

MASTER THESIS

for attainment of the academic degree

Master of Medicine (M Med)

**Parental heart rate variability during pediatric
consultation**

Student:

Flavia Janina Wipplinger

Supervisor:

Prof. Dr. Med Johannes Wildhaber

Médecin-chef et doyen du département de pédiatrie de l'HFR (pneumologie), HFR

Work under guidance of:

PD Dr. Diana Ballhausen

Médecin associé, pédiatrie moléculaire , CHUV

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Abstract

OBJECTIVE: Research regarding communication between pediatricians and parents in pediatric consultation has mainly focused on parental satisfaction, on its influence on compliance and on communication techniques used by pediatricians. However, there is paucity in research regarding parental stress levels during pediatric consultation. Therefore, the aim of our study was to measure parental heart rate variability related as a measure of stress levels during pediatric consultation.

METHODS: Video recordings with simultaneous monitoring and recording of parental heart rate were obtained from 38 pediatric consultations in the ambulatory or hospital setting of the department of pediatrics (HFR, Fribourg, Switzerland). Pulse variation was measured every 5 seconds and heart rate variability (increase or decrease were analyzed) in relation to various sections of the consultation.

RESULTS: Heart rate significantly decreased at the end of the consultation compared to the beginning of the consultation ($p= 0.0567$). In addition, heart rate significantly decreased at the beginning of clinical examination ($p= 0.0476$) compared to psychosocial history taking. During the discussion of laboratory findings and diagnosis, heart rate was significantly elevated compared to the discussion of the prognosis ($p=0.0505$).

CONCLUSION: We conclude that pediatric consultation has a significant impact on parental stress levels shown by parental heart variability. In general, it can be shown that stress levels significantly decrease at the end of the consultation compared to the beginning of the consultation. In addition, stress levels decrease at the beginning of clinical examination and increase during psychosocial history taking and discussion of laboratory findings and diagnosis. Therefore, our findings highlight the importance of a thorough consultation which include a comprehensive clinical examination with special care taken regarding psychosocial issues and information given regarding the diagnosis.

Keywords: *Pediatric consultation, heart variability, parental satisfaction, parental stress, doctor-patient communication*

Introduction:

History

In the last century doctor-patient interaction and communication methods have undergone lots of changes. « Historical views of the patient-physician relationship assumed that it was the role of the physician, acting in the best interests of the patient, to directly care and to make decision about treatment independent of the patient-view. The paramount moral principle to be was beneficence: the patient's role was to comply with the physician's orders, and a good patient would not question the physician's decision. »ⁱ This paternalistic approach, even called a «priestly model »ⁱⁱ seems to have escape even the ideas of French revolution for centuries. Finally the medical world had an ugly wake up call in the middle of the 20th century: Karl Brandt and several others, called the Nazi Doctors, were condemned on the 19 August 1947 by the tribunals of Nuremberg of conducting murderous and torturous human experiments in the concentration camps (the so-called Doctors' Trial). Chief prosecutor Taylor pointed out in his opening statement, this was "no mere murder trial," because the defendants were physicians who had sworn to "do no harm" and to abide by the Hippocratic oath. During the whole trial the relevance of Hippocratic ethics to human experimentation and whether Hippocratic moral ideals could be an exclusive guide to the ethics of research without risk to the human rights of subjects was discussed again and again. ⁱⁱⁱ The code of Nuremberg with the informed consent as one of its most important principals was the result. Although at the time the code was meant to regulate the medical research it influenced at long time the whole medical system and other declarations (Helsinki, Geneva) followed.

Still when Oken published his study about what physicians told their cancer patient in 1961 showing that 90% of the physicians surveyed did not inform their patients about their cancer diagnosis, in part because physicians were uncomfortable discussing failure or death with their patients. When the study was replicated in 1979 the results showed a complete turnabout: 97% of the surveyed doctors preferred to inform their patients of their diagnosis. Derber explains this radical change due the improvement of cancer treatment (not any longer a death sentence) and the increase of patient empowerment and public scrutiny of medical profession.^{iv}

On the other hand western country had at the beginning of the 20th century a medical system based on long-standing, one-to-one relationships between patient and physician. This has more and more been replaced by short-term encounters with numerous specialists and other health workers, as already described by Korsch et all in 1968.^v

Today's research

These changes mentioned above had a rather important influence on the interaction between patients and doctors. As a consequence, communication skills, long time neglected in medical schools, have become of more interest in being integrated in medical curricula in recent years.

