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Nondirectiveness in Genetic Counseling: An Empirical Study

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Summary

Nondirectiveness is considered an essential part of genetic counseling, yet there is no generally accepted definition nor data documenting its impact on counselees. This study is an empirical investigation of directiveness, using ratings from transcripts of consultations and comparing these with counselor-reported and counselee-reported directiveness. Rated directiveness was defined as advice, expressed views about or selective reinforcement of counselees' behavior, thoughts, or emotions (advice, evaluation, and reinforcement). Analysis of 131 transcripts revealed a mean of 5.8 advice statements per consultation, 5.8 evaluative statements, and 1.7 reinforcing statements. When asked to describe their counseling style, none of the 11 counselors rated it as "not at all" directive. Half the counselees who faced a decision felt steered by the counselor. Items of rated directiveness showed satisfactory interrater reliability (kappa = .63). Factor analysis revealed that they formed one factor (eigenvalue 1.72). There were no associations either between counselor-reported, counselee-reported, and rated directiveness or between these measures and counselee anxiety and concern, satisfaction with information, or the meeting of counselees' expectations. Rated directiveness was the only measure to be associated with other process measures of the consultation, being associated with longer consultations, more blocks of speech, more social and emotional issues being raised, and fewer concerns being followed up. Advice was more likely to be given to counselees of lower socioeconomic status and to counselees judged by counselors to be highly concerned. Evaluative statements were more likely to be made by counselors who had received counseling training. These results show that genetic counseling was not characterized—by counselors, counselees, or a standardized rating scale—as uniformly nondirective.

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Introduction

The principles of genetic counseling, as laid down in one of the first textbooks on medical genetics, are that advice should be given in terms of risk and that it should be nondirective (Roberts 1959). At that time, nondirectiveness was not embraced by all who counseled, with some of the leading geneticists of the day espousing the aims of the eugenics movement. One in particular was Cedric Carter. He adopted the practice of encouraging parents who had what he considered to be low or moderate risks (<1/20), saying that "in your place I would be prepared to take this risk" (Carter et al. 1971). In this and three other follow-ups of counselees seen in European genetic counseling clinics before the end of the 1970s, there are indications that counseling was quite directive. In a Swiss clinic, Klein and Wyss (1977) presented study outcomes in terms of the proportion of families accepting their (i.e., the counselors') conclusions. In a Hungarian study (Czeizel et al. 1981), the authors reported reproductive outcomes in terms of whether they had been recommended by the counselor. In a British study (Emery et al. 1979), a degree of directiveness in counseling was implicit in the reporting of the extent to which counselees were deterred from having children after being counseled. A study in the United States in 1981 found that 43.5% of counselees reported that their reproductive plans had been influenced by the counseling session (Wertz and Sorenson 1986).

Over the past 15 years, there has been a greater emphasis on the importance of nondirectiveness for the conduct of genetic counseling (Harper 1988; Clarke 1990, 1991; Andrews et al. 1994). Although there is no overall consensus about the most important outcomes of genetic counseling, a consensus on the appropriateness of nondirective approaches to counseling is evident in reports on how genetic services should be provided (Royal College of Physicians 1989; Nuffield Council on Bioethics 1993; Health Council of the Netherlands 1994). It is also evident among practitioners. In a survey of 677 medical geneticists in 18 nations, >90% regarded nondirective approaches as appropriate in genetic counseling (Wertz and Fletcher 1988).

More recently, the extent to which nondirectiveness is attained in practice has been questioned (Kessler 1992). The extent to which it is attainable in theory

has been questioned also (Clarke 1991; Lippman 1991). Questions also have been raised about the extent to which nondirectiveness is effective in communicating risk information (Shiloh and Saxe 1989). Until there are studies examining how counselors actually counsel—as opposed to how they say that they counsel—we will not know the extent to which there is a gap between the espoused principles and the actual practice of genetic counseling.

