INCIDENT-BASED MEASUREMENT OF PATIENT SATISFACTION/DISSATISFACTION: A DUTCH CASE

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ABSTRACT

Relatively little is known about the factors that contribute to satisfaction/dissatisfaction of patients with health care services. A feasibility study was conducted for a Dutch hospital in order to assess what factors play a role in satisfaction/ dissatisfaction with respect to the service quality at two outpatients' clinics. Two research designs were used and compared. Results show that the physical environment of the clinic is a main source of patient dissatisfaction, while empathy by the clinics' staff is considered a major source of satisfaction by respondents. Managerial and research implications are indicated.

INTRODUCTION

Both in the United States and in Europe health care systems are changing rapidly. More and more, the monopoly position of medical institutions is becoming 'loose' (Andreasen 1982). In a new atmosphere of competition, characterized increasingly by private initiative, health care providers are realizing that they should view patients as customers. The rationale for taking such an approach is frequently based on the following arguments. Reduced insurance benefits and an increase in co-payments and deductibles are becoming more widespread. As a result, patients are more sensitive to getting their money's worth and less likely to use health services indiscriminately. In addition, patients perceive their time to be valuable and they are unwilling to waste it in hospital waiting rooms. The passive role of patients is being replaced with an active demand for personalized, attentive and courteous service. With ample competitors eager for their patronage, patients no longer have to be satisfied with substandard care; they can shop for health care services or may decide to switch from one supplier to another (Swartz and Brown 1991). The health care organization and its staff face increasing investigation by patients or their representatives, who generate word-of-mouth about what they see and experience. Health care is reportedly a widely used topic of conversation among family, friends and co-workers. (Leebov 1988; Segest 1988; Dent 1990). In addition, legislators are designing laws to ascertain service quality standards in health care. For instance, in the Netherlands a law has recently been proposed aimed at regulating service quality control in health care.

In order to meet the changing demands of their evolving marketplace and legislative environment, the principles of Total Quality Management (TQM) have been introduced in many health care institutions (Hard 1992). According to these principles, a company should not only depend on internal standards. Instead, customer or patient satisfaction/dissatisfaction (PS/D) may be used to assess organizational performance and improve service quality (Horne et al. 1986; Brandt 1990; Hakes 1991; Satow 1992; Kanji et al. 1992a; Kanji et al. 1992b).

According to the expectancy/disconfirmation paradigm PS is achieved when the health care provider (physician, clinic, hospital) has been successful in meeting or exceeding patient expectations. Alternatively, negative disconfirmation leads to PD. Apart from medical expertise, which patients are largely unable to evaluate, research indicates that 'service' factors are cited as the major contributors to PS/D. Examples of these service factors that are mentioned in the literature are physician sensitivity, staff courtesy, on-time service and cleanliness of facilities (Eliopoulos 1986; Leebov 1988). Therefore, a patient's evaluation of a clinically-perfect experience may be influenced negatively when his or her physical or emotional concerns have not been adequately addressed (Craig 1988). An insight into PS/D provides useful information about the structure, process and outcomes of care. Assessing PS/D allows health care management and physicians to evaluate patient perceived aspects of service quality (Carey and Posavac 1982; Uhlman et al. 1984). It has even been suggested that PS/D may increasingly be predictive of future health care consumer behavior as the health market place is changing

rapidly (Shouldice 1988). For example, PS may lead to greater patient retention and loyalty increased referrals from other health professionals, lowered administrative costs, better word-of-mouth recommendations from patients, higher employee productivity and enhancement of the community image (Hellstern 1986; MacStravic 1988). Moreover, Weisman and Nathanson (1985) revealed that PS influence patient compliance behavior. The combination of a competitive marketplace and the increasing emphasis on TQM in health care has provided a strong incentive for measuring PS/D and converting the results into actionable information for improving the quality of service.