In pediatrics these changes have been marked by the beginning of a family-centered care. In 1987 in the USA, the Surgeon General called for « coordinated, family-centered, community-based care for children with special health care needs and their families ». By 2003 the American Academy of Pediatrics had incorporated the family-centered care (FCC) into multiple policy statement and affirmed FCC as the standard of health care for children. FCC is commonly used to describe optimal care as experienced by families. The principles of FCC are the sharing of information, respect and honoring differences, partnership and collaboration, negotiation and care in the context of family and community. Although there has to date not been a consensus definition.^{vi}

A lot of research has been concentrating on patient satisfaction^{vii}. Korsch et al. found that 76% of the patient visits resulted in satisfaction on the part of the patient's mother and 24% in dissatisfaction. The communication barriers the authors found were notably a lack of warmth and friendliness on the part of the doctor, failure to take into account the patient's concerns and expectations from the medical visit, lack of a clear explanation concerning diagnosis and causation of illness, and the use of medical jargon^{viii}. Weissenstein et al. found that apart from doctor's abilities to interact with the parents, other factors, such as a short waiting period, the time spent with their patients, a friendly and helpful staff was important for parent's satisfaction. They further discovered that, for the parents, the doctor-child relation does not seem very important in pediatric day care center, where children are mostly very young^{ix}. In fact, the focus is often put on the parent's satisfaction and much less on the child's satisfaction. Cahill et al. showed that children between 6-12 years were unlikely to participate in the treatment planning and discussion parts of the consultation. Nonetheless there is evidence that if children participate in their health care it is beneficial for them^x. Some children at primary school age, when asked about the consultation, even complain that they were ignored in their primary care consultations and would like more to say^{xi}. If the doctor wishes to more involve the child in the consultation, it seems important that he let the parent or the adult caregiver expresses their concerns early during consultation to prevent that parents interrupt doctor-child interaction to often later during consultation. More over an adult caregiver is less likely to answer on behalf of the child, when they were in a position to see that the doctor's gaze is directed at the child, and the doctor addresses the child by the name^{xii}.

Hsiao et al. tried to identify the aspect of physician communication that children with life-limiting illnesses and their parents perceived to be facilitative or obstructive in pediatric palliative care. Both children and parents identified relationship building, demonstration of effort and competence, information exchange, availability and appropriate level of child and parent involvement as highly salient and influential in the quality of care. Parents did as well identify the coordination of care as an important part of effective communication. Disrespectful or arrogant attitude, not establishing a relationship with the family, breaking bad news in an insensitive manner, withholding information from parents and changing a treatment course without preparing the patient and family were deemed most harmful to satisfying communication^{xiii}.

Francis et al. found that key factors of noncompliance were the extent to which parents' expectations from medical visits were left unmet, lack of warmth in the doctor-patient relation and failure to receive an explanation of diagnosis and a cause of the child's illness. Furthermore, they found a significant relation between parent's satisfaction and compliance. Illnesses that the mothers regarded as very serious were associated with increased compliance^{xiv}.

Research went even as far as to propose that communication may influence healing. Street et al. proposed seven pathways through which communication can lead to better health, including increased access to care, greater patient knowledge and shared understanding, higher quality of medical decisions, enhanced therapeutic alliances, increased social support, patient agency and empowerment, and better management of emotions. They recognized that the relative importance of a particular pathway would depend on the outcome of interest, the current health condition of the patient, and the patient's life circumstances^{xv}.

Two very important factors, which do both influence and are influenced by communication, are stress and anxiety. Waisman et al. found out that anxiety interfered with the understanding of the medical information^{xvi}. Parents with chronically sick children are likely to stay preoccupied with death even though knowing about recent improvement in the prognosis of their child's condition^{xvii}. Schlez et al. were testing the effect of harp music therapy in Neonatal Intensive Care Unit Setting and found a significantly beneficial effect on maternal anxiety score although infants' physiological responses and behavior did not differ significantly^{xviii}.

The effects of stress-reducing intervention (emotional support and information concerning the medical procedure, and teaching about appropriate coping strategies) in emergency department were evaluated by Alcock et al. by comparing children receiving intervention from child life staff, with two control groups who did not receive intervention. They found out that children in the intervention group expressed fewer fears than children in the control group. Parents of children who received intervention reported a significantly higher degree of satisfaction with the overall care given in the emergency department^{xix}. As it is possible to

decrease anxiety levels in parents by preventive intervention in emergency department it is probably also possible to do so in other pediatric consultations. Therefore, to prevent or decrease anxiety and stress, it is pertinent to know the factors creating stress and anxiety during pediatric consultations

The purpose of this study is though to find out the stress levels before, during and at the end of pediatric consultations in general and, during specific sections in particular.