Clarke (1991) and Lippman (1991) have argued that nondirective counseling is not possible, because of the structure of the encounter between the counselor and client. Clarke (1991), for example, argues that, whatever the behavior of genetic counselors in consultations concerning prenatal diagnosis, they will be perceived as favoring the option of prenatal diagnostic tests and termination. This is believed to be the case because they offer this option while not being involved in the later medical care of people with genetic conditions for which there is the possibility of prenatal diagnosis and termination. The presentation of prenatal tests by health professionals as a simple and routine part of prenatal care serves to increase the acceptability of such tests and can be seen as directive (Press and Browner 1993). It has been suggested that nondirectiveness serves a purpose: defence against attacks on the alleged harmful nature of applied human genetics (Wolff and Jung 1995).

Even if nondirectiveness were attained, Shiloh and Saxe (1989) suggest that it may not always be useful. In their study of 76 genetic counselees, they found that the more neutral the counselor was perceived to be, the higher the counselee perceived his or her own risk to be (Shiloh and Saxe 1989). One explanation that they discuss for this finding is that, when a counselor is perceived as neutral and nondirective, the counselee perceives the counselor to be concealing bad news. The authors conclude that "in moving away from advice-giving and eugenic values, genetic counseling may have become too nondirective" (p. 58). Another study found that counselees interpreted nondirectiveness not as neutral but as tacit approval of their stated course of action (Lippman-Hand and Fraser 1979). In a controlled study of a general practitioner's consulting style, patients who had received the directive style of consultation reported higher levels of satisfaction (Savage and Armstrong 1990).

Nondirectiveness is ill-defined, lacking a generally agreed operational definition. Classification systems for communication style have been developed for both general practice and psychotherapy consultations. These include Hill's counselor verbal response–mode category system (Hill 1978), Stiles's verbal response–mode system, Elliot's response-mode–rating system (Elliot 1985), and the conversational therapy–rating system (Goldberg et al. 1984). Although the purpose of these classification systems is to provide a standardized method for analyzing counselor verbal behavior, none includes a measure of directiveness suitable for genetic-counseling consultations. We took the Hill system as the most relevant starting point for this study and broadened her definition to include any counselor verbal behavior that may influence counselee behavior. This included the counselor expressing a point of view and the counselor reinforcing a counselee response. Although the latter is deemed to be part of good counseling behavior, selective reinforcement has the potential to influence counselees' behavior.

The current study had the following three aims:

1. To produce a classification system of directiveness of communication within genetic counseling consultations
2. To examine the relationship between three approaches to defining and measuring directiveness: rated from transcripts, reported by counselees, and reported by counselors
3. To examine some of the predictors, correlates, and consequences of these three measures of directiveness.

Sample and Methods

Sample

One hundred thirty-one counselees attending routine genetic consultations at a single regional genetics center formed the sample. Eighteen counselees declined to participate in the study. The primary counselees in the consultations were 108 women and 23 men, with a mean age of 32 years (range 20–64 years). Fifty-five were in socioeconomic groups described as "professional" or "intermediates" by the U.K. Registrar General's classification system (Her Majesty's Stationery Office 1990), and 76 were in socioeconomic groups described as "skilled nonmanual" or "manual." Only 7% described their ethnic group as other than "White." Counselees were seen by 11 counselors, 5 of whom had a medical background and 6 of whom had a nursing background. Those affected were the participant or partner in 29 cases, a child or fetus in 54 cases, a parent in 31 cases, a sibling in 26 cases, and a member of the extended family in 45 cases. Conditions, when known, were categorized as multifactorial (22), chromosomal (21), autosomal recessive (20), autosomal dominant with 100% penetrance (10), autosomal dominant with <100% penetrance (13), X-linked recessive (2), and nongenetic (3). In 59 cases the diagnosis was known, in 51 cases it was suspected but no further investigation was planned, and in 16 cases the data were missing. Ten of the counselors were female, and one was male. The number of consultations per counselor varied from 3 to 26.

Procedure

Counselees attending a routine first appointment were approached in the waiting room, before their consultation, and were invited to participate in a study investigating genetic counseling. This excluded emergency referrals or those referred for a predetermined "package" of consultations. Participants signed a consent form, completed a brief questionnaire, and agreed to a follow-up telephone interview 1–2 wk after the appointment. Consultations were audiotape recorded, transcribed, and analyzed. The consulting genetic counselors answered a few questions immediately before and after the consultation, using the tape recorder. The use of the tape recorder did not influence the length of consultation, although we do not know whether it influenced other process variables.

