

Health perceptions of blue-collar workers and supervisors

in a Southern German chemical production plant



Shao-Xi Lu

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Master Communication Science

University of Twente
Drienerlolaan 5
7522 NB Enschede

Supervisors:

Dr. Mark van Vuuren
Dr. Christina Bode

Shao-Xi Lu
shao-xilu@web.de

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SUMMARY

Motivation

In the last decennia, the amount of accidents within organizations has decreased; meanwhile diseases with a long-term onset where multiple factors are involved appear more often nowadays. As health problems and their causes have changed, this influences the perceptions of them. In an organization different views of employees and supervisors might lead to negative effects such as unsuccessful health interventions.

Previous research has investigated health perceptions mainly from employee viewpoint. However, a more complete understanding might be gained if both employees and supervisors are examined. It has been stated that blue-collar workers might be especially prone to being and behaving unhealthy. The objective of this study is to put the health perceptions of blue-collar workers and those of supervisors' side-by-side. The research was conducted in a production plant in southern German. The main research question is:

How do blue-collar workers and supervisors perceive the role of health within a chemical production plant in Southern Germany?

Theoretical Framework

In this research the central concepts are: “organizational climate” and “lay health beliefs”. The concept of organizational climate concerns the shared perceptions among members of an organization with regard to fundamental properties such as policies, procedures and practices (Dov, 2008). Organizational climate according to Schein (1985) can be described according three levels: the organizational level, the group level and the individual level. Previous research has focused mainly on the organizational level where processes at higher organization levels (such as policies, strategies and goals) take place. The individual level is concerned with processes particular to one person, like attitudes. Not much attention is given to the individual level during organizational climate research. The related field of health communication however addresses attitudes by the concept of lay health beliefs. Lay health beliefs according to Hughner and Schultz Kleine (2004) enclose in contrast to professional health beliefs morals and values. Lay health beliefs include a) the definition of health b) reasons and explanations for health, c) external and unexplainable factors of health and d) the role of health in life. Within this research

further attention is given to the role of communication regarding occupational health, especially on two aspects of communication that have been highlighted in previous studies. On the one hand communication acts as a means to achieve successful health interventions; on the other hand communication acts as a main factor that influences employee health. Both aspects are related to each other and cannot be seen distinctively.

Research Design and Method

The research is conducted through semi-structured interviews (N=14) with blue-collar workers and focus group interviews with supervisors (N=3). In the focus group the operational and strategic management was interviewed. Interview guides were made including first, the categories of lay health beliefs transposed to the organizational context and second, questions regarding the perception of existing health interventions. The interview guides were pretested in advance as well as continuously adjusted and refined during the data collection. The interviews were transcribed according to a transcription guideline following Froschauer and Lueger (2003). The transcripts of the blue-collar workers interviews contained 128 pages, single-line spaced; those of supervisors 55 pages. Categories were created along with the interview guide and the interviews were labeled accordingly. Interview fragments that did not fit the initial categories were rearranged and integrated when the topics of the categories became clear. A summary was made to overview the mentioned topics. From this summary the significant findings were extracted, the most articulate citations being presented here.

Results

First, the findings show that blue-collar workers distinguish between private and work aspects. Some blue-collar workers believed that the organization takes care of employee health and others that the organization is concerned mainly about health due to legal requirements. Occupational health is new to most supervisors. It is unclear to them which role health should play. Engaging in health is not legally obligated and seen as the responsibility of employees. Still it is beneficial to counter absenteeism and to enhance performance.

Second, physical aspects, the relationships among blue-collar workers and supervisors, shift work and healthy behavior have been mentioned to be health influencing. With regard to physical aspects, the organization is legally obligated to avoid health hazards. This aspect has been treated through workplace safety efforts to a great extend, and with remarkable successes. When it

comes to the evaluation of work-load however, it is an area of conflict whether the load is part of the job or already a harmful effect. Blue-collar workers emphasize that the communication about workload opposed to the load itself is problematic. Further they pointed out that the relationships among blue-collar and supervisors influences their health most. A tendency to blame-cast occurred among the respondents regarding who is responsible for a bad employee-employer relationship. A few blue-collar workers mentioned shift work to be health influencing. Supervisors held the opinion that shift work was not problematic, due to its financial compensation. Blue-collar workers argued that they had no alternative due to family commitment. When it comes to healthy lifestyle behavior respondents thought that mainly blue-collar workers are responsible. Some interventions have been implemented, but participation is problematic. Blue-collar workers do not wish to be obligated to behave healthy.

Finally, a directive communication style none the less dominates within the organization. Participative communication styles and employee involvement from supervisors viewpoint is valuable. Still, operational managers considered that they have too little time to communicate interpersonally.

Conclusion and Discussion

First, the findings show that the definition of health currently in operation is narrowed towards physical health hazards. However, multiple causes have been mentioned and blue-collar workers and supervisors differ in what significantly influences health. A broader definition of health is needed to avoid the conflicts regarding responsibility. Only then health interventions can be successful.

The second major conclusion is that the discussion regarding who is responsible for health is complex, because responsibility understandings differ depending on the distinct causes of health. Regarding health harming aspects mainly the organization is thought to be responsible, where healthy lifestyle behavior is for the most part the responsibility of blue-collar workers. Regarding shift work a social dimension plays a role: blue-collar workers with a low social economical status have limited financial resources to freely choose shift working. With regard to employee-employer relationship blame-casting appeared often; however, recognizing a joint responsibility would give the opportunity to enhance the relationship among the members of the organization. The distribution of responsibilities thus depends on the special aspect of health and is furthermore an area of conflict due to multiple moderating aspects.

Taking a closer look on the two previous main conclusions, the great role of communication is striking. Communication is needed to find a joint definition for health that satisfies the individual understanding of health; and in the same way finding the right distribution of responsibilities towards the various health causing aspects needs to be negotiated between blue-collar workers and supervisors. A directive communication style and the tendency to blame-cast however is contra productive. Moreover during analysis of the interviews it appeared that individual perception and communication is intertwined. When considering theories regarding occupational health this connectivity should be taken into concern. Theories need to be developed that combine both, the concept of health climate (the interactive aspect) and the concept of health beliefs (the individual aspect).

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1. INTRODUCTION

In the last three decennia, the amount of accidents within organizations has decreased¹; but the prevalence of disease like lower back pain, fatigue and upper respiratory complaints, heart diseases, diabetes and high blood pressure rises (Schreuder, Roelen, Koopmans, & Groothoff, 2008; CBS, 2010). The development of these diseases is a long-term process and includes multiple factors (MacDermid, Geldart, Williams, Westmorland, Lin, & Shannon, 2008). For example, the demographic change in the Western society and the increasing amount of technological devices influence the working environment and the type of diseases. Also, the amount and intensity of physical and mental work affects health.

It has been suggested that employees spend at least a quarter to a third of their waking time at work (Harter, Schmidt, & Keyes, 2003 as cited in Grawitch, Gottschalk, & Munz, 2006), thus, the working environment has a notable impact on the whole life of a human being. Furthermore, downtime and sick-leave influence economical and planning aspects significantly.

1.1. Motivation

It is crucial to study the perceptions of the members of an organization, because those influence behaviour. For example, employees' health perceptions influence the participation in health programs and employers' views influence the implementation of occupational health interventions.

Previous research has investigated health largely from the employees' experience or perspective (Prussia, Brown, & Willis, 2003). However, a more complete understanding might be gained if both supervisors and employees viewpoint are examined. Furthermore, deviant perceptions might result in dysfunctional effects (Prussia et al., 2003).

Perceptions might be influenced by specific circumstances within an organization. To gain deeper understanding into the underlying reasons and processes, the study was conducted in one organization with qualitative research methods. To accomplish that, the research is conducted in a chemical production plant in Southern Germany.

¹ From 1,390,531 reportable accidents at work in 1986 to 959,714 reportable accidents at work in 2007 in Germany (DGUV, 2007)

Health interventions are thought to be most effective when they are tailored towards a target group. Some people have a higher risk of being unhealthy and behaving in an unhealthy manner, such as blue collar workers. Blue-collar workers are often prone to physical hazards and are at the end of the social-economical gradient, which is thought to be a notable health-influencing factor (Kolmet, Mariño, & Plummer, 2006). As it makes sense to focus on groups with higher risks, this research concerns blue-collar workers' health beliefs.

The aim of this study is to put blue-collar workers' and supervisors' perceptions on occupational health side-by-side. This research addresses following general question:

How do blue-collar workers and supervisors perceive the role of health within a chemical production plant in Southern Germany?

To begin with, I discuss essential theoretical constructs. Then, in the section Research Design and Methods, I describe how half-structured interviews and focus group interviews are developed, performed and analysed. Next, I present the findings, completed by the conclusion and discussion points.

2. THEORETICAL FRAMEWORK

This section reviews the essential literature of employee and supervisor perceptions of the role of health within an organization. First, the term 'health climate' will be defined along with its significant concepts. Second, specific themes will be elaborated more in detail, specifically: a) blue-collar workers' health beliefs, b) supervisors' health orientations and c) the role of communication in the context of occupational health. The discussion of these specific themes is meant to introduce the sub-questions of this study.

2.1. Perceptions of the Role of Health within Organizations

A leading concept that has been used to describe perceptions in organizations is the concept of organizational culture and climate². Organizational culture and climate refer to the "shared

²The concepts of organizational climate and culture have often been used interchangeably; although climate reflects attitudes, perceptions and beliefs, while culture is more complex, holding deeper values that are transferred between people from one generation to another (Isaksen & Ekvall, 2007 and Mearns & Flin, 1999 as cited in Høivik et al., 2002). As within this research the difference between climate and culture is not striking, it is referred to both concepts.

perceptions among members of an organization with regard to its fundamental properties, i.e., policies, procedures, and practices” (Dov, 2008). Organizations have multiple goals and means of attaining goals (e.g. innovation, product quality or employee health). Health climate thus relates to shared perceptions with regard to health policies, procedures, and practices.

Several themes can be identified and categorized into three levels:

1. Organizational level: Processes that take place at higher organization levels like manager teams that decide on policies, strategies and goals.
2. Group level: Processes within groups or teams that the respondent works in.
3. Individual level: The process particular to the respondent, or the attitude level (Guldenmund, 2000).

In the past, researches have focused mainly on the organizational level and, therefore, paid less attention to the individual level of health climate (Høivik, Moen, Mearns, & Haukelid, 2002). According to Schein (as cited in Høivik et al., 2002), culture can be described in three levels:

1. Artifacts: The most visible level of culture.
2. Values: The sense of what ought to be in contrast to what is.
3. Basic assumptions: Values that worked repeatedly and therefore are taken for granted.

The concept of health climate has frequently been mentioned along with the concept of safety climate. Both concepts seem to be related to each other, but with some striking differences. The concept of safety climate traditionally was developed to avoid major accidents and catastrophes, such as the Tschernobyl accident in 1986. Recently, safety has expanded to include concepts of health and environment as well. Organizations accordingly have Health, Safety, and Environment (HSE) departments nowadays. The concept of health has nonetheless some unique characteristics that can be distinguished from the concept of safety. Safety compared to health has a greater disabling aspect than health, but the prevalence of health problems like low back pain, fatigue and upper respiratory complaints is increasing (Schreuder et al., 2008). Health, in contrast to safety, also includes diseases with a long onset. Health is further related to individual lifestyle; meanwhile, safety takes place only during working time.

Safety and health climates have been examined mostly from the employee point-of-view (Prussia et al., 2003). Also, studies that examined health perceptions of supervisors and employees separately are more frequent than studies that compare those. However, a more complete

understanding might be gained if employees' and supervisors' viewpoint regarding occupational health are put side-by-side. If employees and supervisors identify the causal factors differently, the discrepancy can create a chasm between actions and the perceived need for action. Previous research has shown that differing and discordant beliefs concerning the workplace lead to dysfunctional effects on quality, corporate culture, teamwork, customer service, perceived fairness, computer monitoring, organizational commitment, and personnel management (Prussia et al., 2003). In the regard of occupational health, diverging beliefs play a role, because occupational health interventions require multilevel support and cooperation. Employee involvement in defining the problem and planning the response to that problem is crucial for successful workplace health interventions (Whitehead, 2006; Grawitch et al., 2006; Lassen, Bruselius-Jensen, Sommer, Thorsen, & Trolle, 2007). Such employee participation might help to overcome resistance to break old, unhealthy habits (Lassen et al., 2007). Management commitment towards a healthy work environment is shown to be critical in improving workplace health and safety (MacDermid et al., 2008).

In summary, this research will examine the perceptions of employees and supervisors about the role of health within the organization; the reasons are that a: a) the safety climate has been investigated far more than the health climate, b) shared perceptions are essential for effective health interventions and c) supervisor viewpoint has hardly ever been examined. Again, the main research question addresses:

How do blue-collar workers and supervisors perceive the role of health within a chemical production plant in Southern Germany?

2.2. Sub Questions

The purpose of this section is to put the main research question into operation. Climate studies tend to focus on the values and assumptions of the organizational level (Høivik et al., 2002). However, health encompasses also a strong individual aspect. The concept of lay health beliefs will be therefore introduced. Employees' and supervisors' perspective will be discussed more in detail. Then, the role of communication will be explained. This section will also include the sub questions of the study.