Methods

This observational prospective pilot study was conducted at the department of pediatrics of the Hospital of Fribourg, Switzerland and was approved by the local ethics committee. Doctors from the institution were recruited to be videotaped during their consultations in the ambulatory and hospital setting. Informed consent was obtained from all the doctors unaware of the content and the objectives of the study. In addition parents and children were recruited from the ambulatory and hospital setting. Parents of hospitalized patients were asked to take part in the study before their first consultation on the ward. Parents of ambulatory patients were contacted by phone the day before consultation. Parents received written and oral information and informed consent was obtained from them. Parents were asked about chronic disease or psychiatric disorder as well as their education, their mother tongue and their age.

During every consultation parents were wearing a oxygenometer and the doctors were videotaped.

The 25th (Q25) and the 75th (Q75) quantile of the heart rate were calculated for each parent and heart rate above Q75% or beneath Q25% were analyzed and coded by two investigators in relation to different sections of the consultation (Table 1).

As the sympathetic nervous system is responsible for the responses associated with the flight-or-fight response, with its release of epinephrine and norepinephrine that causes the immediate acceleration of heart rate (because of their rapid release from neural endings) as well as their rapid influence on targeted organ tissue^{xx}, we have chosen this parameter which has already been used in previous studies (Schelz at al. See Ref. 18) .

Statistical analysis was performed with SAS 9.2 (The SAS Institute, Cary, NC). Comparison of the variables was performed with Mann-Whitney and Kruskal-Wallis tests.

Reported p-values are two sided. P-values <0.05 were considered significant.

Results

29 Videos of consultations in ambulatory and hospital settings were analyzed. Two of them had to be excluded due to technical problems (lack of visibility of the saturometer's monitoring). The remaining 27 were analyzed according to the protocol mentioned in the methods section.

Demographics are shown in Table 2 a,b,c for the parents, their children and the doctors, respectively. The mean age of parents was 34 years and 89 % of them were mothers. 38 percent of the parents had passed tertiary, 38% secondary and 24% compulsory education. The main mother tongue was French (46%), followed by 11% of German speaking parents. 43% of the parents were speaking foreign languages. 24% of the parents had known diseases and 14% took other treatment than oral contraception.

The mean age of children was 54 months. Most of them came for gastrointestinal problems (36%), followed by pulmonary issues (25%). Less frequently identified were immunologic and autoimmune as well as neurologic, endocrinologic, psychiatric and dermatologic problems.

The mean age of the doctors was 33.4 years and half of them were females. The mean years of experiences was 10 years and 68% of them were resident physicians. Half of them were speaking French and 43% German speaking.

Table 1 shows the various sections identified during the consultations. Table 3 shows typical questions, divided in those sections, which are leading to a low or high parental heart rate. Table 3 shows as well that sometimes the same question or answer given to different parents did significantly rise or decrease heart rate.

Table 4 shows the conversation of two completely analyzed videotape (see methods) attributed to the different sections from Table 1. All the videotapes had been analyzed the same way.

Figures 1 a and b, respectively, shows individual parental heart rate patterns. This are the same two videotapes as in Table 4. They show the parental heart rate variations measured every 5 seconds during the whole encounters.

Table 5 shows the difference between parental heart rate between the various sections (found in Table 1). We have found a significantly ($p=0.0567$) decreased heart rate at the end of the consultation compared to the beginning of the consultation and the anamnesis part. Talking with parents about laboratory results, diagnosis and etiology of the child's illness increases heart rate significantly ($p=0.0505$) compared to talking about prognosis and length

of the stay at the hospital. We found as well a significantly decreased heart rate ($p=0.0476$) in the beginning of the clinical examination compared with the psychosocial conversation. There were no significant decrease or increase of parental heart rate variations found comparing the other section.

Table 6 shows the statistic analysis of the following confounding parameters: age of the doctor, gender of the doctor, years of experiences as well as status of the doctor, language spoken by the doctor, age of the child and age of the parents. No correlation has been found between the years of experiences of the doctors, the language spoken by the doctor or his working status on parental heart rate variations. The age of the patients (children), the gender or the age of the parent weren't significantly correlated with the parental heart rate variations either.

Table 7 shows how often each section was identified during the consultation and how often the section was leading to a decrease or increase of heart rate.