Measures

Directiveness was measured in three ways: rated directiveness, counselee-reported directiveness, and counselor-reported directiveness.

1. Rated directiveness.—The initial classification for directiveness was based on a definition modified from the "direct guidance" item of the revised Hill counselor verbal response–category system, a system developed for psychotherapy and for which evidence of reliability and validity has been attained (Hill 1993). The definition of "direct guidance" is as follows: "These are directions or advice that the counsellor suggests for the client. DO NOT confuse information and direct guidance: information gives facts, whereas direct guidance requests that the client DO something. Responses in this category are not aimed at obtaining verbal information from the client, so that responses such as 'Tell me more about that' would be categorized as open questions (information seeking) NOT direct guidance." Hill's definition was adapted to provide a definition of directiveness more appropriate to genetic counseling: "Directions or advice that the counsellor suggests to the client in regard to specific behaviors or making decisions. Directions or advice about the client's views, attitudes or emotions."

Using this definition, 12 volunteer students classified 55 statements from a selection of transcripts that, because of missing data, were not used in the main study. Three versions of a classification system were produced and tested, resulting in a classification of three categories of directiveness: advice, evaluation, and reinforcement. The interrater reliability of this classification system was tested by the use of two raters who each coded the same 10 transcripts. The kappa score was .63 (confidence level $>.20$), which is considered a good reliability score (Landis and Koch 1977). Individual kappa scores for the three categories could not be produced, because the confidence level fell to $<.20$ with this more limited data set. The full set of 131 consultations was coded by the second author.

The categories were defined to raters, as follows:

1. Advice: This the category applies when the counselor says what he or she thinks is best for the counselee or counselee's family in a way that may influence the counselee; examples are as folllows: "At some stage they should be tested because if they have the rearrangement then their children will need to be tested"; "It'd be sensible if you spoke to Michael and Carol about this"; "We would recommend that you had the ultrasound screening"; and "I think it would be better not to bother your parents."
2. Evaluation: This category applies when the counselor says what he or she thinks about an aspect of the counselee's situation; examples are as follows: "That is what we would consider quite a high risk"; "There's a very good chance that you will have another healthy baby"; and "That is not going to matter to him till he grows up and has babies and family of his own."
3. Reinforcement: This category applies when the counselor reflects or affirms the counselee's behavior, thoughts, or emotions; examples are as follows: "I understand; that's really very sensible"; and "I think you've made the right decision."

Advice was regarded by raters as being most directive, reinforcement as least directive. Evaluation involved the counselor expressing a point of view that went beyond reflecting what the counselee had said. Reinforcement was included because the selective reinforcement of counselee's statements could have a directive influence on the counselee.

2. Counselee-reported directiveness.—If counselees felt that they faced a decision during the consultation, they were asked after the consultation whether they thought that the counselor had a view about what decision would be best for them and whether they thought that the counselor was steering them in a particular direction. Response options for both questions were "not at all," "to some extent," and "definitely." Answers to the question about being steered were used as the measure of counselee-reported directiveness.

3. Counselor-reported directiveness.—Counselors were asked to rate their own directiveness, by answering the following question: "In general, how would you describe your style of counseling?" They were given a seven-point scale for responses, ranging from nondirective (0) to directive (6). This was completed once at the beginning of the study. Although it would have been preferable to ask counselors to do this after each consultation, we did not do this, for pragmatic reasons.

Measures Other than Directiveness

1. The condition.—Each consultation was categorized according to variables likely to affect the emotional

content of the consultation for example, whether the presenting problem involved a death, whether a child or fetus was affected, and whether the diagnosis was known.