PS/D is a relatively unfamiliar phenomenon to many health care providers. There is only a small body of empirical evidence with respect to the service factors that are perceived to contribute to PS/D. Solnick and Hemenway (1992) conclude that 'medical services in particular have received little scholarly investigation'. Frequently, patients are asked to indicate PS/D with respect to a number of attributes on evaluation forms (Petersen 1985; Duffe 1987). The use of attribute-based questionnaires that are determined largely by the medical institution, incorporates the risk of painting a fragmentary and insufficiently discriminatory picture of PS/D. Swartz and Brown (1991) state that; 'although it is known that an evaluation happens, what is lacking is a clear understanding of how this assessment occurs'. Relying on traditional methods of consumer research, it is hard to pinpoint and explain sources or to explain changes in PS/D. The purpose of this paper is to report on the use of an incident-based approach for identifying relevant service factors PS/D among customers of two outpatients' clinics of a large Dutch hospital. In this report, we shall focus also on some specific methodological issues involved in applying the Critical Incident Technique (CIT) for assessing PS/D.

THE CRITICAL INCIDENT TECHNIQUE

The CIT has been developed and documented extensively by Flanagan (1954). General validity and reliability of the method has been confirmed by Anderson and Nilson (1964), Ronan and Latham (1974) and White and Locke (1981). The CIT has been applied predominantly within the context of operational and personnel management in organizations (Latham et al. 1979; 1980; Latham and Wexley 1977; Fivars 1980; White and Lock 1981; George 1989). However, recent studies have reported a number of successful applications within a marketing context (Duffy 1983; Bitner et al. 1985; 1989; 1990; Nyquist et al. 1985; Nyquist and Booms 1987; Feinberg and Widdows 1989; Feinberg et al. 1990; Stauss and Hentschel 1991; De Ruyter and Scholl 1993). Specific application of the CIT to health care services has been practically non-existent. Grant and Hrycak (1987) have used the technique to elicit the service quality perception of residents of long-term-care facilities. A thorough review of the CIT literature revealed no instance of the incident-based research in relation to PS/D in hospitals.

The principal strength of the CIT is that the customer perspective is used as a basis for identifying detailed information about satisfaction/dissatisfaction. Hence, the method can be used to identify broad dimensions of service quality but can also be used to pinpoint concrete illustrative instances of abstract dimensions. Respondents are asked to render a detailed account of a personal experience in relation to the topic of study. The CIT was developed to 'collect direct observations of human behavior in such a way as to facilitate their potential usefulness in solving practical problems' (Flanagan 1954). In relation to service encounters in the airline, hotel and restaurant industry, Bitner et al. (1990) define critical incidents as 'specific interactions between customers and service employees that are especially satisfying or especially dissatisfying'. According to Flanagan (1954), the CIT should be applied in five consecutive steps: (1) establishment of the general aim of the activity to be studied; (2) development of a plan for observers or interviewers; (3) collection of data; (4) analysis of data; (5) interpretation of data. In this study we closely followed in Flanagan's footsteps.

ESTABLISHMENT OF THE GENERAL AIM OF THE ACTIVITY TO BE STUDIED

The general aim of this study was to elicit dimensions PS/D with respect to the outpatients'

clinic and to test the applicability of the CIT for such a purpose. A large Dutch non-teaching hospital with 1100 beds was selected as a research site. The hospital presently employs over 3000 people, many of whom interact daily with numerous patients. The hospital grew out of a merger between three regional hospitals in 1989. The former independent hospitals were allowed to keep their identity through a divisional organizational structure. Assessment of PS/D was considered relevant in the context of a wide-scale TQM improvement effort to establish uniform standards of service quality in the three outpatients' clinics of the separate divisions of the hospital and the planning of new services by hospital management.

PLANS AND SPECIFICATIONS

In order to meet the aim outlined above, hospital management needed an insight into the multitude of service encounters that take place each day. Shostack describes service encounters as 'a period of time during which a consumer directly interacts with a service'. Such a definition does not only comprise interpersonal interaction. It also acknowledges the role of the service environment (Westbrook 1981; Czepiel et al. 1985; Wener 1985). As Bitner (1986) argues; 'consumer satisfaction with products/services will be influenced by the firm's physical facilities'. Therefore, patients' observations about situational factors were also taken into account in our study. Critical incidents within the context of our study were defined as '*specific interactions between customers and hospital employees and specific observations that were perceived to be especially satisfying or especially dissatisfying*'. The critical incidents had to meet the following criteria; they had to (1) be specific; (2) relate to a distinct visit to the clinic; (3) describe the respondents' perception in terms of distinctive adjectives (Hayes 1991) and (4) incidents had to refer to specifically to the outpatients' clinic and were not to relate to medical problems or hospitalization.