Conclusion

In summary, we have shown that parental heart rate is variable during consultation indicating a highly fluctuating stress level of parents during consultation. We have found that the clinical examination does have a calming effect on parents. As a consequence the importance of a thorough consultation including a clinical examination, decreasing parental heart rate is crucial. In addition special care has to be taken in regards to certain topics of the consultation. The initial discussion of the diagnosis, laboratory findings and the treatment seems to be particularly stressful for parents.

Due to the small number of cases some interesting findings may not have been found. There might as well be bias due to too many different doctors compared to the size of the study.

The fact that much more mothers than fathers had taken part (85% mothers) in the study has probably influenced the results, in which way is though impossible to say.

In addition, some important confounding parameters, such as cultural backgrounds, educational history, level of parental fitness and more, have not been addressed in this study. This would be certainly interesting to consider in a future study.

The fact that the parents had to wear an oxygenometer and that the encounter was filmed may have increased the basic stress level. As we took though the heart rate variation relatively during the encounter and not compared to their normal every day heart rate, this should not influence the results.

For a future study it would be interesting to have at least the double number of participants to confirm the results we have already found and also to find more significant results. Further on it would be interesting to see, if a bigger participation of fathers changes the results.

The study was as well been analyzed by the psychological department of the University of Fribourg. It would be interesting in a second time to compare the results from the psychological part of the study with our study results.

Despite these potential limitations, our findings are interesting and add to what is already known from the literature and already pointed out in the introduction section addressing other important issues of a consultation such as relationship building, demonstration of effort and competence, information exchange, availability, appropriate level of child and parent involvement and satisfaction.

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Tables:

Table 1

Communication categories	Definition
1 = Reception, Anamnesis	The Reception, parent or doctor are talking about the medical history
2 = Laboratory, Diagnosis, Etiology	Parent asking about the laboratory results, the diagnosis or the reason why the child is sick. Doctors explaining Laboratory results, diagnosis or the etiology of the child's sickness
3 = Treatment	Parent asking question about the treatment, agreeing or disagreeing with the treatment. Doctor proposing or explaining treatment.
4 = Prognosis, Stay	Parent asking about the prognosis of the illness, how long the child will have to stay at the hospital. Doctor explaining about the course of the illness and how long the child will have to stay at the hospital.
5 = Psychosocial	Parent and doctor talking about social and psychosocial subject.
8 = Final discussion	Final discussion, doctor asking if there is any question left, the discharge.
Clinical Examination Categories	
6 = Preperation/Begining of the clinical examination	Mother/Doctor preparing the child for the examination, doctor speaking about doing the examination now.
7 = During the clinical examination	Doctor doing the clinical examination.

Table 2a

Demographics: parents	
	34 years (range 22 to 47 years)
Mean age	
Mothers (in %)	25 (89%)
Fathers (in %)	3 (11%)
Tertiary education	8 (38%)
Secondary education	8 (38%)
Compulsatory education	5 (24%)
Smokers	4 (19%)
Oral contraception	10 (48%)
Known diseases (<i>Depression, Migraine, Pregnancy</i>)	5 (24%)
Treatment other than oral contraception (<i>Venlafaxin, Adalat, Mg, Fraxiparin, Trittico, Ponstan, Topamax</i>)	3 (14%)
Mother tongue French	13 (46%)
Mother tongue German	3 (11%)

Mother tongue others	12 (43%)
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Table 2b

Demographics: children	
Mean age in months	54 (range 3-188)
Gastrointestinal	10 (36%)
Immunology/Autoimmune	4 (14%)
Neurology	1 (4%)
Endocrinology	2 (7%)
Psychiatry	2 (7%)
Pulmonary	7 (25%)
Dermatology	1 (4%)
Other (Failure to thrive)	1 (4%)

Table 2c

Demographics: Doctors	
Mean age in years	33.4 (range 29-52)
Female doctors (in%)	14 (50%)
Mean years of experiences	10 (range 3-28)
Resident physician	19 (68%)
Senior physician	2 (7%)
Chief physician	7 (25%)
Mother tongue French	14 (50%)
Mother tongue German	12 (43%)
Mother tongue other	2 (7%)