2. Counselee measures.—The five counselee measures were as follows:

a. Demographic information: Demographic information was categorized according to gender, ethnic group (White vs. non-White), whether the counselee was living with a partner, and socioeconomic status (SES) (professional or intermediate worker vs. skilled, nonmanual or manual worker).
b. Satisfaction with information: Satisfaction with information was a single factor derived from a factor analysis using Varimax rotation of the postconsultation rating scales. It had three items loading on it: global rating of the consultation (.94), usefulness of information (.88), and usefulness of explanation (.80), with Cronbach's alpha .83 and eigenvalue 2.57; and it accounted for 23% of the variance.
c. Hopes met: Counselees were asked before the consultation what they were hoping to get out of the consultation. After the consultation, counselees were reminded about what they had said that they were hoping for and were asked whether they thought that they had received it. They responded on a seven-point scale labeled at one end by "not at all" and at the other end by "completely."
d. Anxiety: Anxiety was measured by use of the short form of the state scale of the State-Trait Anxiety Inventory (Marteau and Bekker 1992). The difference between anxiety as assessed before and after the consultation also was used as an outcome measure.
e. Concern: Counselees were asked to rate on a seven-point scale how concerned they felt about the issues that had brought them to the consultation; the scale was labeled at one end by "not at all" and at the other end by "extremely." The difference between concern assessed before and after the consultation also was used as an outcome measure.

3. Counselor measures.—The two counselor measures were as follows:

a. Professional background: Counselors were categorized according to whether they had a nursing or medical training and whether they had attended any counseling-training courses. The number of days of counseling training of the five who had received any such training was 4, 6, 13, 15, and 43. There was no association between the number of consultations that each counselor conducted and either (*a*) whether he or she had training or (*b*) the number of days of training.
b. Perceptions of counselees' concern: Counselors were asked, before and after the consultation, "How concerned do you think the patient might be about these issues [i.e., the counselee's concerns]?" on a rating scale from "not at all" (0) to "extremely" (6).

After the consultations, counselors were asked "How would you rate the consultation from your point of view?" and were asked the same question from the counselee's point of view—on a seven-point scale from "poor" to "excellent." If there were decisions to be made, counselors were asked whether they had a view about what decisions would be best for counselees, with response options "not at all," "to some extent," and "definitely."

4. Consultation-process measures.—Five aspects of the consultation were measured: length of consultation, blocks of uninterrupted speech, number of emotional issues raised by counselor or counselee, number of social issues raised by the counselor or counselee, and number of concerns not followed up by the counselor (for more details, see Michie et al. 1996). The length of consultation was measured by both the duration of the consultation and the number of words spoken. A block of speech was defined as being 10 transcript lines of uninterrupted counselor talk. Setting the block at this length gave 25% consultations with one or no blocks and 25% with ≥ 10 blocks. The other measures were coded from the transcripts, with acceptable interrater reliability scores (kappa scores were .4–1.0).

Statistical analyses.—The data were analyzed by *t*-tests, one-way analyses of variance, Pearson product-moment correlations, stepwise multiple regression, and factor analysis, by use of the Statistics Package for Social Sciences for Windows. Since the continuous variables were normally distributed, they were not transformed. Associations between consultation-process measures and rated directiveness were assessed by correlational analyses, and those between process and counselor-and counselee-reported directiveness were assessed by one-way analyses of variance.

Results

Directiveness

1. Rated directiveness.—The variables of advice, evaluation, and reinforcement were correlated with each other (advice and evaluation $r = .32$, $P < .0001$; advice and reinforcement—$r = .32$, $P < .0001$; and reinforcement and evaluation—$r = .44$; $P < .0001$) and formed a factor with an eigenvalue of 1.72. Since Cronbach's alpha was .59, a single variable of directiveness was formed by adding the variables.

All consultations contained at least two directive statements, with advice and evaluation being more frequent than reinforcement (table 1). The 11 counselors

Am. J. Hum. Genet. 60:40–47, 1997

showed large individual differences in rated directiveness, with the least-directive counselor having a mean score of 5.67 and with the most-directive counselor having a mean score of 21.60 (the mean of the whole group was 13.28). The within-counselor variation, or SD, was 3.60–8.40 (the mean SD of the whole group was 7.04). This shows that, across consultations, there was within-counselor variation of directiveness, as well as variation between counselors.