2.2.1. Blue-collar Workers Perception of the Role of Health

Many people think that their overall health is a personal issue (Steptoe & Taylor as cited in Lassen et al., 2007). This distinguishes health from safety. For example, health is related to individual lifestyle; safety in contrast takes place only during working time. The perception of work-relatedness of health problems is shown to influence the intention to utilize the services (Plomp, 1998). It has been stated furthermore that there is a striking inverse relationship with mortality rates and the number of health practices, to mention a) never smoking cigarettes, b) regular physical activity, c) moderate or no use of alcohol, d) 7-8 hr sleep per day regularly e) maintaining proper weight, f) eating breakfast and g) not eating between meals (Breslow & Enstrom, 1980). When targeting health prevention via behaviour change, it must be noted that behaviour change is multi-dimensional (encompassing attitude, social influence, self-efficiency, knowledge, emotional factors, habits, moral duty and self-concepts) (Brug, Schaalma, Kok, Meertens, & Molen, 2001; Burght & Verhulst, 2003).

In line with the tradition of individual behavior change, according to Becker, (as cited in Ulich & Wülser, 2005), subjective beliefs of health³ influence health related behavior. Hughner and Schultz Kleine (2004) have investigated subjective beliefs of health through the concept of lay health beliefs. The authors state that many published studies examine the relationship between a certain illness and accompanying lay health beliefs, but relatively few studies have focused on general health beliefs. Lay health beliefs are not a shortened or incomplete version of professional health beliefs. Moreover, they are formed by philosophical worldview, religion, folk belief, experience and lay knowledge about health. Lay explanations for health differ from professional views, as they might embody values and morality. For example, according to the World Health Organization WHO (1948) health is a “state of complete physical, mental and social well-being and not merely the absence of disease or infirmity“; however health has been defined as the latitude of symptoms of disease and pain, the functional disturbance of life-quality, the ability to manage strain, requirements and crisis or the ability to search and find meaning in all life-activities (DGFB e.V., 2004).

³Subjective health is often associated with the concept of well-being. Well-being is referred to a non-medical term that highlights subjective rather than objective measurements and focuses more on positive health than on negative health. But because the concept of health nowadays includes not only negative aspects but also positive aspects, the concept of well-being is somewhat redundant and confusing (Cameron, Mathers & Perry, 2006). Therefore, instead of exercising the concept well-being, health with both its negative and positive constituents is employed here.

Lay views of health can be categorized into four main subject matters (Hughner & Schultz Kleine, 2004):

1. The definition of health
2. Reasons and explanations for health
3. External and unexplainable factors of health
4. The role of health in life

The reasons and explanations for health and external and unexplainable factors of health are both summarized as causes of health in this research.

It is pointed out that certain groups have higher risks for being and behaving unhealthy. The social economic status (SES) plays a part (Schreuder et al., 2008). Although blue and white collar workers⁴ report different health complaints, the relationship was weaker after adjusting for the educational level. This suggests that not the working environment, but the SES influences health complaints. Furthermore literature has shown that men have a higher mortality rate than women due to more unhealthy behavior that is influenced by gender roles. Being at the end of the social economical gradient and having little control conflicts with the classical male gender role of being in control. If blue-collar workers show a strong commitment towards the male gender role they might experience stress, dysfunction and restricted types of coping strategies (like help seeking). It must be noted, that male blue-collar workers are aware of the negative influence of the male-gender role on health. They are not less educated about health topics. Life style choices are rather a reflection on the limitation blue-collar workers experience from work and family commitment (Kolmet et al., 2006).

Adjusting the concept of health beliefs to the context of occupational health, the first sub questions regarding blue-collar worker health beliefs are:

What are blue-collar workers definitions of health?

How do blue-collar workers perceive the role of health in life?

⁴Male blue-collar workers are classified by the Australian Standard Classification of Occupations as trades persons, plant or machine operators and drivers and as workers.

Concerning the role of health within the organization from blue-collar worker viewpoint it is further valuable to understand how they judge the values and assumptions of supervisors' regarding employee health (or supervisors' health orientation). Blue-collar workers perception of supervisors' health orientation gives an indication of the relationship between blue-collar workers and supervisors. The second sub question is:

What are blue-collar workers' perceptions on supervisors' health orientations?

Taking a closer view on specific aspects, the following sub question addresses the perception of the causes of health:

What are blue-collar workers perceptions of causes of health within the organizational context?

2.2.2. Supervisors' Perception of the Role of Health

Supervisors' viewpoints are vital to investigate, because commitment of the managers towards health interventions is crucial for success (Larsson, Nordholm, & Öhrn, 2009). Ribisl and Reischl (1993) pointed out supervisors' values and assumptions regarding health (or supervisors' health orientation) is part of organizational support. Regarding supervisors' perspective, it has been shown that organizations in Nordrhein-Westfalen, give the highest priority to cost reductions, followed by changes in corporate organisations and implementing new technologies (Blume, Badura, Walter, Schleicher, Münch, & Lange, 2003). Health is increasingly essential to organizations mainly because of immense organizational costs (such as sick pay and costs for downtime due to long-term illness) as a result of employees' health problems (Cooper et al., 1994 as cited in Grawitch et al., 2006). Growingly, health is embedded into organizational policy and organizations are active in systematic health promotion. However, no studies exist regarding supervisors' point-of-view in detail such as underlying assumptions that influence their health perspectives, what the advantages and disadvantages are regarding occupational health or how occupational health is perceived side-by-side with other organizational goals.

Adjusted to the supervisors' viewpoint, the following sub questions address general aspects about the role of health within the organization:

What are supervisors' perceptions regarding the role of health within the organization?

What are supervisors' definitions of occupational health?

To focus on certain aspects of the role of health, the following sub question addresses perceptions of the causes of health:

What are supervisors' perceptions of causes of health within the organizational context?

2.2.3. Communication

A notable aspect of health climate that is taken into account in this research is communication. Two aspects repeatedly emerge in studies concerning communicational aspects in the context of occupational health. Communication can be a means to achieve health (and therefore contributes to the solution of health problems); just as communication can influence health (and therefore be the cause of health problems). With respect to communication as a solution, participative communication styles are thought to be crucial when it comes to implement successful health interventions. While concerning communication as a cause of health, the influence of interpersonal communication on health is significant. Both communication aspects cannot be seen independently from each other; “the same people are involved, the same topics get discussed, the same kinds of problems are addressed and resolved, typically day after day”. It is a question of “ongoing communication” (Taylor, 2001, p. 164).

Health in contrast to safety concerns also the private life of the employee. This means that the role of voluntarism changes as well. This changing role might require different means of communication. Interventions based on voluntary behavior change rely on participative communication strategies like employee involvement. Involvement in defining the problem and in the planning of the process is crucial for successful workplace health interventions (Whitehead, 2006; Grawitch et al., 2006; Lassen et al., 2007). It might help to overcome old unhealthy habits (Lassen et al., 2007). Enabling self-management and allowing the individual to take responsibility for care are also stated as desired in the management of the disorders. Whether managers support or oppose employee participation depends on the structure of the workforce, principal agent problems between owners and managers, human resource manager's practices, market strategy and innovativeness (Jirjahn & Smit, 2006).

With respect to communication as a health influencing aspect, interpersonal support and communication has been identified as significantly influencing employee health. From employee point-of-view psychosocial aspects are most critical. Employees have the need for support and respect from colleagues and direct supervisors; they value meaningful relationships as well as

organizational commitment for safe behavior and a healthy work organization (Arwedson, Roos, & Björklund, 2007; MacDermid et al., 2008; Whitehead, 2006). Physical and safety aspects from employee point of view play a lesser role in workplace health (MacDermid et al., 2008). The concept of interpersonal support includes the constructs of emotional support, appraisal support, informational support and instrumental support (Ribisl & Reischl, 1993). The supervisors' perspective on interpersonal support was not researched until now. To avoid repeating, interpersonal communication will be treated in the section that concerns the causes of health (section 4.5.) Participative communication styles in the context of occupational health however will be treated separately by the following sub question:

What are supervisors and blue-collar workers perceptions on communication and especially participative communication styles in the context of occupational health?

To summarize, this section has discussed the relevant concepts regarding blue-collar worker and supervisors' health perceptions. Concerning shared perceptions within organizations "organizational culture and climate" is discussed along with the relevant related constructs. Following, "health climate" and the relationship of "health climate" with "safety climate" is explained. While investigating the individual aspect of health the term "health beliefs" is clarified. The section concludes with a description of the role of communication regarding occupational health. Two relevant aspects are deliberated: one that concerns communication as a means to implement health interventions, the other that concerns communication as a cause for health. The first regards participative communication styles, the second interpersonal communication.

3. RESEARCH DESIGN AND METHOD

Although literature frequently highlights the importance of contextual aspects, few studies have integrated the context into the study design (Grawitch et al., 2006). An interactive approach between deductive and inductive methods was therefore chosen, where the context of the research environment influences the research design.

The research question is answered through interviewing blue-collar workers, operational managers and strategic managers. According to Payne (as cited in González-Romá, Peiró, Lloret & Zornoza, 1999) collective climate is only a meaningful concept if it is related to a formal or informal structured collectivity, such as department, organization hierarchy, work hours and location. Only the hierarchical level seems to be related to collective climate membership (González-Romá et al., 1999). Therefore, respondents shall be split up according to their hierarchical level in this research.

First, semi-structured interviews are held to assemble blue-collar workers' perspective. After analyzing the interviews, the results are presented to managers in focus group interviews. The candid interaction of managers and employees in a focus group would have given a direct glimpse into organizational communication surrounding health. After consideration, mixing employees and supervisors in a focus group were finally rejected due to anonymity and social desirability issues.

To ensure the quality of the research, several strategies were applied. Two different main research methods (semi-structured interview and focus group interviews) were used for triangulation purposes. This was complemented by a seven-month long participation in the organization and a document study that was achieved from interviewees as well as the company intranet. The participation was mainly observational despite a workshop that was given on office furniture ergonomics during a HSE event. To reflect on the time at the production site, a research diary is held throughout the duration of the research. Feedback is regularly received from the supervisors, friends and colleague students.

This section first describes the production site where this research is conducted. Following, the respondents (the blue-collar workers and supervisors) are introduced along with the data gathering method. Then, the transcription and analysis is illustrated. The section concludes with a discussion of ethical concerns within this study.

3.1. Research Environment

The research is held in a production site of a multinational organization for chemical products settled in southern Germany. Production sites of the same branch were settled all over the world. The site operated independently while taking local circumstances and national laws into account; cooperation between the sites occurs. An overall management developed strategies and goals on a global level. In the past years the organization had to adjust on political and economic changes that had an effect on daily practices. Following, the different stakeholders concerned with employee health, their goals and means of attaining the goals will be introduced. Some insight into the work environment of blue-collar workers is given. These results were collected from formal and informal interviews with supervisors.

3.1.1. Occupational Health

Two different stakeholders were concerned with blue-collar workers health: occupational health services and Health, Safety and Environment (HSE) departments at the production site. Occupational health services provided voluntary health programs and first aid after injuries. The production sites and HSE departments were also involved with employee health (compare also Table A). HSE departments exist on global and on local level.

It is suggested that the work environment of the blue-collar workers has an essentially elevated health risk (risk-level 3 according to the regulation of physical load). The workers had to lift rolls of different measurements under unfavorable ergonomic conditions, which can cause back problems. Workers at this department worked on average 24 years at the organization and were on average 48 years old. In the past some workers were assigned to more complex tasks. It is said, that blue-collar workers at the production site were ill more often. Being overweight, diabetes and lower back pain were mentioned as health complaints.

Occupational health services were offered to employees on the campus. These services were concerned with health in a broad context. Sport activities, vaccinations and diabetes prevention were provided for example. Employees could voluntarily participate in these programs. Financially, the services were not linked to the production sites, giving the services a strong external character. The occupational health service department could enter into cooperation with production sites and insurance companies. It communicated health programs through different mediums as brochures or the intranet. Communication of the programs seemed to be difficult however, as general communication throughout the campus to blue-collar workers is hard to

achieve. White-collar workers on the contrary could be more easily approached through the intranet.

Within HSE activities, the organization implemented interventions to prevent health hazards for about 1.5 years. Strategic managers and HSE managers on global level set up strategies for all production sites of the branch. On the researched production site, managers with hierarchies ranking from site executive officer, production manager to foremen and work scheduler were engaged. HSE site managers fulfilled an advisory and executive function regarding workplace health and safety. HSE activities were mainly worksite-related (e.g. protection goggles, safety shoes, suction of chemical damp).

3.2. Semi-structured Interviews with Blue-collar Workers

As the workers at the specific worksites had low educational level, it was suggested by their direct supervisors that written surveys would not be suitable. Thus, individual semi-structured interviews were held to allow personal and sensitive conversations in its place.

Three pretests of the interview guide (see Appendix A for the latest version of the interview guide) were held in total to ensure that a) the questions would truly reflect the research questions, b) the language used in the questions was appropriate to the blue-collar workers' comprehension level, and c) the critical incident technique would be suitable due to anonymity considerations.