As was shown by Stauss and Hentschel (1991), the use of the CIT yields an insight into non-routine aspects of service quality, whereas attribute research focuses more on its routine aspects (Berry 1986). Likewise in our study the CIT was expected to reflect the extremes of the PS/D continuum. It was decided subject a group of respondents to more generally phrased open questions. Another way of measuring subjectively perceived service quality is to ask respondents to report positive and negative attributes that do not necessarily pertain to a distinct incident. About half of the respondents in our study was invited to name three strengths and weaknesses (S/W) of the outpatients' clinic in a general sense. These did not have to refer to a specific experience or observation. It was hypothesized that these self-reported attributes would yield different results than the incident-based approach.

DATA COLLECTION

The study was a joint venture between a university and a market research agency. The interviews were conducted by four undergraduate business school majors and four professional interviewers. One of the reasons for including many interviewers in the data collection was to prevent interviewer bias. The students had completed a course in service quality during which they were provided with ample background literature on the CIT. Both students and interviewers were given a two-hour instruction session. A limited number of interviews was recorded on tape for an evaluation of the quality of data collection and for future reference. In total 421 interviews were conducted within two outpatients' clinics of the hospital. 221 respondents were asked to provide critical incidents, while 200 respondents were invited to mention the major S/W of the clinics concerned. Of the critical incidents 43 (12%) failed to meet at least one of the criteria discussed previously, leaving a total sample of 481 usable incidents. Hundred and ninety respondents could mention at least one positive incident, while 113 (51%) could mention two positive incidents. Hundred and forty-four respondents brought forward at least one negative incident, while 47 (21%) reported two critical incidents. Within our sample, 8.6 % of the respondents could mention four critical incidents. The reason that respondents were asked to cite two critical incidents was that the researchers expected 'waiting time' to form a substantial part of the reactions. The group of

respondents that was invited to mention general S/W of the clinic brought forward 305 positive attributes and 254 negative attributes.

According to clinical records, the interviewees represented a cross section of the population. Sixty-three percent of the respondents were female, and 37% of the respondents were males. Other interviewee demographics included age, specialist, frequency of visit and means of transportation to the clinic. Fifty-two percent of the respondents were younger than 50 years old. Fifty-seven percent of the respondents visited the clinic at least four times during the last 12 months. Thirty-two percent of the respondents came to see a surgeon. Other specialists that were frequently visited were neurologists (19%), eye-surgeons (11%) and gynecologists (7%). The majority (73%) of the respondents used a car as their means of transportation to visit the outpatients' clinic.

DATA ANALYSIS

Both the incidents and the self-reported attributes were analyzed through a three step classification method. In the first place, they were classified into 128 fine categories. These fine categories were reduced to 30 subcategories. Subsequently, the subcategories were classified into 5 major categories, corresponding to the five dimensions proposed by Parasuraman et al. (1988): 'tangibles' (e.g., interior design, signs), 'reliability' (e.g., competence staff, waiting time), 'responsiveness' (e.g., waiting list, willingness to provide information), 'assurance' (e.g., quality of information provided) and 'empathy' (e.g., personal approach, privacy). Classification of incidents was done independently by university students and employees of the marketing research agency. The former made use of software that has been specifically developed for the purpose of content analysis, while the latter sorted the incidents and self-reported attributes manually. At subcategory level, the 'interjudge agreement' was .76, the agreement being notably higher for the major categories 'tangibles' and 'empathy'. For classification of the remaining fine categories a consensus was reached among both researchers. With the help of the software package the quality of the critical incidents could easily be established. Following Latham et al. (1979), 10% of the critical incidents were randomly removed and it was checked whether they could be placed in the subcategories that resulted from previous classification. In this way the validity of our classification scheme could conveniently be tested. In our experience, a second advantage of using the software package for data analysis was that sample incidents to illustrate the quantitative data could easily be traced.

