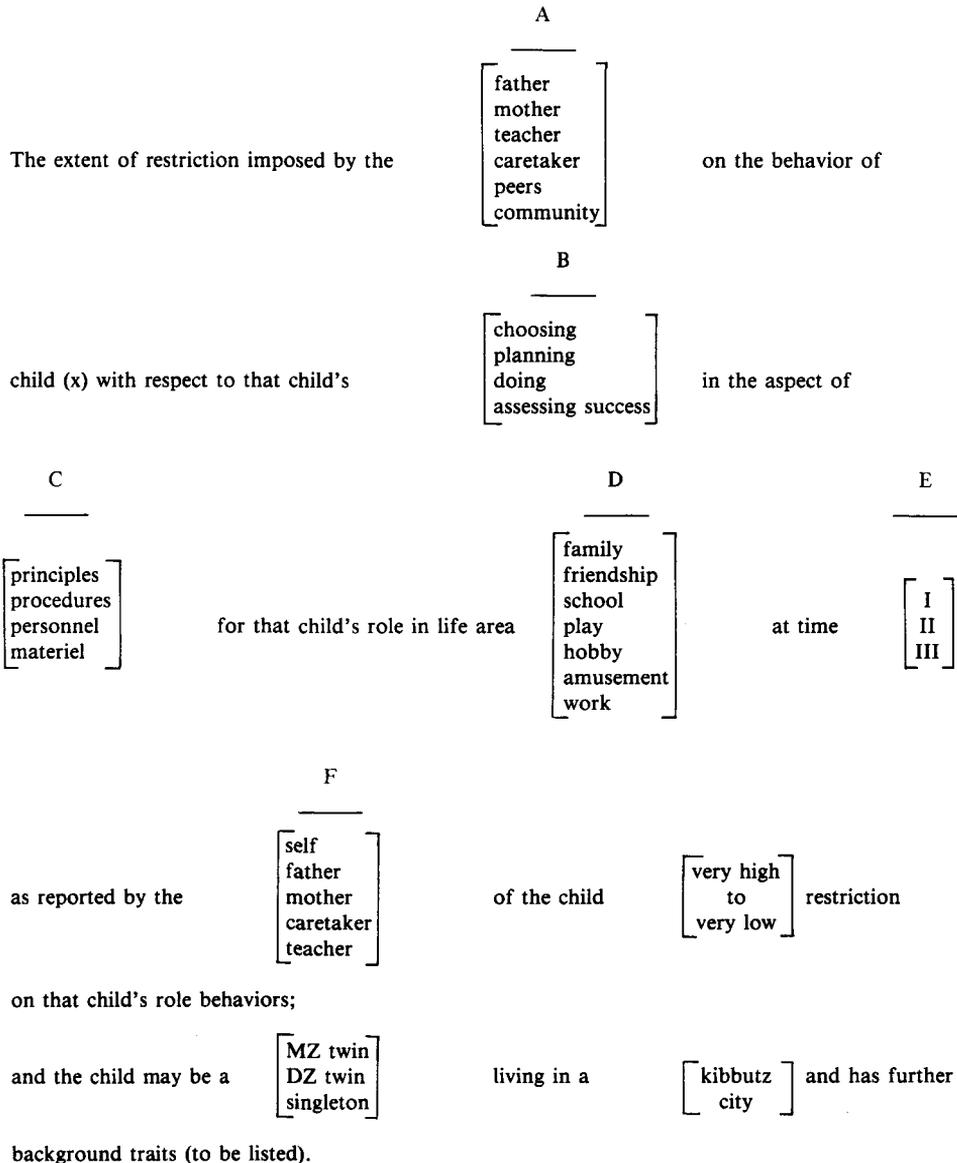
The present paper presents the conceptual framework of the research, a description of the sample and procedures, and preliminary findings. The aims of the kibbutz study are twofold: (1) to compare resemblances in MZ and in DZ twins, and in singleton controls on *actual* and *perceived* restrictions imposed by parents, teachers and peers with regard to the children's choices, plans, and actual activities; and (2) to relate these to the child's performance on various cognitive tests, over a three-year period.

THE CONCEPTUAL FRAMEWORK OF THE STUDY

Restrictiveness-permissiveness is viewed in terms of the extent of restriction perceived and/or experienced by the child in a variety of his/her life areas. This is presented below in the form of a *mapping sentence*. A mapping sentence is a formal definitional statement of the research design in terms of facets [1]. A facet is a set of mutually exclusive categories or elements that define the different values that describe all variations in the facet.

The mapping sentence, given below, consists of five facets, whose common range is the

A MAPPING SENTENCE FOR OBSERVATIONS ON CHILDREN'S RESTRICTIVE ENVIRONMENTS



extent of restriction on the child. This restriction may be imposed by any one of the persons (father, mother, teacher, etc) as shown in facet A with regard to any one of the life areas in facet A and as reported by either the child him/herself or any one of the persons shown in facet F.

This mapping sentence deals with both actual behaviors and with the perception of restriction of the individual child at the time tested. The child may be a twin or a singleton, may live the city or the kibbutz, in Israel or anywhere else.