Table 3

	Examples for high heart rate	Examples for low heart rate
Communication categories		
1 = Start of the encounter, Anamnesis	The mother explains how the hospitalization has happened this morning.	The mother tells the doctor about stomach pains the child had after drinking a cola.
2 = Laboratory, Diagnosis, Etiology	The doctor explains that the infection is due to a rotavirus.	The doctor says that the symptoms of the child weren't typical of milk intolerance.
3 = Treatment	The mother has objection concerning the doctor's proposal to give diuretics drugs to treat the constipation.	The mother doesn't want to give the child the proposed drugs as it had already reacted in the past with eczemas during treatment.
4 = Prognosis, Stay	The doctor says that the child has to stay over the night if it want feel better in the afternoon.	The doctors say the child could go home as soon as it would be independent of oxygen therapy.
5 = Psychosocial	The mother tells the doctor about the school to which the boy is supposed to go if he pass the exams.	The doctor tells the mother that he would be glad if she could explain the whole situation to her husband (father of the child).
8 = Final discussion	The doctor asks if there are any questions left.	The doctor asks if everything is okay that way and says goodbye.
Clinical Examination Categories		
6 = Preperation/Begining of the clinical	The mother helps the doctor to prepare	The doctor asks the child if it is capable

examination	the child for the physical examination (takes of his cloths).	to take off his cloths by it-self.
7 = During the clinical examination	Child is crying during the clinical examination.	The doctor auscultate the heart of the child, silence.

Table 4

Video Nr.	Erhörter Puls	Niedriger Puls
27	<ul style="list-style-type: none"> • Arzt schreibt in Patientenheft. Arzt sagt Ärztin, welche filmt, sie solle ihm sagen wenn es soweit sei. Ärztin welche filmt sagt es sei gut. Arzt sagt zu Kind, als Zusammenfassung habe es also eine Gastroskopie gehabt und ein anderer Arzt habe ihm ja schon die Befunde erklärt. Arzt sagt zu Kind es habe ja auch schon die Mittel zur Elimination der Bakterien genommen. 1 • Arzt fragt ob das gut gelaufen sei mit den Antibiotika. Arzt sagt, der Grund wieso Kind heute hier sei, sei zu kontrollieren wie es Kind nach dieser Antibiotika-Kur gehe. Arzt fragt Kind ob es immer noch diese Schmerzen und diesen Mundgeruch habe, was ja auch der Grund für die erst Konsultation gewesen sei. Arzt sagt, das gehe also. Arzt schreibt etwas auf. 1 • Vater sagt er habe eine Differenz bemerkt, Kind habe Gewicht zugenommen. Mutter sagt, ja das stimme. Mutter sagt Kind sei auch gewachsen. Vater sagt Kind habe mehr Volumen. Arzt lacht auf, Vater sagt ja, vorher sei Kind ganz dünn gewesen. Arzt fragt Kind ob es zufrieden sei. Arzt fragt Kind ob es also noch Schmerzen habe, da es gesagt habe manchmal. Kind sagt nein, nicht mehr seit der Behandlung. 1 • Arzt sagt, anderer Arzt habe die Behandlung nicht notiert (in der Patientenakte) 1 • (Mutter hat gerade gelacht) Kind sagt genau das sei's (betreffend Kette) 5 • Arzt sagt er werde Grösse schnell aufschreiben, da er es sonst vergesse 1 • Eltern und Kind albern herum, lachen 1 • Vater erklärt Arzt, dass er Mutter versucht habe die Differenz zwischen bestellen und bestehlen (im Deutschen, Gespräch ist ja auf Französisch) zu erklären 1 • Arzt erklärt, dass für ihn die Symptome wegen dem Bakterium aufgetreten seien, 	<ul style="list-style-type: none"> • Arzt sagt, also seien die zwei Probleme verschwunden. 2 • Vater sagt Name des Medikaments. 1 • Arzt sagt, es seien also alle zufrieden, er möchte aber trotzdem das Kind untersuchen. 6 • Mutter macht eine Bemerkung, Arzt lacht, sagt man könne sich irren (deshalb will er Gewicht messen) 6 • Eltern sagen Kind er müsse seine Kette ausziehen (für klinische Untersuchung). Eltern lachen, Vater fragt wieso Kind diese Kette habe, Mutter sagt sie wisse es nicht, um stylisch zu sein, lacht. 5 • Geräusche , alle sind ausserhalb des Bildes für den klinischen Untersuch, weiss ich genau was passiert 6 • Jemand sagt hier hinlegen. Jemand sagt ob man nicht zuerst das Gewicht nehme. Geräusche, niemand redet. 7 • Leute reden im Hintergrund (unverständlich), jemand lacht 1 • Im Hintergrund wird über das Wort bestellen und bestehlen diskutiert (Mutter und Vater) 1 • Arzt sagt, es sei klar dass in Kamerun französisch gesprochen werde aber ob Kind hier einer französischen Schule besuche;5 • Man spricht über die Deutschschweizer Herkunft des Arztes. 5 • Arzt macht eine Zusammenfassung, sagt Zustand sei einwandfrei, man habe die Bakterien identifiziert und mit der Behandlung ausgerottet den Symptomen nach 2 • Arzt sagt man müsse aber trotzdem ein Test mache ob Bakterien wirklich weg seien 2 • (Arzt hat gerade erklärt, wie man Kontrolltest machen werde) Arzt sagt für das müsse man einen Nacht... Vater fällt ihm ins Wort, beginnt eine Frage zu stellen 1