Table 1 gives the distribution of the critical incidents at major category level. Table 2 indicates the distribution of the strengths and weaknesses at major category level.

Table 1
Distribution Critical Incidents at Major Category Level

Incidents	Positive		Negative		Total	
	n	%	n	%	n	%
Tangibles	51	17.53	109	57.36	161	33.25
Reliability	49	16.84	41	21.58	90	18.71
Responsiveness	43	14.78	20	10.53	63	13.10
Assurance	15	5.15	6	3.16	21	4.37
Empathy	133	45.70	14	7.37	147	30.56
Total	291	100.00	190	100.00	481	100.00

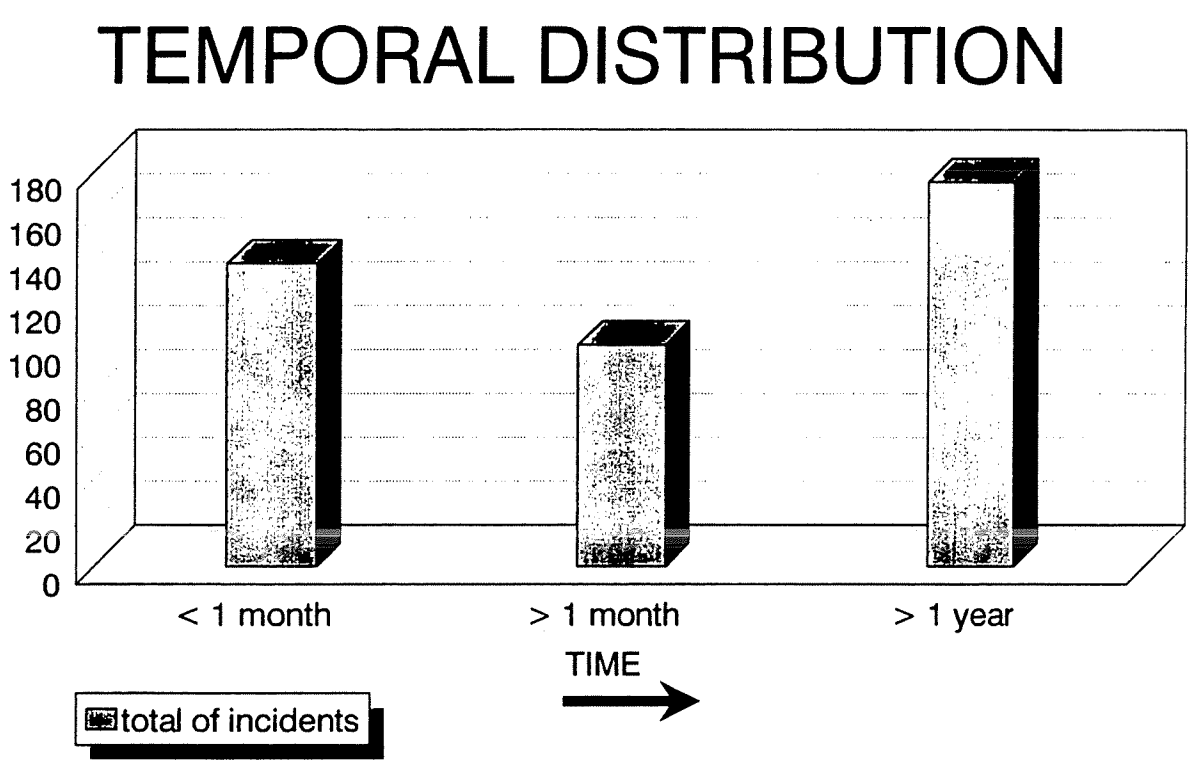
Table 2
Distribution Strengths and Weaknesses at Major Category Level

S/W	Positive		Negative		Total	
	n	%	n	%	n	%
Tangibles	105	34.43	142	55.90	247	44.19
Reliability	53	17.38	56	22.05	109	19.50
Responsiveness	27	8.85	39	15.35	66	11.81
Assurance	4	1.31	2	0.79	6	1.07
Empathy	116	38.03	15	5.91	131	23.43
Total	305	100.00	254	100.00	559	100.00

RESULTS (OR DATA INTERPRETATION)

In this section we shall discuss the main findings that resulted from the data analysis process. The temporal distribution of the critical incidents reported by the respondents in our sample (figure 1) provides information on the strong impact of the critical incidents.