MATERIALS AND METHODS

The Sample

As in our previous study [9], the core of the sample consists of *quartets* of children in each kibbutz: every experimental group is made up of one twin pair (MZ or DZ) and one singleton pair from the same peer group. Singletons are matched by sex and exact age. In addition, we interview every parent of every child as well as their teachers and caretakers. The children are interviewed and tested in three successive years, beginning either in grade 4 or 5. Data will thus be obtained in a cross-sequential fashion for ages 9-13.

The Questionnaire

There are four kinds of questionnaire: one each for children, parents, teachers and caretakers. The questions have all been constructed with the aid of the mapping sentence and contain questions on background and on extent of restriction imposed and/or perceived. The questionnaires include several items from the Family Environment Scale (FES) [8].

The Tests

Each child (twin or singleton) is tested individually on the verbal part of the WISC-R, and on the block design test. Section A,B,C and D of the Raven Progressive Matrices and a test on reading comprehension are administered to children of the quartets, together with their whole school class in the kibbutz.

Procedure

Since there exists no twin registry in Israel, we conducted a census of all twins in kibbutzim aged 1-18. From the data obtained, we contacted by mail and phone parents and school principals of all twins aged 7-11. The parents provided background information about themselves and their offspring. In each kibbutz two control singletons were matched by sex and age from the twins' educational group yielding a "quartet" [9]. Two trained interviewers visited the kibbutz for at least one day to administer to the members of the quartet individually questionnaires and WISC and to the whole class the Raven Matrices and the Reading Comprehension test. One purpose of the latter is to compare the level of the twins with their peer group.

Several weeks after the visit, questionnaires are mailed to fathers, mothers, teachers, and caretakers of the quartet members. This procedure is expected to be repeated in three successive years.

PRELIMINARY FINDINGS

The results given below are based on data collected from 14 kibbutzim which were visited between March and September 1986. They relate to one important question only, which one needs

to ask before proceeding with further analyses: Do twin and singleton children, who have been reared during their whole life in a common kibbutz environment, view restrictive elements in their lives in the same fashion? Does being either one of a pair of same age twin children in their family, or the usual single-born, influence the child's perception of his/her role in the environment?

Tables 1 and 2 show the distributions of answers of twin vs singleton children to the question "To what extent do the following persons tell you what to do?", for their mothers and fathers respectively.

The data show that all these 9-year-olds feel quite restricted by both mothers and fathers. There is a small mean difference between twins and singletons with regard to their mother's role (Table 1). In both mothers and fathers the standard deviation of the answer categories is larger for the singletons than for the twins.

To assess the effective difference in means for twins and singletons in Tables 1 and 2, a discrimination coefficient "DISCO" was calculated. The *Coefficient of Discrimination* (DISCO — μ_1) has been developed by Guttman [7] to assess the efficacy of differences among means in terms of *overlap* of the respective distributions. (Note: the DISCO program is available in the HUDAP Package from the Computer Center of the Hebrew University of Jerusalem.) DISCO equals zero if all the distributions overlap in such a way as to have the same means; and it equals 1 if there is no overlap whatsoever between the distributions: there is perfect

Table 1. Children's perception of amount of restriction imposed by their mother

Category	Amount of restriction	Twins		Singletons		DISCO (μ_1)	Eta	F
		N	%	N	%			
1.	Very much	13	46.43	11	42.31			
2.	Some	14	50.00	10	38.46			
3.	A little	1	3.57	4	15.38			
4.	None	0	0	1	3.85			
	Mean	1.57		1.81		0.32	0.16	1.40

Table 2. Children's perception of amount of restriction imposed by their fathers

Category	Amount of restriction	Twins		Singletons		DISCO (μ_1)	Eta	F
		N	%	N	%			
1.	Very much	9	32.14	11	44.00			
2.	Some	13	46.43	9	36.00			
3.	A little	5	17.86	3	12.00			
4.	None	1	3.57	2	8.00			
	Mean	1.93		1.84		-0.10	-0.05	0.13

discrimination between the two groups of children. Intermediate values between 0 and 1 indicate intermediate amounts of overlap. Sample efficacy coefficients, like DISCO and Pearson's Eta, are consistent estimates of population efficacy coefficients for differences, while this is not the case for F or t or other inferential statistics. F is also only given in the tables because of tradition, but without probabilities for "significance". As often happens, it can be seen here that the rank orderings of all three measures are identical.

The DISCO value for fathers is close to zero, indicating almost total overlap and no discrimination between the means of the two groups. As expected, discrimination for mothers is better but still quite low.

With regard to two further questions, no difference was observed between twins' and singletons' perceptions: (1) "In our family we can do what we like" ($\mu_1 = 0.02$), and (2) "Do your parents ask you about your homework?" ($\mu_1 = 0.19$).

We may conclude from this preliminary analysis of a limited sample of both subjects and questions that no major difference was found between 9-year-old twins and singletons reared in the same environment with regard to their view on how much they are told what to do by their parents.

The question of perceptions of family environment and the differences between MZ, DZ, and sibling similarities in these perceptions are receiving a great deal of attention [2,11]. It is hoped that a cross-sequential study of kibbutz twins and singletons will contribute to an understanding of behavior-genetic-developmental aspects of relations between perceptions of family and general environment and some cognitive traits.

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