	<p>nicht wegen einem Parasiten 2</p>	<ul style="list-style-type: none"> • Arzt sagt, Gardnerella Lambliasis sei eher etwas, was in Afrika auftrete, wie auch H. Pylori. Vater fragt nach (hat Namen nicht richtig verstanden.) Arzt wiederholt die Namen 2 • Arzt sagt, gut, ob sie noch Fragen hätten 8 • Arzt steht auf. 8
<p>30</p>	<ul style="list-style-type: none"> • Begrüssung, alle setzten sich. Arzt lacht und sagt, sie würden jetzt mal so tun als wäre die Kamera nicht vorhanden. Arzt liest in der Patientenakte, sagt dass sie also das letzte Mal im Februar gekommen seien. Arzt fragt, ob der andere Arzt die Resultate der Gastro- und der Koloskopie erklärt habe? Mutter bejaht. Arzt wiederholt erklärt trotzdem noch einmal, dass das Kind also eine Entzündung im Bauch gehabt habe 1 • Mutter fragt Kind ob sie „das“ ausziehen könne, Kind bejaht 6 • (klinischer Untersuch) Arzt sagt, Gewicht habe sich noch nicht stark verändert 7 • (klinischer Untersuch, Arzt palpiert Bauch des Kindes) Arzt fragt ob dies hier weh mache, Kind bejaht. Arzt sagt Kind, es könne sich wieder anziehen) Arzt fragt Kind ob es in letzter Zeit müde sei. 7 • Mutter sagt Kind frage oft am Abend ob es schlafen gehen könnte während dem seine Geschwister nie ins Bett wollen. 1 • Arzt erinnert sich, dass er je noch das Gewicht der kleineren Schwester wägen müsse 7 • Arzt wägt die kleinere Schwester 7 • Arzt zeichnet Daten der kleinen Schwester in eine Tabelle ein 7 • Arzt testet mehrere Stifte, überlegt welche zu nehmen um weitere Daten aufzuschreiben 7 • Arzt sagt, dass die kleinere Schwester einiges höher als beim 50 Perzentil liege. Mutter sagt, Kind2 habe vielleicht etwas Übergewicht, aber nicht viel. Arzt fragt nach dem Geburtstag der kleineren Schwester (Kind2). Arzt fragt nach dem Namen des Kindes2. Arzt blättert in den Unterlagen. 2 • Arzt lacht und sagt zu Kind2, es werde wohl sicher nicht seinen Geburtstag vergässen. Mutter macht einen Witz, Arzt 	<ul style="list-style-type: none"> • Arzt sagt, Kind habe also jeden Tag die Medikamente genommen? Arzt fragt wie es mit den Medikamenten gelaufen sei. Mutter sagt, es habe keine grosse Verbesserung gegeben. Mutter sagt, sie habe Kind gesagt, dass es jedes Mal wenn es Bauchschmerzen habe, solle es Kreise auf die Tabelle eintragen. Der Tabelle sei jetzt voller Kreise. Arzt fragt ob Mutter diesen Tabelle selber gemacht habe oder ob sie sie von ihnen (Ärzte) bekommen habe. Mutter sagt, sie habe sie selber gemacht. Arzt fragt, ob sie die Tabelle hier habe. Mutter verneint. Mutter sagt, Kind habe ein von zwei Tagen Schmerzen. Arzt fragt es sei wie vorher. Mutter unterbricht Arzt und sagt Kind habe jetzt gerade Bauchschmerzen gehabt nachdem es ein Cola getrunken habe. Arzt fragt ob es einen Ort gebe wo es mehr weh habe. 1 • Arzt (redet mit Kind) sagt der Schmerz vergehe also trotzdem. Arzt fragt, wie viele Male der Schmerz pro Tag komme. Kind sagt nicht viele Male, sei vor allem am Morgen und am Nachmittag. Arzt fragt ob das oft nach dem Frühstück sei. Kind sagt es sei oft nach dem Essen. Arzt fragt ob es eine Stunde nachher oder gerade danach sei. Kind überlegt, Mutter flüstert gerade danach, Kind sagt ja schon. Arzt fragt nach ob Schmerzen verschwinden ohne dass es andere Medi's nehmen würde. Mutter sagt Kind nehme keine anderen Medi's. Arzt schaut in die Unterlagen, sagt das letzte Mal hätten sie auch über den Appetit gesprochen. 1 • Arzt fragt das Kind ob die Bauchschmerzen seine Konzentration während der Schule stören würden. Kind sagt manchmal schon, aber es sei ja nicht immer (dass es Schmerzen in der Schule habe), habe oft Schmerzen