Figure 1
Temporal Distribution of Incidents



A large number of incidents occurred more than a year ago. This is despite the fact that the majority of respondents (57%) visited the outpatients' clinics at least four times during the last 12 months. Other evidence of the strong impact of critical incidents is that despite the fact that respondents were explicitly asked to report incidents pertaining to the outpatients' clinics, a number persisted in mentioning critical incidents concerning a period of hospitalization. The strong impact incidents is consistent with earlier findings by Stauss and Hentschel (1991) who reported similar findings.

On the other hand, the positive/negative ratio in this study differs from the findings by Stauss and Hentschel (1991) who reported more negative than positive incidents with respect to car dealer service quality. In our study the positive considerably outnumber the negative incidents. A closer look at the distribution of the incidents and S/W by major categories (see tables 1 and 2) provides an insight into the nature and the source of PS/D. For both types of questionnaires it can be concluded that the service environment is the major source of PD: 57% of the negative critical incidents and 56% of the weak points relate to the category tangibles. Alternatively, the category 'empathy' seems to be the primary source for PS: 46% of the positive critical incidents and 38% of the strong points can be viewed as factors leading to a satisfactory experience. A Chi-square test of tables 1 and 2 (table 1; $X2 = 114.14$, $df = 4$, $p < .001$ and table 2; $X2 = 82.33$, $df = 4$, $p < .001$) revealed that significant differences exist between the distribution of the negative and positive incidents/strengths and weaknesses across the five main categories. For the purpose of illustration, the two prevailing sources of PS/D are broken down into subcategories in figures 2 and 3. Table 3 offers samples of the incidents that were collected at subcategory level for the service quality dimensions 'tangibles' and 'empathy'.

Figure 2
Distribution of Incidents for 'Tangibles'

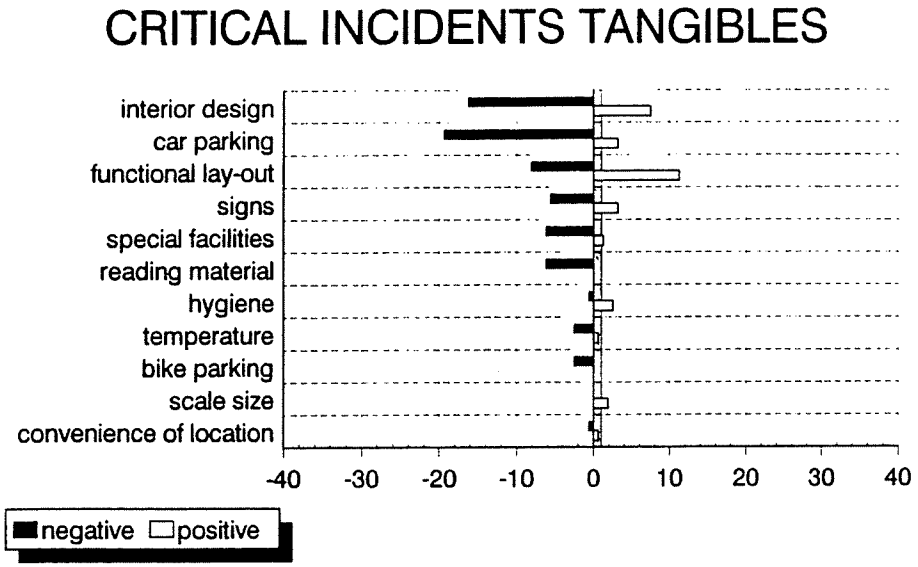


Figure 3
Distribution of Incidents for 'Empathy'