The first pretest was held with a blue-collar worker employed in another department. It was determined if the language used in the questions was appropriate and adjustments were made where questions were not clear. The second pretest was recorded and a transcript was made. The responses revealed that some questions were not clearly formulated and suggestive questions occurred. Questions were then reformulated and were tested again to avoid this problem. Some sub questions were included to help to answer the main research question. In the third pretest, the adjusted questions were tested again with respondents outside the production site context. However, questions regarding health in the organization could not be sufficiently answered, as those questions were matched to the research setting of a larger production site.

Further to the pretests, the interview questions were refined as the interviews progressed to ensure continuous improvement of the questions. The interview questions surrounded the perceived role of health within the organization. Through specifically asking questions on

available health interventions, a better understanding is gained about the perceived role of health in the organization.

During the interview an existing brochure with health programs of the workplace was shown to blue-collar workers to facilitate communication about health interventions. The questions concerning health beliefs contained the main themes of laymen health beliefs according to Hughner and Schultz Kleine (2004); the definition of health, external factors influencing health, reasons for health and the role of health in life. Additionally, several questions regarding perceptions of health responsibility are asked. The interview guide that has been used for the semi-structured interviews can be found in the Appendix 7.1.

3.2.1. Procedure

Respondents were informed of the research goal in the presence of their direct supervisor. This ensured the interviews were held at their direct supervisor's approval. To build up trust and contact with blue-collar workers, a personal introduction is made without a supervisor. During this introduction blue-collar workers were already freely talking about health and other topics. Blue-collar workers were asked again for their participation in the interview and those who were willing to be interviewed were guided to a separate room where the interview took place.

In the introduction, the purpose of the study was explained again and permission was sought for recording the interview. During the introduction, blue-collar workers were asked about their job to allow them to become accustomed to the interview process. The interview questions designed to answer the research question followed. The interviews lasted about 45 minutes. Comments that were made before and after the interviews as well as the dynamic, emotions and notable occurrences were reported on an additional protocol.

3.3. Focus group Interviews with Supervisors

After analyzing the interviews, the results were presented to managers during the focus group interviews. Those consisted of white-collared workers from different hierarchies. The focus group had to be split into two categories because the organization made a distinction between operational managers and strategic managers. Operational managers' interviewees included workplace safety officers (of the site), production managers, foremen and work schedulers. Strategic managers included top-level managers, global HSE directors, operating managers and directors of occupational health services.

Occupational health interventions in the company are organized through: a) the department of occupational health services, and b) the company itself with their HSE managers (also called workplace safety and health managers) on global and local level. In Table A, below, an overview of the supervisors and their roles that took part in this research can be found.

Table A: Focus group interviewees: strategic managers and operational managers

Focus group interviewee strategic managers	
Supervisor	Job description
Chairman of the Board of management	Set up strategies on global level
Global HSE director	Management of the HSE-department on global level, HSE strategies on global level
Director of occupational health services	Provide voluntary health programs, offer advice and treat employees with health problems due to accidents or work-related illness.
Operating manager	Link between strategic managers and operational managers.
Focus group interviewee operational managers	
Supervisor	Job description
Production manager	Responsible for the whole production department
Workplace safety officers	Concern safety issues of the site, advisory function.
Foremen	Direct supervisors of blue-collar workers.
Work scheduler	Help the foremen with scheduling tasks.

Supervisors were approached via their supervisor and a contact person of the company. The secretary made arrangements to set up location and time of the interviews. The focus group interviews lasted about two hours.

Supervisors were questioned about their view of blue-collar worker health, the role of health within the organization, visions and strategies on health and reactions to blue-collar workers' answers. The interview guide included these questions as well as an additional protocol to document the group, date, time, location, participants, group dynamics, interruptions, impressions and observations, the situation before and after, sitting arrangements and general on-going notes (see Appendix B for comparison). The results were transcribed and analyzed using the same method of the semi-structured interviews.

3.4. Transcription and Analysis

Transcriptions of the audio files were made first. The transcribed interviews were analyzed in the following five steps: a) reading the transcription to better understand the answers, b) slowly re-reading the transcript and discern for different meanings, c) encipher the responses, d) arrange findings into categories, and finally e) summarize concepts raised.

The transcriptions were made in two steps. First, the audio files were fully transcribed using Microsoft Word. The transcriptions of the interviews held with blue-collar workers encompass 128 pages; those of supervisors were 55 pages. The transcriptions consist of single-line spacing with one blank line spacing between the questions of interviewer and responses of the interviewee. Nonverbal aspects were included using a special transcription code (Froschauer & Lueger, 2003) (see Appendix C for the complete transcription guideline). During the second step the transcription was checked for typing and listening errors. In addition, this step was used to create anonymity in the responses (Lamnek, 2005). Through additional re-reading of the transcript, a better overall understanding of the responses was achieved and provided with comments.

After the transcriptions were completed, they were categorized according to the analysis guideline. The transcripts were marked in different colors that corresponded to its category. Text components that initially did not fit into the categories were rearranged and integrated when the topics of the sub-categories became clear. Each text component was categorized according to a specific topic that answered one of the sub questions; these components were often introduced by a question. Each text component was also assigned a number to allow for better organization during the subsequent analysis process. In addition, it was documented which interview and line number the text component originated from. A short summary was made as an overview for the mentioned topics (see Table B for comparison). These summaries were used to arrange text components with the same topic from different interviews into the appropriate categories. During this process, several sub-categories were created to represent certain topics of the sub questions, such as technical expedients as artifacts of the role of health within the organization.

Finally, after being well-ordered into categories and sub-categories, as well as being provisioned with a short summary, the text components of the answers from all respondents were integrated into a table. This single-line spaced table of blue-collar workers' responses totaled 54 pages. The results of the focus group interviews held with supervisors were not joined into one table, as it

was vital to distinguish between the groups in some cases. Thus, three separate tables were created.

Table B: Example of summarized transcript

Fragment number	Interview code	Line	Text components	Summary
21	E	30	The dust can depose on the lungs. And the noise influences the ears. Well, all adjustments are made here, actually, concerning noise protection. You cannot complain about that.	Noise and dust are not good for health, but all adjustments are made.

3.4.1. Presentation of the Results

During the process of analysis it appeared that it is clearer to describe the perceptions structured by topics instead of structured according to respondent (thus blue-collar workers put side-by-side supervisors viewpoint). This means that first general perceptions of the role of health will be presented followed by specific ones, namely the causes of health. During the discussion of the causes of health, different topics emerged. Those topics are presented one after another.

3.5. Ethical Issues

To ensure that privacy and protection issues are met, the research method was approved by the workers council (see Appendix D for the written declaration). Interviewees were asked whether they agreed to the taping of the interview. The transcripts are used only for research purposes and were destroyed after the conclusion of the thesis.

While describing blue-collar workers' narratives, especially regarding critical incidents, anonymity of the interviewee was assured. However, the degree of anonymity depended on the extent the incident could be generalized.

Interviews were coded to separate the identity of the respondent from the interview content. The data was stored on a removable device to prevent duplication of the data. In addition, hard and soft copies of the files were marked to facilitate the destruction of files after the conclusion of the thesis.

4. RESULTS

In this section the results of this research are presented. First, the overall perceptions' of the role of health within the organization is shown. Second, this section elaborates this role more in detail through the causes of health. It finishes with the results of the role of communication. Each paragraph begins with a table summarizing the findings of the interviews. The categories represent the sub questions of this research. The sub category summarizes the findings from the respondents. Also an example is given representing the sub category; the verbatim citations in German and translated into English can be found in the tables. The following table shows the general perceptions of blue-collar workers and supervisors. Due to the distinction blue-collar workers make between private and work related issues, the blue-collar workers definition of health is not shown to be relevant within this research.

Table C General perceptions of blue-collar workers (bcw) and supervisors regarding the role of health within the organization

Category	Sub category	Translated Citation	German Citation
Bcw perception of role of health in life	Lifestyle is a private issue	<i>When it concerns smoking, that is my cause.</i>	Wenn es ums Rauchen geht, das ist meine Sache.
	Workplace safety concerns health	<i>Workplace safety belongs also to health.</i>	Arbeitssicherheit gehört ja auch mit zu Gesundheit.
Bcw perception of supervisors' health orientation	Organization takes care of employee health	<i>Well, the executives do make efforts. If someone is at the machine and I say I can't do this because of the stairs [...] then one has the possibility to work on another machine.</i>	Also [die Vorgesetzten] gebbe sich ja Müh. Wenn jetzt einer an der Anlage ist und sagt ich kann da net schaffe, weil ich des da, Treppe auf und runter, [...] Dann hat man die Möglichkeit, dass man an ne andere Anlage kommt.
	Organization is mainly concerned about legal aspects	<i>If they, for example don't have an accident, then they need [...] to pay less money.</i>	Wenn die jetzt zum Beispiel keinen Unfall haben, dann[...] müssen sie weniger Geld bezahlen.
Supervisors definitions of occupational health	Occupational health has a long-term aspect	<i>Health protection – actually this is something long term – eh where people are <u>overloaded</u>. [...] This accounts for the physical as well as for the mental.</i>	Gesundheitsschutz, das ist eigentlich was langfristiges, äh [wo] die Leute <u>überlastet</u> [sind]. [...] Des bezieht sich sowohl aufs körperliche sowohl aufs geistliche.
	Occupational health concerns environmental factors	<i>The topic health: it's more about environment...</i>	Das Gesundheitsthema: das geht ja so [um] diese Umgebung eher...

	Occupational health is related to workplace safety	<i>In the American [...] language area one speaks of HSE. [...] There, health promotion, -protection is part of workplace health. So far, the borders are fluently to me.</i>	Im Amerikanischen [...] Sprachraum wird es auch. HSE [genannt]. Da ist Gesundheitsförderung, -schutz, Bestandteil von Arbeitsschutz. Insofern sind für mich die Grenzen fließend.
Supervisors perception of the role of occupational health	Health is new	<i>We work on [workplace safety] day-to-day and very very consistently. The topic health appeared in the last one or two years. The topic is new, at least to me.</i>	[An Arbeitssicherheit] arbeiten wir täglich und ganz ganz konsequent. Das Thema Gesundheit ist mehr in den letzten Jahr, zwei Jahr etwas neu. Für mich zu mindestens.
	Role of health is unclear because it is not underpinned legally	<i>We as an organization have the responsibility to avoid the negative. This is very clear, and even legally reinforced. [...] The topic health: is being fat now bad, because unhealthy, or is being fat now beautiful...</i>	Wir als Unternehmen haben die Verantwortung dieses Negative, um zu vermeiden. Das ist sehr eindeutig und äh sogar gesetzlich gestützt [...] Das Thema Gesundheit, ist dick nun schlecht, weil ungesund, oder ist dick nun schön...-
	Being unhealthy influences production negatively	<i>Health [of my employees] is very important to me, because if they are not healthy, they drop out. And so we lose work force.</i>	Gesundheit[meiner Mitarbeiter] ist mir sehr wichtig, weil wenn sie nicht gesund sind fallen sie aus. Und somit verlieren wir Arbeitskraft.
	Engaging in mental health goes in line with entrepreneurship	<i>The topic mental [...] is a highly entrepreneurial [subject] Performance and creativity and innovation have a lot to do with mental health: with a mental freshness, brightness or unsleepyness.</i>	Das Thema mentale Gesundheit[...] das ist dann ein hochunternehmerisches [Thema] [...]Leistung und Kreativität und Innovation und das hat sehr sehr viel mit vor allen Dingen mit mentaler Gesundheit zu tun, ja. Mit so ner mentalen Frische, Aufgewecktheit, ähm, Unverschlafenheit...
	Health is the responsibility of employee	<i>Our employees need to justify the [...] high wages with productivity. And this high productivity generates at many jobs relatively high stress levels.</i>	Unsere Mitarbeiter [müssen] die [...] hohen Löhne auch mit Produktivität rechtfertigen und diese hohe Produktivität erzeugt auf vielen Jobs relativ hohe Stresslevels [...]

4.1. Blue collar Workers' Definition of Health and Role of Health in Life

In this section the findings of blue-collar workers perceptions regarding the role of health in life and their definitions of health will be presented. Statements regarding the role of health in life are shown first, because they had direct consequence for the definition of health.

Regarding the role of health in life most blue-collar workers clearly distinguished between private and work-related issues. Work-related issues occur during work time; private issues are

mainly lifestyle issues and health related behavior. Regarding work-related issues blue-collar workers mentioned mainly workplace safety. Health was perceived as being dependent on workplace safety. This clear distinction results in a problematic evaluation of health interventions that target health behavior. The conflicts will be discussed in the section concerning healthy behavior (see Section 4.5.2. for comparison).

Blue-collar workers' definition of health included: the absence of disease and pain: *That one is physically fit and has no problems, somehow. [...] - thus [without] high blood pressure, or low back pain.,*⁵ or feeling well: *Health is when one feels well.*⁶ Health is also seen to include multiple aspects like healthy behavior or workplace safety: *Health actually involves everything, for example [it] involves workplace safety [...]. It starts with nutrition.*⁷ Blue-collar workers further argued that both physical and psychological aspects are essential: *If it's from the bones or psychologically, It doesn't matter.*⁸ The definitions of health included pathogenetic health beliefs, positive views on health beliefs and holistic health beliefs. Because this research concerns occupational health, blue-collar workers definition of health in the private context is not further investigated.

4.1. Blue-collar Workers' Perceptions on Supervisors' Health Orientations

In this paragraph blue-collar workers' perceptions of supervisors' health orientations will be presented. Blue-collar workers perceived supervisors' health orientation both negatively and positively.