	<p>und Mutter lachen. ;5</p> <ul style="list-style-type: none"> • Arzt sagt, es gebe keinen guten Medis um Gewicht zu zunehmen. Arzt sagt es gebe Medi's die aber Nebenwirkungen hätten. Mutter fragt nach ‚Nichmedikementösen‘ Mittel zum zunehmen, wie eine Diät zum zunehmen;3 • Arzt sagt es gebe Medikamente. Mutter sagt sie würde Kind lieber keine Medikamente geben. Arzt sagt, sie (Ärzte) hätten es vorgezogen die Probleme zu bekämpfen und so gleichzeitig die Gewichtsprobleme. ;3 • Kind erzählt dass sie letztthin beim spielen mit ihrer Schwester plötzlich ganz viele glänzenden Lichter überall gesehen hätte ;1 • Kind sagt es sehe manchmal verschwommen ;1 • Arzt fragt ob dies vorher nie vorgekommen sei. Kind verneint. Arzt sagt, das sei komisch. Arzt sagt, er kenne diese Symptome nicht als Nebenwirkungen aber er werde trotzdem mal nachschauen;. 2 • Alle erheben sich, reden noch über Rezept für Hautcreme. ;3 • Kinder, Mutter Arzt gehen (aus dem Zimmer);8 	<p>zu Hause. Arzt fragt Kind, ob es schon mal nach Hause gegangen sei weil es zu fest Schmerzen gehabt habe. Kind verneint. ;1</p> <ul style="list-style-type: none"> • Arzt fragt Kind ob es seine Jacke ausziehen könne (für den Untersuch). Arzt sagt, Kind könne Pullover anbehalten. Arzt blättert in den Unterlagen. Arzt, Mutter und Ärztin, welche filmt diskutieren kurz über den weiteren Verlauf (weiterfilmen während dem Status oder nicht). ;6 • Mutter sagt, sie glaube Kind sei (das letzte Mal) in Unterwäsche gewogen worden. Arzt sagt in Ordnung und steht auf (läuft aus dem Bild) ;1 • Jemand wäscht die Hände im Hintergrund (Arzt), Kind spricht mit Mutter, jemand trocknet die Hände im Hintergrund (Arzt) ;6 • Geräusche im Hintergrund, Vorbereitung für Untersuch ;6 • (klinischer Untersuch) Arzt setzt sich schnell an den Tisch um das gemessene Gewicht aufzuschreiben ;7 • Arzt notiert Gewicht. Arzt liest Gewicht des letzten Mal vor;7 • (klinischer Untersuch) Arzt fragt Kind wie die Schule sei. Kind sagt es gehe so da die Lehrerin krank sei und sie immer wieder neue Aushilfen hätten. ;7
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Table 5

	Elevated	Decreased
1 versus 2	0.5725	0.5292
1 versus 3	0.4680	0.1228
1 versus 4	0.3504	0.1408
1 versus 5	0.2481	0.2707
1 versus 6	0.1496	0.6347
1 versus 7	0.3408	0.1591
1 versus 8	0.5593	0.0567

2 versus 3	0.1821	0.8624
2 versus 4	0.0505	0.5099
2 versus 5	0.7685	0.1034
2 versus 6	0.2384	0.7341
2 versus 7	0.1677	0.7765
2 versus 8	0.3354	0.7990
3 versus 4	0.6353	0.5587
3 versus 5	0.0863	0.1030
3 versus 6	0.1806	0.3232
3 versus 7	0.1216	0.8562
3 versus 8	0.1665	0.6564
4 versus 5	0.4363	0.7792
4 versus 6	0.8545	0.4033
4 versus 7	0.3553	0.4182
4 versus 8	0.4328	0.5912
5 versus 6	0.3273	0.0476
5 versus 7	0.3901	0.2015
5 versus 8	0.3988	0.1129
6 versus 7	0.4106	0.5528
6 versus 8	0.6252	0.7407
7 versus 8	0.7753	0.7025