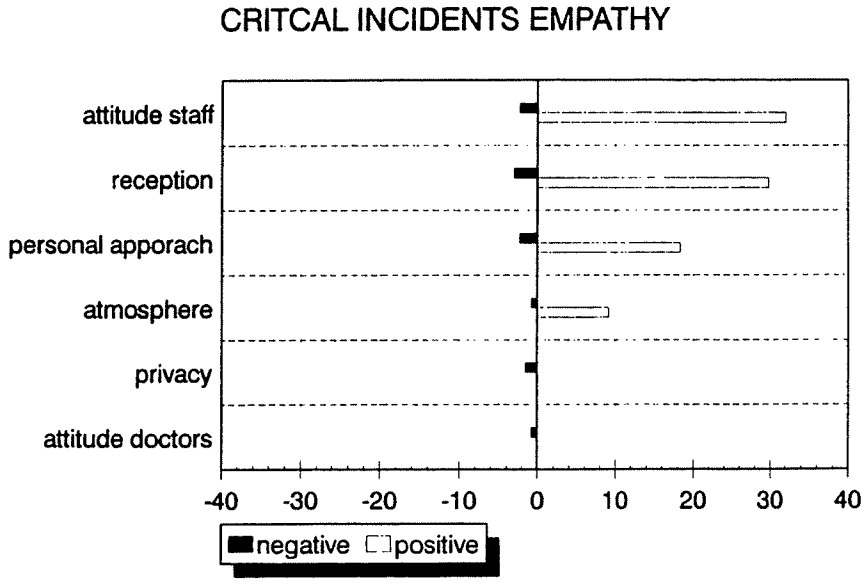


Table 3
Sample Incidents

subcategory	type	sample incident
101. car parking	-	When I wanted to park my car at a disabled space there wasn't any room. Whenever two out of the three disabled spaces are taken, you can't use the third.
102. convenience of location	-	My wheelchair could not be pushed up the slope in front of the main entrance by my husband. It was too steep, it took too much effort.
103. functional lay-out	-	The specialist I had to see has his room at the very end of the hall. I am old. I had trouble walking that kind of distance.
104. interior design	+	During my last appointment, mid-December, the clinic was nicely decorated in Christmas style. I thought that was very nice.
105. special facilities	-	When I had to be taken to the first aid room of this clinic I had to lay down on a stretcher with a very thin sort of canvas. Because I suffer from rheumatism this was a very painful experience to me.
106. reading material	-	Last week I noticed that the reading materials in the waiting room were from 1988. The only recent magazines were medical magazines. These are not very interesting.
107. temperature	-	When I was in the waiting room in the old part of the clinic I nearly caught a cold. There was a terrible draft because the doors no longer close properly.
108. signs	+	When I visited this clinic for the first time about a month ago, I immediately noticed that there were many clear sign posts. I had to go to one of the X-ray laboratories and thanks to the signs I could easily find it.
109. scale size	+	This hospital has every kind of equipment. When I had to undergo additional testing it could all be done right here. I didn't have to go anywhere else.
110. hygiene	+	The waiting rooms are very well kept. Once I saw somebody clean tables for more than two hours.
111. bike parking	-	When I took my bike to the hospital I discovered that the old fashioned bike parking had no racks suitable for the broad tires of modern bikes.
501. personal approach	+	During my last visit the doctor's secretary remembered my name and asked me how things were at home.
502. atmosphere	+	The doctor was very casual. He called his assistant by her first name and made me feel at ease and not like I was just a number.
503. reception	+	When I brought my child the doctor made a special effort to make her feel at ease. They are good with children.
504. privacy	-	The doctor left the door of the room ajar. Everybody could overhear us.
505. attitude staff	+	A nurse said 'hello' and started to ask me about my illness. I didn't even know her.
506. attitude doctors	+	The doctor who is very friendly promised to sing me a song and bring cakes as the next appointment had to be scheduled on my birthday.

The finding that the category 'tangibles' is the dominant source of PD was contrary to what we, the researchers, and hospital management expected. Earlier PS/D surveys had shown that the number one cause for PD was waiting time. It was explained that this was largely the result of the administrative difficulties involved in the large-scale merger. Furthermore, another incident-based study of service quality (Stauss and Hentschel 1991) revealed 'tangibles' was the smallest category in shaping consumer dissatisfaction with respect to car dealers. The fact that consumers spend relatively little time at car dealers and relatively much time in outpatients's clinics might account for this difference. Another explanation might be that people find it hard to criticize persons upon whom their physical well-being depends so directly, even if they are guaranteed anonymity. This is confirmed by the literature that very few formal complaints are made in health care services (Solnick and Hemenway 1992) and by our finding that 35 respondents (8%) complained about their dissatisfactory service experience.