Some blue-collar workers believed that the organization concerns employee health a lot. For example when safety or health problems occur in a way that blue-collar workers cannot perform their work the problems are addressed by supervisors. Also, some respondents thought that it is good that health programs are offered, because not every organization provides these programs. Blue-collar workers appreciated that supervisors cared about employees' health and did not leave them alone with their health problems:

⁵ Dass man körperlich, physisch überhaupt, fit ist. Keine Probleme hat, irgendwie. [...] Also Hoher Blutdruck, mitunter Kreuzschmerzen.

⁶ Gesund ist wenn man sich wohl fühlt.

⁷ Gesundheit betrifft eigentlich alles, was zum Beispiel betrifft Arbeitssicherheit, [...]Das fängt an bei der Ernährung.

⁸ Ob's von de[n] Knochen her ist, psychisch, egal.

Well, I think it's good that [things like health programs] are offered, because there are a lot of organizations where this is not the case – that the company cares for the workers and employees – that they don't say: okay, he got something and bye. Everyone gets the opportunity.⁹

But others countered that the organization only cares about employee health because the organization is mostly concerned to meet legal requirements and to prevent the financial consequences of an accident. Some blue-collar workers thought supervisors to be egoistic due to this reason. Other blue-collar workers thought that workplace on the one hand is emphasized a lot, but on the other hand is only executed when it does not interfere with the production or if the costs are not too high. They perceived this as contradictory:

Workplace safety, that is important if it doesn't interfere with the production. [...] It's always preached everywhere: "workplace safety, workplace safety, this and that", but when there is no other way, or if costs are too high, then the problems are suffered or tolerated. And that's the contradiction.¹⁰

Some understood that supervisors are not interested in blue-collar workers concerns, like one respondent describes: *Well they do what they want. What we want, no one is interested in that. Well, that is my opinion.*¹¹ Some blue-collar workers believed many aspects have been pointed out, however actual improvements are not done or only after long delay. Small changes for the better could have been done immediate:

Really, whether something changes is questionable, whether it is also carried out. Because a lot of things are mentioned or said here that haven't been done.

⁹ Also ich find's gut, dass [sowas wie Gesundheitsprogramme] angeboten w[e]rd[en], weil es gibt viele Betriebe, wo das nicht der Fall ist. [...] - dass sich die Firma auch für die Arbeiter einsetzt und für die Angestellten - dass sie nicht sagen, na gut er hat jetzt was und tschüss. Es bekommt jeder dann die Möglichkeit.

¹⁰ Die Arbeitssicherheit, die ist wichtig, wenn es die Produktion net stört. [...]Es wird immer überall gepredigt, Arbeitsschutz Arbeitsschutz, dies und jenes, aber wenn es nischt anders geht, oder wenn es zu Hohe Kosten sind, dann wird es geduldet oder toleriert. Und des ist der Widerspruch.

¹¹ Also die machen was die wollen. Was uns wollen, des interessiert keinen Menschen.

Or if: then how long after? - Where small things could have been done right away.¹²

To summarize, blue-collar workers perceived supervisors' health orientation positive because many facilitating improvements are done, that a general tendency to engage in employees' health exists and that this organization compares well to others. Although some blue-collar workers perceived supervisors' health orientation positive, others held the opinion that the organization only engages in health because it benefits them. Further some thought that mentioned problems are not solved sufficiently. Some blue-collar workers thus had unfavorable perceptions regarding supervisors' health orientation. The findings of this section are related to the relationship between blue-collar workers and supervisors which is presented in the section 4.3.2 and as well as in the section 4.4 (Communication).

4.2. Supervisors' Perception of the Role of Health and Definition of Occupational Health

In this section the general perceptions of supervisors regarding occupational health are presented. The section concerns the definitions of occupational health and the understanding of the role of health within the organization. First, the definitions supervisor' gave on occupational health are presented, along with the relationship between workplace safety and occupational health. Second, the role of health is shown through presenting the timeline of occupational health, the influence of laws on the perception of the role of health and supervisors concerns regarding occupational health. It has to be noted that this section presents the viewpoint of the director of the occupational health service department to a lesser extent, because this department has a strong external character.

4.2.1. Definitions of Occupational Health

Strategic managers mainly gave descriptions regarding the definition of health. Different descriptions of health were given. For example health was seen to be related to environmental factors and long term aspects. Health behavior and lifestyle factors like drinking and being overweight also play a role: *If some people- and I believe we all know examples- like to drink,*

¹² Eigentlich... ob sich do was ändert ist sowieso so ne Sach dann. Ob es dann auch ausgeführt wird. Weil es sind schon viele Sachen erwähnt worden oder gesagt worden, wo gar net gemacht worden sind. Oder wenn dann erscht dann, wie lang danach. Wo Kleinigkeiten man schon gleich machen könnte.

*cook, drink a bottle of wine in the evening and are accordingly corpulent. This is unhealthy.*¹³

The descriptive and unspecific answers supervisors gave to define health show that a clear idea about occupational health did not exist.

Occupational health was frequently mentioned along with workplace safety, suggesting that blue-collar workers and supervisors believed that occupational health is related to workplace safety. Furthermore it indicated that not a clear definition of occupational health existed; otherwise a related theme would not be necessary. Compared to the descriptive definitions of occupational health, the definition of workplace safety was short, concrete and clear. Workplace safety was defined as: *the avoidance of accidents.*¹⁴ There were varying opinions about the relationship between workplace safety and occupational health. For example, there is a threesome distinction between workplace safety, the avoidance of illness through bad lifestyle, and enhancing physical and mental health according to a strategic manager:

From my viewpoint we have three topics. The topic of workplace safety, the topic of avoidance of harm due to bad lifestyle and we also have a third area. And this one is a highly entrepreneurial one: How can I enhance health of the employee, physically as well as mentally and through this enhance their productivity.¹⁵

Others expressed that the relationship between workplace safety and occupational health was more fluently, health is mentioned explicitly in the English expression of HSE (health, safety and environment) for workplace safety. Thus, although the respondents suggested a relationship between workplace health and occupational health, the exact connection between these two concepts remained unclear.

¹³ Wenn [welche] (wir kennen da glaube ich selber Beispiele) [gerne] trinken, kochen, abends ne Flasche Wein trinken. Und dann auch entsprechen korpulent sind. Das ist ungesund.

¹⁴ Arbeitssicherheit ist die Vermeidung von Unfällen

¹⁵ Und aus meiner Sicht haben wir drei Themen. Das Thema Arbeitssicherheit, dann das Thema Gesundheit und die Vermeidung von Schäden äh durch schlechtes Leben und dann haben wir noch einen dritten Bereich, und das ist dann auch sehr unternehmerisch. Wie kann ich die Gesundheit von dem Mitarbeiter stärken und zwar physisch und mental um darüber auch ihre Leistungsfähigkeit zu stärken.

4.2.2. Timeline of occupational health

Comparing workplace safety to occupational health both topics had different levels of attention in the past. From a strategic manager viewpoint workplace safety had been worked on a daily basis. Occupational health however was relative new to some strategic managers. It was discussed in the last two years. Occupational health was at the emerging state, workplace safety had been some years ago: *I think that we have a similar situation of “health” compared with the topic “safety” six, seven eight years ago.*¹⁶ Workplace safety from strategic manager point of view had reached a state where accidents in the whole branch were diminished to an extent that it allowed a greater focus on health and environment.

[U]ntil October there was no major accident in the whole company group. Such a long time without accidents wasn't seen before. That means, suddenly a topic disappears gradually from the consciousness of top-level managers. Before, at least once every month a report emerged: “Another major accident occurred.” Now the reports disappear, so there is space and place for other thoughts.¹⁷

Supervisor's stated that the focus on safety was very strong compared to health or environment. One strategic manager described it as followed: *At sometime one discovered that under the name HSE, health, safety, environment, actually only S was present, namely safety.*¹⁸ That the topic health was new to strategic managers was also visible in that concrete actions regarding the topic health were on the level of increasing consciousness and making strategic plans. Also, health was not integrated into daily practice. For example, leading managers were sensitized to health during informal occasions to health related topics such as the demographic change. One respondent described such an event as followed:

The leaders of the organization consciously invited this person in an extraordinary setting to sensitize 100 or 150 upper executives to [the

¹⁶ Ich glaub, dass wir da in einer ähnlichen Situation bei dem Thema Gesundheit [sind, wie] bei dem Thema Arbeitssicherheit vor sechs, sieben acht Jahren.

¹⁷ [Es gab] bis zum Oktober keinen schweren Unfall in dem gesamten Konzern. So eine lange Zeit ohne Unfall hatte der Konzern noch nie gesehen. Das heißt, da entsteht auf einmal äh, verschwindet ein Thema aus dem Bewusstsein der Unternehmensleitung. Vorher war es so, dass es einmal im Monat mindestens, ist ein Bericht aufgetaucht: da ist wieder ein schwerer Unfall passiert. So. Jetzt verschwindet diese Berichtssituation, das heißt da entsteht Platz und Raum für andere Gedanken.

¹⁸ [...]dass man irgendwann festgestellt hat, dass unter dem Namen HSE, Health, Safety, Environment, eigentlich nur das S präsent ist. Nämlich safety.

demographic change] and to carry on the message: “There is an emerging topic that we really need to manage consistently”.¹⁹

Regarding the development of strategic plans respondent commented that concrete strategic plans for 2012-2013 were in development; more attention was given to sustainability and corporate social responsibility. Discussions were held regarding what actions should be taken. Decisions had not been made yet. The discussion seemed to be difficult, because it was not clear how pro-active the organization should be in employee health. More thought was needed on this like one strategic manager describes:

We are preparing our strategy for 2012, 2013. We try to pay more attention to the topic sustainability and corporate social responsibility [...] at this moment we discuss actions [and] what we actually should do. But at this moment nothing is decided yet. To me, it is always difficult, yes? [...] Which role should an organization really play? How pro-active should we actually engage in it. [...] I have to think about this more, yes?²⁰

Activities outside the immediate production sites were provided by the department of occupational health services. These activities were developed independently from workplace safety activities. The described timeline does not account for these services.

Thus, compared to workplace safety, the topic of health was new to strategic managers. Deliberations regarding the expansion from workplace safety towards health were made mainly by strategic managers. Health was not integrated into the daily practice, and which role the organization should play regarding employee health remained unclear. Possible explanations for the unclear role of health can be explained through the influence of the legal regulations on health.

¹⁹ Die Unternehmensleitung hat mit bewusst- diese Person eingeladen um .. hundert, hundertfünfzig oberste Führungskräfte zu sensibilisieren für dieses Thema und die Botschaft rüber zu bringen, in einem außerordentlichen Rahmen: „Hier kommt ein Thema auf uns zu, das wir wirklich konsequent managen müssen.“

²⁰ Ja, wir bereiten jetzt unsere 2011, 2013 Strategie vor. Und wir versuchen eine höhere Aufmerksamkeit auf das Thema Sustainability und Corporate Social Responsibility zu machen, ja? [...] Wir versuchen, wir diskutieren im Moment, Maßnahmen, was sollten wir wirklich eigentlich tun, aber im Moment, nix wurde entschieden, ja. Ganz speziell. Es ist für mich immer schwierig, ja? Nochmals zum Anfang, welche Rolle sollte eine Firma wirklich hier spielen? Wie pro aktiv, wie sollte man wirklich angehen, umgehen? Das ist mir, ich muss mir ein bisschen weiter überlegen, ja?

4.2.3. The Influence of Legal Regulations

The legal regulations of workplace safety require that no harmful effects, like injuries, arise from the work environment. One respondent described: *Workplace safety describes the topic that no one gets sick through working - that no one gets injured through work. ... We are obligated to look whether the circumstances are [...] safe.*²¹ Workplace safety thus was perceived from a clear pathogenetic perspective. While occupational health was seen to be related to workplace safety, the pathogenetic view took over on the definition and description of occupational health. A respondent noted that a general agreement to negative aspects existed. However, different opinions about good and bad were present regarding health related topics. For example, being corpulent could be seen as unhealthy and bad or also as beautiful. So, because health was not regulated legally, the topic of health was somewhat ambiguous.

4.2.4. Concerns of Health: Positive and Negative Aspects

Positive and negative aspects were present in the perceptions of supervisors regarding whether to or not to and how to engage in employee health. Health should be concerned, because some strategic managers assigned several advantages to occupational health. Engaging in health would lead to a greater competitiveness. Diminishing negative outcomes would lead to the desired effects and also some beneficial effects were allocated to occupational health. Supervisors believed that organizations in various countries need to face the demographic change:

On upper managers level, it starts with the stakeholder committee, continues further on upper managers and middle managers, the topic health is seen as a critical competition factor. This is due to the demographic development, not only in Germany, but in almost all countries.²²

Health was further concerned due to absenteeism. For example, operational managers cared about employee health because it directly influenced workforce: *Health [of my employees] is very important to me -- because if they are not healthy, they drop out. And so we lose work*

²¹ Arbeitssicherheit beschreibt wirklich das Thema, das niemand durch das Arbeiten hier krank wird. Das niemand sich verletzt durch das Arbeiten. Oder hier Leistung für die Firma erbringen und da sind wir schon verpflichtet zu schauen dass die Bedingungen so sind, dass es sicher ist.