Table 6

Gender of parents	0.6278	0.1791
Years of experience of the doctor	0.1529	0.0993

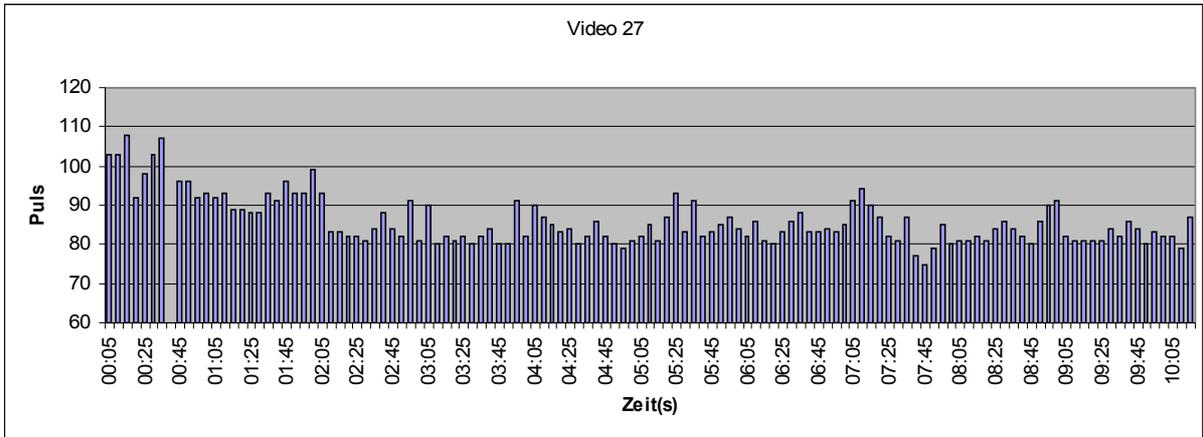
Work status of doctor	0.4628	0.2526
Language spoken by doctor	0.4725	0.1921
Childs age	0.3267	0.3499
Childs age in categories (until 1 year, 1-5 years, over 5 years)	0.4196	0.2798
Parental age	0.3829	0.5850
Parental age in categories (20-30 years, 30-40 years, < 40 years)	0.3519	0.9775

Table 7

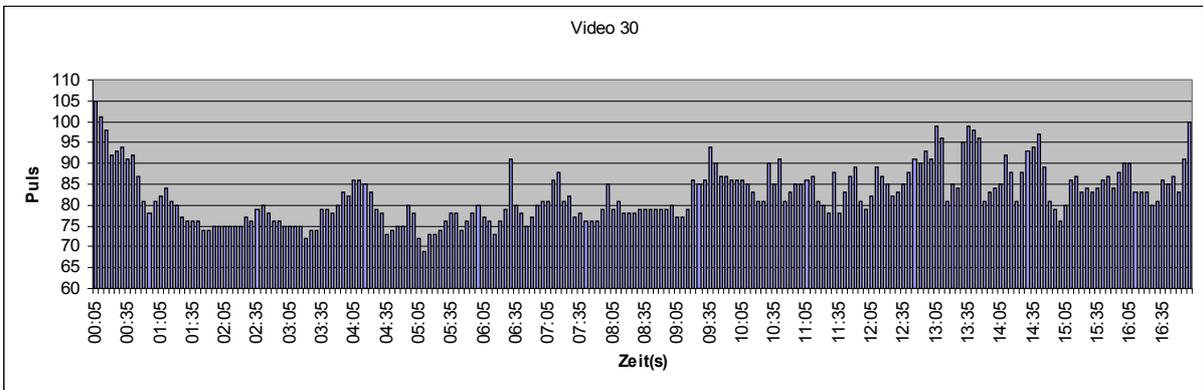
Section	1	2	3	4	5	6	7	8
Heart rate elevated	119	40	45	14	13	22	26	16
Heart rate decreased	93	44	52	20	8	15	40	17
Total	212	84	97	34	21	37	66	33
Heart rate elevated %	56	48	46	41	62	59	39	48
Heart rate decreased %	44	52	54	59	38	41	61	52

Figures:

Figures 1a



Figures 1b



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