Factors associated with rated directiveness were investigated, with use of scores on each of the subscales as dependent variables. The independent variables were as follows:

a. Counselor variables: professional background, whether counselor had received counseling training, and judgment of counselee concern
b. The referred problem: whether there had been a recent death, miscarriage, or termination of pregnancy; whether a child was affected; and whether a diagnosis was known
c. Demographic variables: gender, ethnic group, SES, and marital status

Five associations were found: two for evaluative statements, two for advice, and one for reinforcing statements. There were more evaluative statements in the consultations conducted by counselors who had counseling training than there were in the consultations conducted by those who had not received it ($t = 2.83$, df 129, $P < .005$). The more concerned the counselor rated the counselee before the consultation, the more advice and evaluative statements that they made ($r = .261$, $P < .005$; and $r = .224$, $P < .025$). There was no association between patient rating of concern and either advice or evaluation ($r = .01$ and $r = .04$). Counselors gave more advice and made more reinforcing statements to counselees of lower SES ($t = 2.75$, df 129, $P < .005$; and $t = 2.89$, df 129, $P < .005$). Regression equations showed that SES, training, and counselor judgment of counselee concern contributed independently to the three rated directiveness scales and to the combined rated-directiveness scale (table 2).

2. Counselee-reported directiveness.—One-third (46) of the counselees considered that they faced a decision surrounding a genetic risk. Of these, 36 (75%) thought that the counselor had a view about the best decision for them. When counselees were asked whether they felt that the counselor was steering them in a particular direction, 16 of 43 answering this question thought that the counselor was steering them to some extent, and 7 thought that they definitely were being steered. With regard to the same set of independent variables used to determine predictors of rated directiveness, none was found to be associated with counselee-reported directiveness.

3. Counselor-reported directiveness.—On the scale from 0 to 6, three counselors rated themselves as 1, six as 2, one as 3, and one as 5. In analyses, these data were treated as four categories (or as three, in the case of χ^2 analyses). With regard to the same set of independent variables used to determine inputs associated with rated directiveness, none was found to be associated with counselor-reported directiveness.

Table 1

Distributions of Scores for Rated Directiveness in 131 Genetic-Counseling Consultations

	Mean ± SD (Range)
Advice	5.8 ± 3.7 (0–19)
Evaluation	5.8 ± 3.6 (0–18)
Reinforcement	1.7 ± 2.0 (0–10)
Total directiveness	13.3 ± 7.0 (2–33)

Association between the Measures of Directiveness

There were no significant associations between counselee-reported directiveness and the other measures of directiveness. Counselor-reported directiveness was positively associated with rated directiveness, for the reinforcement subscale only ($F = 3.31$, df 127, $P < .025$). A post hoc analysis showed that there were significantly more reinforcing statements in the 69 consultations of the counselors who rated themselves 2 on the self-reported scale of directiveness, compared with the 38 consultations of the counselors who rated themselves as 1 on the same scale.

Impact of Directiveness

There were no significant associations between any of the measures of directiveness and the outcome measures assessed—namely, satisfaction with information, whether the counselees' expectations were met, anxiety, and concern.

Association with Other Consultation-Process Measures

Rated directiveness was positively associated with longer consultations, more frequent blocks of speech, more-frequent raising of emotional and social issues, and fewer concerns being followed up (table 3). Counselor-reported and counselee-reported directiveness were not associated with any of the assessed consultation-process variables.

Discussion

This study aimed to develop a classification system of directiveness in genetic counseling and to assess the relationship between directiveness as measured by this system, as reported by the counselor, and as reported by

Table 2

Predictors of Rated Directiveness: Results of Hierarchical Regression Analyses

	Regression Coefficient				
	Unstandardized	Standardized	*t*-Value	Significance Level of *t*-Value	Adjusted Variance of Regression Equation
Advice statements:					
Judgment of counselee concern	.72	.22	2.43	.017	.084
SES	−1.37	.18	−2.05	.042	
Evaluative statements:					
Judgment of counselee concern	.97	.31	3.58	.001	.139
Training	2.39	.33	3.84	.001	
Reinforcing statements:					
Training	−1.00	−.22	−2.63	.01	.05
Total directiveness scale:					
SES	−2.82	−.20	−2.32	.05	.168
Training	3.85	.27	3.15	.01	
Judgment of counselee concern	2.02	.31	3.6	.001	

the counselee. It also aimed to examine the relationship between these three measures and other counselor, counselee, and consultation variables.