²² [...] auf der obersten Führungskräfteebene, das beginnt schon bei dem Gesellschafterausschuss, geht weiter auf die Unternehmensführung, geht weiter bei uns auf die Geschäftsleitung, dass das Thema Gesundheit als ein entscheidender Wettbewerbsfaktor erkannt wird. Das liegt einfach an der demographischen Entwicklung, nicht nur in Deutschland, sondern in fast allen Ländern.

force.²³ Supervisors added that being unhealthy also further influences productivity. Being extremely overweight for example could lead to unproductiveness that affects the employee himself but also that of colleagues:

As soon as it involves the organization – the productivity of the employee, or that other employees are involved – we are obligated to address this employee. We had the problem that one employee gained weight extremely and could hardly move and actually couldn't do certain activities.²⁴

Employee health thus should be concerned in some supervisors' viewpoint due to the negative consequences of the demographic change, absenteeism and decreased productivity. Caring about employee health could furthermore influence productivity actively. For example some strategic manager's felt positive that good mental health leads to greater productivity. Good mental health was associated with topics in line with entrepreneurship:

The topic mental health and in this sense: performance, creativity, competitiveness [...] is a highly entrepreneurial [subject] that can be sold very well. Performance and creativity and innovation have a lot to do with mental health: with a mental freshness, brightness or unsleepyness.²⁵

Despite advantageous perceptions of health; some discussion points arose regarding the reasons to consider employee health. It remained unclear to supervisors how proactive the role of the organization should be. Some strategic managers insisted that it was crucial to leave the responsibility with the individual employee; furthermore they believed that taking care of their health and being able to counter the workload needs to be enforced. Responsibility of the individual employee was seen as the core of entrepreneurship. Due to the high payment some supervisors thought that the expectation of high productivity (which is thought to be related to relative high levels of stress) was justified:

²³ Gesundheit ist mir sehr wichtig, meiner Mitarbeiter, weil wenn sie nicht gesund sind, fallen sie aus. Und somit verlieren wir Arbeitskraft.

²⁴ Sobald es aber in den Bereich eines Unternehmens reinght - die Leistung des Mitarbeiters, oder dass andere Mitarbeiter davon betroffen sind, sind wir eigentlich verpflichtet diesen Mitarbeiter [...] an zu sprechen. [...] Also wir haben das Problem, dass ein Mitarbeiter extrem zugenommen hat und sich kaum mehr bewegen kann und bestimmte Tätigkeiten eigentlich gar nicht mehr machen kann.

²⁵ das Thema mentale Gesundheit und dann eben Leistungspotenzial, Kreativität, Wettbewerbsfähigkeit. Das ist dann ein hochunternehmerisches [Thema], was sich sehr gut verkaufen lässt.[...]Leistung und Kreativität und Innovation und das hat sehr sehr viel mit vor allen Dingen mit mentaler Gesundheit zu tun, ja. Mit so ner mentalen Frische, Aufgewecktheit, ähm, Unverschlafenheit...

At the end [we] always commit towards our guiding principles – the self responsibility of the individual. From the individual we develop our entrepreneurial power of our company. And health is two-sided here. On the one side we can be good to our employees and enhance their health, so to speak departing from a do-gooder perspective. If one looks tight one could also argue that, here in Germany, by the high wages, employees need to justify these high wages with productivity. And this high productivity generates at many jobs relatively high stress levels.²⁶

Engaging in employee health was thus seen as a two-sided aspect. On the one hand it might lead to greater productivity due to a lower absenteeism and greater mental fitness and productivity; but on the other hand it was not obligatory to the organization to engage in health and it was seen as employee's responsibility to take care of their health..

To summarize, supervisors gave mainly descriptive definitions of occupational health showing that occupational health did not have a clear role within the organization. Furthermore, health was seen to be related to workplace safety; but the exact relationship was perceived differently by supervisors. Meanwhile workplace safety was dealt with day-to-day; the topic of occupational health was new to some strategic managers. As supervisors had not spent much time thinking about the topic, also the role of occupational health was unclear. Contrary to workplace safety occupational health was not obligated through legal requirements contributing to differing perceptions regarding the need to engage in employee health. It leaved discussions open for the benefits and detriments of occupational health: occupational health might lead to greater productivity due to reduction of absenteeism, greater mental fitness associated with productivity; but also employees were seen to be responsibility to take care of their health themselves.

²⁶ Letztendlich bekunden wir uns in unserem Guiden Principles immer wieder zur Eigenverantwortung des Individuums, ja. Aus dem Individuum heraus entfalten wir ja auch die unternehmerische Kraft unserer Firma. Und da ist die Gesundheit ein zweischneidiges. Einerseits können wir als Firma, sozusagen gut zu unseren Mitarbeitern sein, und ihre Gesundheit fördern, sozusagen aus Gutmenschtum heraus. Wenn man scharf hinschaut kann man auch sagen, hier in Deutschland, bei den hohen Löhnen, müssen unsere Mitarbeiter diese hohen Löhne auch mit Produktivität rechtfertigen und diese hohe Produktivität erzeugt auf vielen Jobs relativ hohe Stresslevels [...]

4.3. Causes of Health

The following section deals with the perceptions of the causes of health. Respondents mentioned several causes of health including physical aspects, the relationship among blue-collar workers and supervisors, shift work, and healthy behavior. Each topic is discussed more in detail, beginning with a short introduction of interventions that target the specific cause of health. Then, the viewpoints of blue-collar workers and supervisors are presented.

Table D Aspects that influence health according to blue-collar workers

Blue-collar workers	Relationship	Physical	Shift work	Healthy behavior
A	+	++	/	++
B	++	+	+	+
C	++	-	++	-
D	++	+	/	+
E	++	+	/	++
F	++	+	/	+
G	+	+	+	+
H	+	+	/	+
J	++	+	/	+
K	/	+	/	+
L	++	+	+	+
M*	-	++	/	+
N*	-	-	/	+
O	-	+	+	-
P	-	-	/	++

Coding: not mentioned: /; doesn't play a role for health: - ; play a role partly for health: +; play a great role for health: ++; *Interviewee M and N were questioned simultaneously

Blue-collar workers and supervisors initially mentioned physical aspect, healthy behavior and relationship among blue-collar workers and supervisors as causes of health. As can be seen in table D, the relationship among blue-collar workers and supervisors play a great role. Shift work was initially only mentioned by blue-collar workers; however it hasn't been mentioned by many respondents. Healthy behavior was thought to influence health as well. All blue-collar workers mentioned healthy behavior; furthermore the great majority pointed out that it influences health notably. The causes of health and the role of the causes will be discussed more in detail in the following section. Table E shows a summary of the themes and citations of the blue-collar workers side-by-side with the citations of supervisors.

Table E Perceptions of the causes of health by blue-collar workers and supervisors

Category	Respondent	Theme	Translated Citation	German Citation
Physical aspects	Blue-collar workers	Health problems occurred through bad posture	<i>I always had to stand so curved at the machine – [...] Then [I got pain in my back]. I still have a little bit of complaints today.</i>	Ich hab da so verkrummt an der Maschin arbeite müsse immer. [...] Dann hat des do reingezogen. Bis runna. Da hab ich heut noch bissl Maleer.
		Increased work-pressure causes stress	<i>Stress is every day. It doesn't really matter where you are. [...] Because everything has to be faster, faster, faster.</i>	Stress ist alle Tag. Da ist eigentlich egal, wo man is. [...] Weil alles immer schneller schneller schneller gehen muss.
		Physical aspects are dealt with in line of workplace safety	<i>It is significantly watched more – especially hearing protection or also dust extractions and things like that - or that you actually don't lift that heavy anymore.</i>	Es wird bedeutend mehr geguckt. Vor allen Dingen, Lärmschutz, oder auch Absaugung und sonst was. Oder das man eigentlich nicht mehr so schwer heben soll.
	Supervisor	Noise and ergonomics matter	<i>Mainly noise [influences health] The machine is very noisy. And also putting the rolls from the machine on the pallet.</i>	Hauptsächlich Lärm [beeinflusst Gesundheit]. Die Maschine ist sehr laut. Und halt die Bewegung von den Rollen von den Maschinen aus, Palette reinlegen.
		Legal responsibility to avoid overload need to be met	<i>Employees are prone to [physical work] load. In the meantime we have legal claims.</i>	Wir haben Belastungen von Mitarbeitern. Mittlerweile haben wir legal rechtliche Forderungen.
		It is a requirement of the work to be fit enough	<i>It's the requirement of this work. You have to be fit enough.</i>	[Es]ist die Anforderung von dieser Arbeit. Du musst fit genug sein, ja.
		Unlike today, in the past workload was heavy	<i>I also worked with the machines before. [compared to] today- In the past that was stress. Today: I'm sorry, [that's not the case].</i>	Ich hab ja auch früher an der Maschine gearbeitet. [vergleichsweise mit] heute, ... des war Stress damals, damals haben wir Stress gehabt. Heute, tut mir leid [ist das nicht mehr so].
Relationship among blue-collar workers and supervisors	Blue-collar workers	If one is afraid of executives is not possible to be healthy	<i>If from the beginning I'm afraid of the executive – [...] how can I enhance my health then?</i>	Wenn ich Anfang her, also von Vorgesetzte Angst hab, ja, Angst hab, [...]Wie soll meine Gesundheit besser mache?
		People are egoistic	<i>It has something to do with the attitude of the people, the "I- thinking".</i>	Weil des ist wieder die Einstellung von den Leut. Des isch denken.
		Working with changing employees is not good	<i>[This year], I have been working the ninth week: nine colleagues, every weak another one - sometimes three times a week. And somehow that's not so great.</i>	Ich glaub ich schaff jetzt die neunte Woche [dieses Jahr]. Neun Kollegen. Jede Woche nen anderen. Manchmal die Woche drei. Das ist nicht so brummig.

		Communication of work load and not so much work load itself matters	<p><i>When work was available, people were always willing to work. And it's a difference between saying: "you have to", or if I ask: "can you come?"</i></p> <p><i>Everything is in this ordering tone.</i></p>	<p>Wenn Arbeit war, waren die Leute schon immer bereit zu schaffe. Und es ist ja ein Unterschied ob ich sag, ihr müsst komme, oder wenn ich frag, könnt ihr komme? [E]s [hat] halt alles so ein Befehlston.</p>
	Supervisors	Employees make their own stress	<p><i>I believe the stress results from: "Hopefully they don't catch me when I do my break again."</i></p>	<p>Ich seh den Stress darin: „hoffentlich erwischt er mich jetzt nicht, dass ich schon wieder Pause mache.“</p>
		Executives are stressed as well	<p><i>The executives have stress, the ones that need to look that all the goods are made. [...] For the employee at the end it is only a modification [on the machine].</i></p>	<p>Die Vorgesetzten haben Stress, die wo gucken müssen, dass die Waren gemacht werden. [...] Für den Mitarbeiter ist es im Endeffekt nur ein Umbau [an der Maschine].</p>
		Interpersonal communication needs time	<p><i>[Reaching understanding] is time-consuming and partly we don't have [time] anymore.</i></p>	<p>In den Gesprächen, das Verständnis wecken. Das ist aber zeitaufwendig und des haben wir teilweise nicht mehr.</p>
		Subordinates should accept stress, that would be healthier	<p><i>At the end, that's the way. I mean, it's going to stay that way and it will continue that way. And from my point of view it would be healthier if people accept it and deal with it. I say that very bluntly.</i></p>	<p>Am Ende, so ist das. Ich meine, das wird so bleiben und es wird so weiter gehen. Und aus meiner Sicht, es wäre gesünder, wenn die Leute das irgendwann mal akzeptieren können und [damit] umgehen. Ich sag es jetzt ganz hart.</p>
Shift work	Blue-collar workers	Shift influences living rhythm	<p><i>Three-Shifts work, you can't sleep properly, can't eat properly, can't be with your family.</i></p>	<p>Dreischichtbetrieb, kannst du net richtig schlafen, kannst du net richtig essen, kannst du net mit deiner Familie irgendwann rumgehen, ne.</p>
		Shift work needs to be done due to family commitment	<p><i>When I have to feed my family and I have to work three shifts, than I have to work three shifts. No matter if my body wants it or not.</i></p>	<p>Wenn ich Familie ernähren muss, und ich muss drei Schichten schaffe, dann muss ich drei Schichten schaffe, ob es der Körper jetzt nun will oder net.</p>
		Shift work hinders to take part in sport associations	<p><i>With us shifters, it's mainly that way: [...] sport associations [...] that is only once in three weeks anyway. [...] Somehow you say: „I don't have the time, I rather go sleeping“.</i></p>	<p>Das ist bei uns Schichtlern auch hauptsächlich so: [...] Sportvereine [...], das ist ja sowieso nur einmal in drei Wochen [...] Wo man dann irgendwo sagt, ich hab jetzt keine Zeit, ich geh lieber schlafen.</p>
	Supervisor	Shift work is cheap excuse	<p><i>They can make the schedules how it suits</i></p>	<p>Es liegt jeden in seinem Bereich, [...] dass er seine Termine so legen kann auch,</p>

			<i>them. To me it is a cheap excuse. In the end everyone can influence their activities.</i>	dass es passt. Das ist für mich ne billige Ausrede. Letztendlich hat jeder Einfluss auf seine Tätigkeiten.
		Shift work is indeed health harming	<i>That shift work is not health enhancing is proved [...], because the body has to adjust on the rhythm continuously.</i>	Das Schichtarbeit nicht gesundheitsförderlich ist, ist bewiesen. [...] Weil der Körper muss sich ständig auf nen anderen Rhythmus einstellen.
		Shift work is necessary	<i>We need to run our production site 24hours. There is no other possibility.</i>	Wir müssen unser[...] Werk 24 Stunden fahren. Also es gibt keine andere Möglichkeit.
Healthy behavior	Blue-collar workers	Behaving healthy is a private issue	<i>If it is about smoking, that's my concern. I don't let others interfere.</i>	Wenn es ums Rauchen geht, das ist meine Sache. Da lass ich mir nicht reinreden.
		Safety behavior is employees' responsibility	<i>When it is stated somewhere: "you should wear hearing protection", [and if] one only follows [the instruction] during the morning shift so that one gets no punishment [...] then the company cannot do anything about it.</i>	Wenn da steht: „da ist Gehörschutz“, man sich nur daran hält in der Frühschicht, damit es keine Abmahnung gibt [...] Dann kann die Firma machen was sie will.
	Supervisor	Healthy behavior is the responsibility of employees	<i>From my point of view employees are totally responsible for their life.</i>	Meine Sicht ist, dass sie [Mitarbeiter] vollständig für ihr Leben verantwortlich ist.