The finding that empathy was mentioned most frequently as a source of PS, was also in contrast with expectations of hospital management. This contrast in itself is confirmed in the literature. Gilly et al. (1991) found that quality of care (major category 'reliability') is generally viewed as a more important determinant of PS than attitude of personnel (major category 'empathy'). The fact that empathy is mentioned more frequently as a source of satisfaction might also be accounted for by the fact that patients may feel that they are unable to evaluate medical expertise. Finally, a likely explanation could be that the focus of the study was exclusively on non-medical aspects of health care services.

From a methodological perspective, our study aimed at investigating whether differences could be found between two types of questions; critical incidents vs. self-reported attributes. A Chi-square test revealed a significant difference between the total distributions of the incident and S/W samples: $X2 = 23.6$, $df = 4$, $p < .01$. A t-test was also carried out to analyze the difference between the two groups of respondents. Significant t-values ($p < .001$) were found for the major categories 'tangibles' (3.60), 'assurance' (3.33) and empathy (2.59). Our hypothesized difference between the two research methods can therefore only partially accepted. Besides these differences on a quantitative level, there is an obviously pronounced qualitative differences between the results obtained with the help of the two different data collection methods. Given the relatively small difference in the duration of the interview, there is a large differences in the quality of the information. The CIT offers more concrete and detailed information (e.g., see table 3). We shall discuss the advantages of this type of information in the next section.

SOME MANAGERIAL AND RESEARCH IMPLICATIONS

Although it should be borne in mind that only one organization was studied, the results hold a number of interesting implications for health care management. The results suggest a number of sources for PS/D. The main source of PD can be addressed through a number of measures pertaining to the physical environment of the outpatients' clinics. The use of the critical incident method has uncovered a number of tangible aspects in such a way that it is easy to see what action(s) should be undertaken. Some of these actions that follow from the incidents are straightforward and require little investment: e.g., updating of waiting room reading materials, extending disabled parking space, adapting of doors of elevators, etc. Other improvements of service quality might require more consideration (e.g., the purchase of specialized equipment). Apart from these non-human elements of the service experience, results may also have implications for interpersonal factors involved in PS/D. The specificity of the results obtained by means of the CIT makes particularly them applicable for personnel training purposes with the objective of developing current and future management communication and empathy skills. The use of concrete examples in training can be used to enhance the ability of personnel to observe, identify and study personnel behavior in the context of PS/D. Also, positive incidents or satisfactory experiences could be planned ahead easily. For instance, by having a patient's personal and medical record available on-line in

the patient information system, so that a personable impression can easily be made in service encounters.

As far as research implications are concerned, the CIT appears to be a useful instrument for detecting sources of PS/D. It can be used to translate general attributes into direct experiences and observations made by patients. The method enables the researcher to exemplify such abstract PS/D attributes like 'friendly staff', thereby providing more detail than traditional, attribute-based patient satisfaction surveys. Due to the distinctiveness of situations and behaviors it may well be that the results are not generalizable across a wider population and limited to one institution in particular. In general, we feel that, while the CIT is very useful for understanding the nature, source and effects of PS/D, it is less suitable for measuring the extent of PS/D. Further research is needed to test the applicability of the results by replicating the study across a larger number of health care providers. A comparison with the results with the outcome of previous research (Stauss and Hentschel 1991) suggest that different distributions of incidents across the five major dimensions of service quality occur by type of service industry. Further comparison across different types of professional services might, therefore, be a fruitful path of study. Although a distinction was made at subcategory level between medical and non-medical staff, future research could also examine the behavior of these specific groups as sources of PS/D. While the use of the widely know five dimensions of service quality allows for comparison with other service industries, further research in the health care context might provide a more 'health care-based classification system of the critical incidents. Finally, it would be interesting to investigate whether incident-based measurement correlates with more extreme scores on the satisfaction continuum than the results obtained through the use of attribute-based measurement.

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