A system was developed with acceptable interrater reliability. It is difficult to assess its validity, given that only one of the subscales was correlated with directiveness as reported by counselors and that none was correlated with directiveness as reported by counselees. It may be that these three measures are of different constructs, raising questions about the best operational definition of directiveness within the context of genetic counseling. The finding that rated directiveness was associated with the other consultation-process measures of the consultation but that it was not associated with either counselee-reported directiveness or counselor-reported directiveness suggests that rated directiveness may be the most valid measure of this aspect of consultation style. It should be noted, however, that the sample numbers were small (46 counselees and 11 counselors), limiting the power of the study to test for these associations.

Counselors communicated more directively to counselees whom they rated as more concerned and to those of lower SES. This suggests that directiveness of communication is not a fixed style but can be varied by counselor, according to circumstance. This finding raises the question of how counselors conceptualize their task and of how they judge the needs of their counselees. That counselors' style was influenced by their perceptions of counselees' concerns—and not by counselees' perceived concerns—accords with a number of studies in other areas documenting a mismatch between health professionals' and counselees' judgments of counselee understanding, emotional state, need for information, and adherence (Waitzkin 1985; Guttman 1993; Williams et al. 1995).

Directiveness also varied considerably between counselors. Counselors who had received counseling training produced more evaluative statements than did those who had not received it. This may be a reflection either of increased confidence within the counseling situation or of specific aspects of training.

Table 3

Pearson Product-Moment Correlations between Rated Directiveness and Process Measures of Consultations

	Length	Emotional Issues Raised	Blocks of Uninterrupted Speech	Concerns Not Followed Up	Social Issues Raised
Advice statements	.43***	.25**	.12	.15	.30***
Evaluation statements	.37***	.32***	.32***	.18*	.20*
Reinforcement statements	.41***	.35***	.24**	.16	.28***
Self-reported directiveness	.06	−.04	.18*	−.08	−.09

* $P < .05$.
** $P < .01$.
*** $P < .001$.

Although nondirectiveness often has been cited as a desirable component of genetic-counseling style, a measure of directiveness has not been developed. In the current study, none of the measures of directiveness was associated with counselee satisfaction with information, mood, or the extent to which counselee expectations were met. Further studies are needed to develop and validate these measures of directiveness and to determine whether these findings are replicated and whether directiveness has a differential impact according to situations and counselees.

Nondirectiveness is one of the hallmarks of genetic counseling. It has a critical role in reminding us of the past abuses of genetics in the first half of the 20th century (Muller-Hill 1988). But, although it has served—and continues to serve—as guidance on how *not* to conduct genetic counseling, it tells us little about what counselors should do to achieve the aims of counseling.

It has been suggested that the principle of nondirectiveness can be viewed as an attempt to avoid the difficulty of defining a general goal or objective of genetic counseling. In this sense, nondirectiveness is "an empty slogan, with no concept behind it" (Wolff and Jung 1995, p. 10). The authors of this remark recommend that the terms directiveness and nondirectiveness be dropped from use in genetic counseling. This would mean that "the contribution which a counsellor can make to the counseling process is no longer formulated in a negative way (i.e. the restriction on directiveness) but rather in a positive fashion, within a framework of an unavoidable, even intentional and desirable influence" (Wolff and Jung 1995, p. 13). Another way of conceptualizing consultations is provided by research, largely based in primary care, concerning the extent to which consultations are patient centered as opposed to health-professional centered (Stewart et al. 1995).

As the present study has shown, clinical genetics practice in the 1990s cannot be assumed to be nondirective. Two types of study are likely to be informative. The first would investigate, by use of social psychological theories, the ways in which counselor and counselee influence each other within the consultation (Eiser 1986). The second type of study would clarify the desired objectives of these communication processes. At present, there appears to be little consensus on the objectives of genetic counseling. Clarity on what counseling is aiming to achieve will pave the way for research embedded within psychological models that can point not only to what is undesirable in genetic practice but to what is desirable and most likely to achieve the objectives of genetic counseling.

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