4.3.1. Physical Factors

The occurrence of physical hazards has been perceived differently from the respondents. First, the blue-collar workers' viewpoint is described, followed by the supervisors' viewpoint. Interventions that attempt physical aspects were dealt by workplace safety activities. Examples of workplace safety were: protecting goggles, protecting gloves, ear plugs, safety shoes or technical adjustments on the machines. Technical solutions for the working process were developed about two years ago to reduce work load of blue-collar workers. Due to the high costs they were rejected. Investigations are done to find a solution with lower costs, but it seemed improbable on the short term. Furthermore a technical solution cannot foreclose all hazards.

Blue-collar worker viewpoint

Regarding blue-collar workers' perception of physical hazards mixed results were found. They expressed that physical hazards are harmful, a little harmful and not significant

harming. Health damaging physical hazards were dust, heavy lifting, standing in a wrong posture, screen work and work pressure. Some blue-collar workers believed that physical hazards are only partly present, because it was already dealt with physical strain to a great extent by workplace safety interventions. They thought without workplace safety, injuries would occur and therefore affect health. No big difference is seen between workplace safety and health, as an interviewee describes: *[Health] is related to the [workplace safety]. If I don't have workplace safety at the machine and I touch some [dangerous parts], it affects my health.*²⁷ From their perspective much effort is made to provide a safe working environment. The emphasis of the interventions was to make facilitate work as one interviewee described:

Well, I think they have done quite a lot to make things [...] Like the working mat, that is placed everywhere around the machines [to soften the underground], the suction construction they constructed and also the safety shoes.²⁸

Furthermore who suffers from health problems received personal adjustments to reduce the complaints, as one blue-collar worker described:

For example, I could change from [machine 1] to [machine 2], because there is more lifting at [machine 1]. I had problems with my back. After my 4th hernia they put me to the other machine. [T]hey have done really really a lot.²⁹

They considered also that other organizations deal with physical hazards much less and that the physical workload at other occupations is higher. One blue-collar described that as followed: *I can't complain I have to say. I have worked harder then there. I mean, as a*

²⁷ Weil [Gesundheit] fängt bei [Arbeitssicherheit] schon an. Wenn ich bei mir an der Maschien keine Arbeitssicherheit hab und ich lang irgendwo rein oder was, geht es auf meine Gesundheit.

²⁸ Also ich finde, die haben schon ziemlich viel dafür getan, dass man's leichter hat. [...] Wie die Fußmatte, wo überall an der Maschine liegen. Und die Absauganlage, wo sie hingemacht haben. Und a[uch] Sicherheitsschuhe und so.

²⁹ Also zum Beispiel bin ich von der [1. Maschine] an [die 2. Maschine], weil man da heben muss, weil ich Probleme mit dem Rücken hab. Nach dem 4.ten Bandscheibenvorfall haben sie mich dann an die [1. Maschine verlegt]. Sie haben schon viel, viel gemacht.

*cook, you need to be able to do more than there.*³⁰ Also not only one cause influences health; thus the organization was rather one of multiple possible causes. However, some blue-collar workers felt stressed due to work-pressure.

To summarize blue-collar workers viewpoint on physical aspects, it can be noted that physical aspects were present, but that also a lot of effort is done to reduce physical hazards. Some mentioned that work-pressure leads to stress.

Supervisor viewpoint

Operational managers thought that blue-collar workers mentioned mostly noise, handling of the load, dust, disadvantage body posture and repetitive movements to be health harming. It is remarkable that operational managers believed that mainly physical aspects play a role. Accordingly they considered that the working environment should be adjusted. As one respondent said, work should allow changing positions to minimize disadvantageous ergonomic postures: *It is important that work is distributed the way that the employee works diverse during his work life - thus that one is not only overloaded one-sided.*³¹ Actual effort was made to fore come health hazards. For example much attention was paid to provide a safe working environment that protects blue-collar workers from heavy lifting and injuries. In one mentioned case however, it was visible that the evaluation of work-load and the legal duty of the organization to avoid physical overload was an area of conflict among supervisors. One respondent argued:

There have been several approaches to get an investigation approved. They have been refused. Employees suffer exposures, and in the meantime we have legal claims according to the load handling order. And then we have a situation of employees at that area, [with] people that are not capable of running a machine. [...] Usually this are people

³⁰ Also ich kann net schimpfen, muss ich sagen. Ich hab schon härter geschafft wie dahinne. Mein. als Koch, muss man bisschen mehr (..) können wie da

³¹ Es ist wichtig, dass die äh Arbeiten so eingeteilt werden, dass die Arbeiter im Laufe seines Arbeitslebens abwechslungsreicher arbeitet. Also net immer nur einseitig beansprucht wird [...].

that are 45 + and of all they do physical work. Hm. – that's on the border.³²

Some supervisors thus held the opinion that the actual physical workload might cause health problems by people prone to certain risks and suggest technical solutions. But, the technical solutions were rejected until now because sufficient economical pay-back was not given. Some other supervisors argued that workload is part of the job. Also whether or not the legal requirements need to be met was not clear and perceived as a grey zone like a strategic manager described:

It's the requirement of this work. You have to be fit enough. We can invest money in the improvement but there is no economical pay-back. It's economically not worth it to invest this money. Therefore the [investment] is a grey-zone for me.³³

Furthermore, some operational managers thought that physical work load does not cause stress; because they perceived that the work load was higher in the past.

To summarize, most blue-collar workers believed that physical hazards play a limited role today. Health-harming effects of physical hazards were greater in the past; and work was less exhausting compared to other occupations. Some supervisors thought physical aspects were health influencing; great efforts have been taken in the past to provide a safe work environment. However, they argued about the actual work-load and to which extend the organization should fore come overload. A recurring comment that has been made by operational and strategic managers was that limiting hazards or work-load is two-sided. This discussion returns also in the section of supervisors' perception of the role of health (section 4.5.).

³² [Es w]urden mehrfach Anläufe genommen um ne Investition genehmigt zu bekommen. Die wurde abgelehnt. [...] wir haben Belastungen von Mitarbeitern, mittlerweile haben wir legal rechtliche Forderungen entsprechend der Lastenhandhabungsverordnung, äh, dann haben wir ne Mitarbeitersituation in diesem Bereich, [mit] Leuten die nicht in der Lage sind ne Anlage zu führen. [...] Das sind in der Regel Leute, die äh Alter haben 45 +. Ne, und die Leute, ausgerechnet die Leute äh, die machen die körperliche Arbeit. Ne? ähm. Grenzwertig.

³³ [Es]ist die Anforderung von dieser Arbeit. Du musst fit genug sein, ja. [...] wir können [in] die Verbesserung Geld investieren, aber es gibt keinen ökonomischen Pay-Back. Es lohnt sich nicht wirtschaftlich, dieses Geld zu investieren. Und [...] deswegen ist [die Investition] für mich eine Grauzone.

4.3.2. *Relationship among Blue-collar workers and Supervisors*

Many blue-collar workers considered that psychosocial factors influence health, even more than physical aspects. A blue-collar worker states:

You cannot only think [about] physical [factors], but also [about] mental [ones]. Mental [aspects are] very important: If I have damage there, it's over - no matter if my body is healthy or not. ³⁴

Supervisors paid less attention to this aspect; no interventions targeted this. Taking a closer look on psychosocial aspects, the respondents mentioned employee-supervisor relationship and employee-employee relationship to influence health. The following paragraph describes how these relationships influence health and the underlying reasons for this influence.

Blue-collar workers' viewpoint

Some blue-collar workers perceived anxiety due to bad employee-supervisor relationship which influenced their health negatively. They felt frightened and questioned how one can be healthy under these circumstances. Blue-collar workers also thought that the relationship among blue-collar workers themselves was not satisfactory. Some perceived others as being egoistic. One respondent commented this as followed:

It has something to do with the attitude of the people, the "I- thinking".
[...] Like: "I do more than you" Why? It doesn't matter. ³⁵

Some blue-collar workers felt that supervisors do not appreciate a good relationship among blue-collar workers: *When we get along at the machine people don't necessarily like it.* ³⁶ However, others considered that how one copes with it is critical to avoid negative effects. One blue-collar worker stated:

[T]he most important thing is, myself. [...] I may not [...] feel observed.
When I feel observed I would make myself stress. [...] I do my work no

³⁴ Äh, man muss net nur körperlich so denken, sondern auch seelisch. Seelisch ist sehr wichtig. Wenn ich da einen Schaden hab, dann ist es vorbei. Ob mein Körper gesund ist oder nicht.

³⁵ Des ist wieder die Einstellung von den Leut. Des „isch denken“. [...] So wie: „Isch mach mehr wie du“ [...] warum? Ist doch egal.

³⁶ Wenn wir uns an der Maschine verstehen, wird das nicht unbedingt gerne gesehen.

matter if people watch me, whether it is positive or negative. [...] I can imagine that if some people feel watched, they are more scared.³⁷

The relationship between blue-collar workers and supervisors was essential, because it influenced the perception of work-load. Some blue-collar workers pinpointed that not the actual work pressure might play a role, but how supervisors communicated about it. A directive way of communication was not appreciated. Rather blue-collar workers preferred that they were asked:

If less pressure is from above, it's also easier beneath. And when work was available, people were always willing to work. And it's a difference between saying: "you have to", or if I ask: "can you come?" [...] That's pure how you deal with it. [...] it is in this order-tone. It's directed from above.³⁸

The perception of physical factors was thus influenced through the relationship among blue-collar workers and supervisors.

Supervisors' viewpoint

Supervisors expected blue-collar workers mentioning that high work-load would cause stress. However, they thought themselves that work-load was not a cause for stress. Rather one operational manager revealed that stress arises because blue-collar workers feel that supervisors control their breaks: *I believe the stress results from: "Hopefully they don't catch me when I do my break again."*³⁹ Operational managers further thought that blue-collar workers are stressed if too little attention would be given to them: *It often begins with stress under the people. [They think]: "The foreman talked to him ten minutes. He didn't talk to me today. He likes him more than me".*⁴⁰ It can be suggested

³⁷ Der wichtigste Punkt ist, ich selbst. [...] ich darf mich net irgendwie [...] beobachtet [...] fühlen. Wenn ich mich jetzt beobachtet fühlen würde. Dann würd ich mir selbst Stress machen. [...] Also ich mein, des ist meine Arbeit, des ist mir egal was die Leute, mich beobachten, ob des positiv ist, oder negativ ist [...] Also ich kann mir schon vorstellen, dass die Leute irgendwie beobachtet fühlen und so weiter, dass sie vielleicht ängstlicher sind.

³⁸ Wenn weniger Druck von oben kommt, ist es auch unten leichter. Und wenn Arbeit war, waren die Leute schon immer bereit zu schaffen. Und es ist ja ein Unterschied ob ich sag, ihr müsst kommen, oder wenn ich frag, könnt ihr kommen? [...] Des ist der reine Umgang, wie ich das mach. [...] Weil es halt alles so ein Befehlston hat. Des wird halt von oben diktiert.

³⁹ Ich seh den Stress darin: „Hoffentlich erwischt er mich jetzt nicht, dass ich schon wieder Pause mache.“

⁴⁰ Es fängt auch oft, es fängt auch Stress an mit den Menschen, der der Meister hat mit dem wieder zehn Minuten geredet, mit mir redet der heut gar net. Der kann den besser leiden als mich.

that some supervisors do not take blue-collar workers perception of stress seriously but rather they felt that they create stress themselves. Interestingly operational managers themselves pointed out a bad employee-employer relationship. They felt that blue-collar workers themselves did not sufficiently understand that they are stressed themselves and why they are stressed. For example, supervisors assumed that blue-collar workers think they would not actually work:

The employee feels misunderstood, that the executive cannot empathize with the employee. But it's the other way round as well. The employee cannot empathize with the executive, what kind of stress he has. That's it, I would say. Then they say: "What does he need to do? He walks around a little bit; he doesn't need to do anything".⁴¹

Some supervisors thought that a bad relationship can be encountered stating that blue-collar workers first complain that nothing is done with their safety suggestions but after showing them which suggestions have been implemented, they would start to cooperate. Also, it was thought to be critical that solutions were found for the problems blue-collar workers address. An operational manager explained:

The first thing employees say at the safety week is: "Nothing is done anyway." [...] And then you need to show them from the year before: "This is what you have complaint about -, this is how much percent we have implemented." And then the people are quiet and cooperate more.⁴²

However, gaining understanding among blue-collar workers and supervisors was thought to be time-consuming. Operational managers thought that due to discharges, too little time for interpersonal communication was left and communication was restricted to instructions only. One respondent argued:

⁴¹ der Mitarbeiter fühlt sich missverstanden, der Vorgesetzte kann sich net in die Mitarbeiter einfühlen. Es ist aber genauso umgedreht. Der Mitarbeiter kann sich net in den Vorgesetzten einfühlen. Was der für nen Stress hat. Da ist es genau, des ist es. Sag ich. Dann heißt es: was hat denn der zu tun, groß. Was macht denn der? Der rennt ja bloß da vorne rum, der hat nichts zu tun.

⁴² Das erste bei der Safety week was die Mitarbeiter sagen: es wird doch nichts gemacht. [...] Und dann müssen sie eben vom letzten Jahr zeigen, hier, das habt ihr bemängelt, soviel Prozent haben wir umgesetzt. Und dann werden die Leute ruhig und arbeiten dann immer stärker mit.

R₁: And if the foreman talks to the employees, then it's mostly
instruct[ive] [...]

R₂: Do you want to say something? Have you understood everything?

R₃: Have you something to say is what you say and you think in the
same time: hopefully not - because you don't have the time.⁴³

Also some strategic managers agreed that bad climate can be explained through the massive lay-offs in the past years. But they noted that it would also be healthier if the massive lay-offs would be accepted, because the situation was not changeable anyway.

To summarize, blue-collar workers believed that the relationship among blue-collar workers and supervisors is perceived as bad and that this influences their health significantly. On the one hand some supervisors acknowledged that a good employee-employer relationship is vital and should be addressed. This was rather difficult for operational managers, because they lacked time for interpersonal communication. On the other hand some supervisors could not understand blue-collar workers concerns of stress, because they assumed that their estimation of the work-load was not correct and that they create stress themselves. Blue-collar worker suggested that the problem lays more in the communication of workload rather than the work load alone. The confusion among the respondents arose from different understandings of work load. Blue-collar workers generally meant by work load the communication about the load; meanwhile supervisors spoke of the physical load itself. Strategic managers realized that cut-offs influenced psychosocial health but that at the end nothing could be done about this; it would be healthier if subordinates accepted the situation.

4.3.3. Shift Work

Shift work, a planning and organizational factor, has been mentioned as one aspect that influences health by a few blue-collar workers (compare Table D for the exact amount of blue-collar workers that mentioned shift work). Blue-collar workers normally had to work in three shifts, one week in the morning, the next in the evening and the following in the afternoon. Initially only blue-collar workers brought up shift work.

⁴³ R₁: Und wenn die Meister heute mit den Mitarbeitern reden, dann sind es meistens Unterweisungen. [...]

R₂: Haste noch was dazu zu sagen? Haste alles verstanden?

R₃: haste noch was dazu zu sagen sagschte und denkschte: hoffentlich net. Weil du hascht kein Zeit mehr.

Blue-collar workers' viewpoint

Some blue-collar workers mentioned shift work (especially working three shifts) as a factor that influences their health negatively. Shift work would make it difficult to maintain a regular eating and sleeping pattern, and also family life would be impaired. Working in shift when one is young would be less problematic, but when one is getting older, one would become more vulnerable for shift work. One respondent described: *With the shift, I could have lie down and sleep at every time, day and night, but I wasn't really awake. I mean, when I began, that was no problem, but one gets older.*⁴⁴ Doing three shifts was further seen to impair taking part in sports. It would only be possible to join sport activities ones in three weeks. There would be no time during the night and during afternoon shift one would rather go to sleep. Only the morning shift would remain then:

With us shifters, it's mainly that way: [...] sport associations [...] that is only once in three weeks anyway. [...] Somehow you say: „I don't have the time, I rather go sleeping“. The night shift and the afternoon shift fall flat anyway, so only the morning shift remains.⁴⁵

Some blue-collar workers thus perceived negative influences for their health, but continued working in shifts due to family commitment.

Supervisors' viewpoint

Supervisors perceived the influence of shift work on blue-collar workers' health differently. Some recognized the negative influence of shift work on health, but at the same time believed that working in shifts is an own choice.

Some supervisors noted that it is proved that shift work clearly influences health, because the body has to adjust on a changing rhythm continuously. Some operational managers thought that shift work influences family life and that it is easier to work shifts as a single:

⁴⁴ Ich hätt mich zu jeder Tages und Nachtzeit irgendwo hinlegen und schlafen können, ne. Nur wach bin ich nicht geworden. Ich mein, als ich hier angefangen habe, war's kein Problem. Man wird älter, ne.

⁴⁵ Das ist bei uns Schichtlern auch hauptsächlich so: [...]Sportvereine [...], das ist ja sowieso nur einmal in drei Wochen [...] Wo man dann irgendwo sagt, ich hab jetzt keine Zeit, ich geh lieber schlafen. Also [die] Nachtschicht oder Mittagsschicht fällt eh flach, [...] bleibt nur die Frühschicht.

As a single, a relative young person, you don't go home after the afternoon shift, one leaves immediately. [...] With family fathers, if the child leaves to school at seven or one brings it to school - or at the evening, when you come home and it sleeps. Of course family life is impaired that way.⁴⁶

Others however stated that mentioning shift work as a reason for not participating in health interventions would be a subterfuge; blue-collar workers would be able to schedule their activities themselves. If one could not cope with it, one could have changed the situation in the past. Also if someone committed to be a shift worker one would need to deal with the consequences. The financial compensation would justify this argumentation according to a strategic manager:

R₁: They can make their schedule how it suits them. To me it is a cheap excuse. In the end everyone can influence their activities. Then, he has to look for somewhere where there are no shifts, or should have looked for something else in the past, if he can't cope with it. I couldn't cope with it as well.

R₂: [I]f someone says: "I'm a shift worker", then you have to live with it, because you have the financial compensation to allow you some other things in private life.⁴⁷

A strategic manager noted that although shift work might be health harming, it would also be necessary for the organization. The production would need to run 24 hours, there would be no other possibility. This demonstrates that sometimes employee health conflicts with other organizational interests that cannot be solved totally.

⁴⁶ Als Single, als relativ junger Mensch. [...] Da kommt man gar net nach der Mittagsschicht nach Hause. Spricht, man geht dann gleich. Und da gibt es viele die Mittagsschicht arbeiten. Und bei Familienvätern, da geht das Kind morgens um sieben in de Schule, oder man bringt es noch in de Schule und abends, wenn man nach Hause kommt schläft es. Und da geht natürlich das Familienleben etwas runter.

⁴⁷ R₁: Es liegt jeden in seinem Bereich, dass er dann äh sich weiterentwickeln kann, dass er seine Termine so legen kann auch, dass es passt. Das ist für mich ne billige Ausrede. Letztendlich hat jeder Einfluss auf seine Tätigkeiten. Da muss er sich halt was anderes suchen wo keine Schicht gearbeitet wird. Oder hätte damals was anderes suchen müssen. Wenn er des nicht verträgt. Ich hab's ah net vertragen. [...]

R₂: Wenn man sagt, ich bin Schichtarbeiter, dann muss man auch damit leben, weil er einfach auch den finanziellen Ausgleich dazu hat, um sich privat andere Sachen noch gönnen zu können.

To summarize, shift work can influence health negatively; especially when one becomes more vulnerable for shift work with increasing age according to blue-collar workers. Shift work would further impair participation in health programs. But due to family commitment working in changing shifts or night shifts would be necessary. Their voluntariness in changing shifts is thus impaired. Supervisors recognized the health harming effect of shift work, however expressed that sufficient financial compensation was given and that blue-collar workers were self responsible. Further the organization would need shift work to meet production goals.

4.3.4. Healthy Behavior

This section presents interviewees perceptions regarding healthy behavior. After a short introduction is given on behavior based interventions, blue-collar workers' viewpoints on which role healthy behavior in the organization should play will be discussed. The section closes with the role of healthy behavior and means of implementing healthy behavior interventions according to supervisors.

The department for occupational health services provided voluntary health programs targeting health behavior. A brochure was made that informs employees about the activities on campus. Not only activities initially provided by the department were mentioned but also activities organized from the production sites of the campus. HSE-officers also attempted to train the lower back of blue-collar workers on the site. A room wherein back exercises were provided was installed for this purpose. An external trainer was hired to show the exercises. The goal of the container was to train the back to compensate for the extended health risks due to work. The intervention was stopped due to a lack of use.

Blue-collar worker viewpoint

Blue-collar workers held the opinion that behavior influences health. However, they perceived it as problematic that the organization engages in healthy behavior because it intrudes their private life. They expressed clearly that lifestyle related health behavior is something private and that they did not wish that the organization concern in health and health related behavior by forcing and obligating them to follow programs. A blue-collar worker commented on this: *One cannot force someone to [behave] health[y]. That would*

*be bad. One is a free man.*⁴⁸ This applied especially for behavior unrelated to work, like smoking. For work-related health behavior, blue-collar workers also saw mainly themselves responsible to behave healthy. Behaving safe would concern them most and it would their responsibility whether they follow safety instructions as well as the consequences of abstaining technical aid:

I mean everyone is responsible - more responsible than the company. Health matters more to someone personally than it matters to the company. [...] I mean, if there is help – for example to lift the roles and someone doesn't use the aid, lifts it himself, and destroys his back, than somehow one is guilty themselves.⁴⁹

Especially when supervisors are gone during the night shift blue-collar workers are responsible to wear personal protection equipments themselves. During night shifts supervisors would not be present to tell blue-collar workers to behave safe.

Thus, although blue-collar workers thought that behavior influences their health, they thought that they would be responsible themselves for healthy behavior; they did not wish that the organization involves by forcing manners. This accounted especially for lifestyle related behavior like smoking but also for safety behavior.

Regarding behavior based interventions blue-collar workers hardly recognized the programs presented in the brochure. The football team was known most, as well as the fitness-studio. Blue-collar workers appreciated that the supervisor cares about their health, but also emphasized that it was essential that programs were voluntarily. Hardly any blue-collar worker took part at one of the programs.

Most of the blue-collar workers appreciated that something was done for their health; however they would not use it themselves. They thought that the container was not appealing, but the main reason for not using the container was a lack of motivation. Although some of them had back problems themselves they were not motivated to engage

⁴⁸ [M]an kann keinen Menschen zu Gesundheit zwingen. Es wäre auch schlecht. Man ist ein freier Mensch

⁴⁹ Ich mein jeder für sich ist selber mehr verantwortlich als der Betrieb, ich mein. Die Gesundheit geht jeden persönlich viel mehr an als als den Betrieb. [...] Wenn es Hilfsmittel gibt, zum Beispiel beim Rollen heben und und und, man benutzt die Hilfsmittel net, tut selber hochheben, macht sich den Rücken kaputt dann ist man irgendwo selber schuld. Ich meine.

in back exercises. Knowledge about the benefits for their health as well as financial support did not let them take part in the program either. Rather some blue-collar workers perceived a lack of drive:

I: Some time ago, there was a container to exercise the back. What do you think about the container?

R: (R sighs) honestly? I was never in it.

I: And what was the reason?

R: I didn't feel like it.

I: [...] What was the reason for that?

R: I actually don't know it myself. Because, I get it paid, the 20 minutes or how long it was per day. [...] I wasn't interested, because my back is broken anyway. [...]

I: Do you think that this is changeable? Let's say: the motivation?

R: (R takes a deep breath). Well I know that one should do it, that it would benefit. I know that. But in my case, I think, I just don't have the drive for that [...]. I wanted to do it privately. I wanted to do back exercises [but] I don't have the drive.

I: Hmm. Okay. To which extend do you believe that back exercises are effective?

R: No, I know that they are, because I had a hernia. And I know that the discs have to be supported. I know also that the muscles have to be supported. I know a little bit about it, how it works. Still, I don't do it.⁵⁰

⁵⁰ I. Es gab hier vor einiger Zeit einen Container um Rückenübungen zu machen. Was fanden Sie von dem Container?

K: (K seufzt). Ganz ehrlich? Ich war nie drin.

I: Ja. Und gab es dafür einen Grund?

K: Ja. Ich hatte keine Lust. [...]

I: Warum hatten Sie keine Lust? Was war der Grund dazu?

K: Ich weiß es eigentlich selbst net. Weil. Zumal man des ja bezahlt kriegt, die 20 Minuten, oder wieviel des war am Tag und. Weiß ah net. Des hat mich halt nie interessiert. Weil ich ja, mein Kreuz ist eh am Arsch. [...]

I: Glauben Sie, dass das veränderbar ist, dass man... die Lust, sag ich jetzt mal.

K: (K atmet laut aus) Also, ich weiß, dass man das machen sollte, das es gut tät, das weiß ich. Aber, bei mir glaub ich, ich hab einfach keinen Trieb dafür.

I: Ja. Ja. Okay. Ehm. Und warum haben Sie das nicht?

K: Ja weil ich zu faul bin, scheinbar. Also ich hab des auch schon. Ich wollte des auch schon machen privat. Ich wollte auch schon Rückenschule machen und ich... (K haut auf den Tisch) Ich hab keinen Trieb.

I: Ja. Ja. Ehm. Inwieweit glauben Sie, dass eine Rückenschule effektiv ist?

K: Nee. Ich weiß es ja bei mir. Weil ich schon ne Bandscheibenoperation hinter mir habe. Und ich weiß auch, dass die Bandscheiben gestützt werden müssen. Ich weiß auch, dass die Muskulatur unterstützt werden muss. Ich kenn mich schon ein bisschen aus, wie es funktioniert. Und mache es trotzdem nicht.

Others had sufficient other possibilities to care about their health elsewhere and mentioned that they did not wish to spend free time with their coworkers due to a bad work climate.

Supervisor viewpoint

Except that blue-collar workers were thought to be responsible themselves there is also another aspect of safe behavior. They are namely obligated to behave safe. Workplace safety is supported by the law; enabling supervisors to utilize restrictive measures. A strategic manager confirmed: *We may force the employees if they don't follow the rules, [even with] consequences*⁵¹. However, strategic managers thought that it is arguable that the organization involves in lifestyle behavior like drinking and nutrition because employees are thought to be fully responsible for their live:

From my point of view employees are fully responsible for their lives. If someone -we all know examples- likes to drink, to cook- drink a bottle of wine in the evenings. And then is accordingly corpulent. That is unhealthy. If it's their way of enjoying life, it is very arguably whether a company should interfere.⁵²

It was perceived as problematic to communicate health behavior by giving orders. But also, voluntary behavior based health programs lacked participation. Supervisors mentioned several solutions to counter the problem of participation. First, the organization could provide well-promoted voluntary health services. But also here, in the end the responsibility would lie with the blue-collar worker as a strategic manager pointed out:

The solution will probably be that the company makes offers, sells them, that we also promote. But in the end it has to be the decision of the employee what he does for his/her health in the end. [...] As a company

⁵¹ Wir dürfen die Leute zwingen, Regeln zu folgen, ja. Mit Konsequenzen wenn nicht.

⁵² Ja, meine Sicht ist, dass [die Mitarbeiter] vollständig für ihr Leben verantwortlich [sind]. Wenn jemand, wir kennen da glaube ich selber Beispiele, trinken, kochen, gerne. Abends ne Flasche Wein trinken. Und dann auch entsprechen korpulent sind. Das ist ungesund. Wenn das deren Form von Lebensgenuss ist, dann ist das höchst fraglich ob wir uns als Unternehmen dort einmischen.

we only want to be involved in making offers, but not that we give orders.⁵³

Second, strategic managers believed that the solution of the participation problem could be found in integrating healthy behavior into daily work. The same approach has been used for safety behavior. One respondent suggested that the well-used risk analysis should not only include accident factors but also health factors. If the health risks of the work place are investigated, trainings could be given accordingly:

[A] concrete example that we discuss at this moment, [is] the implementation of WHISH, the health analysis. We very consciously didn't want to implement [WHISH] as a program, but rather as a working method, a working system that we permanently integrate into the working process.⁵⁴

Concerning supervisors' view of healthy behavior it can be concluded that supervisors noted that healthy behavior influences health, but also they were concerned to take away blue-collar workers' responsibility. Existing behavior based interventions lacked employee participation. Some ideas how to counter this problem exist, but had not fully been executed yet.

To summarize, both blue-collar workers and supervisors recognized that behavior influences health. Blue-collar workers thought that healthy behavior is a private issue and that the organization cannot force them to behave healthy. Supervisors agreed that healthy behavior is the responsibility of employees and ordering blue-collar workers to behave healthy was seen as problematic. However, it seemed that safety behavior had been communicated excessively and that some blue-collar workers felt pressured through it. Furthermore, the participation in voluntary health interventions was a problem. Although blue-collar workers were aware of the benefits of exercises as well as instrumental and

⁵³ Die Lösung wird wahrscheinlich sein, dass wir als Unternehmen Angebote machen, die wir auch verkaufen, die wir auch promoten, aber letztlich muss es am Ende am Tag die individuelle Entscheidung des Mitarbeiters sein, was er letzt was er für seine Gesundheit tut. [...] Wir möchten uns als Unternehmen nur dahingehend einmischen, dass wir Angebote machen, aber nicht dass wir sagen, Befehle geben oder äh.

⁵⁴ Ich nehm es einfach mal an einem konkreten Beispiel, wir diskutieren im Moment, [...] diese Einführung von diesen, von diesem WHISH, von diese[r] Gesundheitsanalyse. [W]ir wollen es ganz bewusst nicht als ein Programm ausrollen, sondern wir wollen es ausrollen als eine äh Arbeitsmethodik, Arbeitssystematik, die wir dauerhaft in unseren Arbeitsprozess integrieren.

financial support, the main reason for not participating in health programs was the lack of motivation. Supervisors suggested that a possible solution to counter participation problems was to integrate healthy behavior into the daily working practices like the way safety behavior is integrated, and also that health interventions should be promoted.

4.4. Communication

This sections concerns both, blue-collar workers' and supervisors' perception on participative communication styles. The findings are summarized in table F. The section is closely related to section 4.3.2 (Relationship among Blue-collar workers and Supervisors), where the interpersonal communication is elaborated in detail.

Table F Perceptions on participative communication styles

Blue-collar workers		
Directive communication styles are not good	<i>[We] are not children anymore. [...] To children you can say: "you may not take it." But if you tell people who do the work every day: "you may not take it, you may not take it, you may not take it." Then you'll get crazy.</i>	[Wir] sind keine Kinder mehr. Bei Kinder kannst du sagen [...]nein darfschte net nehmen, ne. Aber wo die Leute jeden Tag [die] selbe Arbeit machen, für was sagscht du: „Darfscht du net nehmen, darfscht du net nehmen. Darfscht du net nehmen.“ Dann wirst du dabbisch.
Supervisors		
Employee involvement is not executed in the context of occupational health	<i>Regarding [...] handling – we always involve the people. [...] But that we say: "hey, we are doing something about health"... so directly – I couldn't think of anything.</i>	Im Bezug auf andere Dinge hier im Werk, Handling. Da ziehen wir die Leute auch immer da ein.[...] Aber das wir sagen, he wir machen was für die Gesundheit so direkt, wüsste ich jetzt net
Workers council complicates employee involvement	<i>[Bicycle helmets:] an absolutely a useful thing [...]. Generally the workers councils' decide negatively on these things, because the people are obligate to do something.</i>	Fahrradhelme. Ja, eine absolut sinnvolle Sache [...] Das wird in der Regel vom Betriebsrat negativ beschieden, weil die Leute sich dann verpflichten etwas zu machen.
Responsibility is directed to others	<i>The problem here is that people often delegate responsibilities to others. They leave [responsibility] at the factory gate.</i>	Das ist hier häufig das Problem, dass die Leute die Verantwortung an andere Leute delegieren. Sie geben sie ab, am Werkstor.
It is tried to involve employees within health campaigns, however participation is limited.	<i>Theoretically, if someone tells me: listen, you have the following problem and I have the solution here for you: it's not possible to make it easier. [...] At the end the people should have said: "This is great, I'll do this all, I take it all." I cannot explain it to myself [why participation was low].</i>	Theoretisch, wenn mir einer sagt, hört mal her, Sie haben folgendes Problem und ich hab hier ihre Lösung dafür: einfacher geht's eigentlich nicht. [...] im Endeffekt hätten die Leute eigentlich sagen müssen, ah, das ist super, mach ich alles, nehm ich alles mit. Kann ich Ihnen nicht erklären [dass die Beteiligung gering war].

Considering workload not the workload itself but the communication, especially a directing way of communication is perceived as problematic through blue-collar workers. Also, blue-collar workers felt that they are treated like children. But when health or safety problems were addressed, some blue-collar workers admitted that supervisors concern with it (compare section 4.1, blue-collar workers perception on supervisors' health orientation). Thus, participative communication styles did not occur according to some

blue-collar workers, but others acknowledged supervisors' attempts when it comes to address employees' health problems.

One aspect that is related to participative communication style is how employee involvement is viewed. In general, supervisors considered that blue-collar workers are involved in processes that concern the handling of work. This did not account for health according to some operational managers.

From a supervisor point of view employee involvement was a problem due to a conflict of interests in Germany with the workers councils. Employee involvement had been a topic of confrontation where topics as tariff negotiations were mixed with the discussion of employee involvement. For example, according to strategic managers, bicycle helmets had been rejected from the workers councils, arguing that they did not wish that employees are obligated to wear them if they were provided.

Participative communication depends furthermore on the perceptions how responsibilities are distributed. Some supervisors believed that the organization (not specific concerning employees at the production site but in general) was over-protective and that responsibility was given away as soon as employees enter the campus.

Strategic managers attributed different reasons for the lack of participation and employee involvement. Employee involvement has thought to be implemented consciously but did not result in the desirable effects: During an intervention that attempted to engage blue and white-collar workers to take part in a diabetes screening and nutrition program, employees were thought to be involved in defining the problem. Employees were asked to fill in a questionnaire that screened their risk for diabetes (like overweight or health behavior). After completing the questionnaire employees could make an additional test that determined their tolerance towards glucose. Although some employees showed high risk factor they did not take part in an additional test or the following program for healthy nutrition. The operator in question was not sure what the reason for this is as it could not be made easier for employees to participate: the problem was exposed so clearly and solutions were also given right away:

In praxis I have to say, we try [employee participation]. For example last year, we asked people to answer questionnaires that test out their year

risk for diabetes. [...] They were distributed roughly into the categories: high, middle, low [...] Employees with a high, very high risk had the offer to take an oral glucose tolerance test. We executed 50 of these tests and according to test results we offered nutrition training. [Employees] didn't want to take the test [and] didn't want to take part at the nutrition training. I have to say: you cannot get the people more into the boat then to show them their individual problems, within an individual conversation with their data from their examination. [...] And these courses: before the start we tried to cover 90% of the costs so they won't stick to the employees. It couldn't be that. At the end, we told the people: you have a problem. We have the solution, you just have to join. [...] Thus, I was a little disappointed.⁵⁵

Taking a closer look on how employee involvement was implemented, it is notable that the actual involvement was rather limited. Instead of letting employees define the problem themselves, supervisors pointed out what the problem should be. It can be suggested that although supervisors want better communication, they were not quite aware of how communication should be improved.

To summarize, regarding participative communication styles, blue-collar workers were treated like children and did not receive enough responsibility. However, some managers argued that employee involvement is valuable and tried to implement it. Actual employee participation within occupational health was limited and supervisors did not know how to implement employee involvement effectively.

⁵⁵ In der Praxis muss ich sagen: wir versuchen das ja auch. Beispielweise haben wir letztes Jahr äh, Leuten anhand von Fragebögen die 5-Jahresrisiko für Diabetes austesten lassen. [...] sie eingeteilt in die Kategorie: hoch, mittel oder niedrig. Ja? Also grob. Relativ guter prädiktiver Value. Die Mitarbeiter [...] hatten das Angebot gehabt einen sogenannten oralen Glukosetoleranztest durch zu führen. Ähm, wir haben 50 von diesen Tests durchgeführt und äh dann hatten wir anhand der Ergebnisses dieser Tests den Leuten angeboten, äh ein Ernährungstraining zu machen. [Mitarbeiter] wollten diesen Test nicht machen [oder] haben an dem angebotenen äh Ernährungsprogramm auch nicht teil genommen. Ja? Da muss ich sagen, also mehr kann man die Leute eigentlich nichts ins Boot holen als ihnen ihre Probleme, ihre individuellen Probleme auf zu zeigen, in einem individuellen Gespräch anhand ihrer Werte, anhand ihrer Untersuchungen. [...] Und, diese Kurse, wir haben im Vorfeld mehr oder weniger alles versucht und haben auch zu 90% alle Kosten irgendwo geklärt, dass sie nicht am Mitarbeiter gehangen sind. Das hätte es auch nicht sein können. Im Endeffekt, wir haben den Leuten gesagt, sie haben ein Problem, wir haben hier Ihre Lösung, sie brauchen nur mit zu machen. [...] ich war also etwas enttäuscht.

5. CONCLUSISON AND DISCUSSION

The main research question of this study addressed how blue-collar workers and supervisors perceive the role of health within a chemical production plant in Southern Germany. In this section the research question will be answered; it will be discussed whether the stated suppositions are supported, how the findings can be seen in a broader context of the research topic and which limitations this research faces. Furthermore, practical and academic recommendations are given. The section begins with a summary on the findings that are compared with existing literature.

5.1. Summary of findings compared with existing literature

The first conclusion of this study is that occupational health was new to most respondents. The definition of occupational health was descriptive and unspecific, showing that a clear idea about occupational health did not exist; equally important health was not integrated into daily practices.

Second, it was also shown that occupational health was seen to be closely related to workplace safety. Workplace safety took a strong focus on limiting physical health hazards. Previous research by Høivik and colleagues (2009) also pointed out that mainly safety was mentioned to describe HSE-culture. Workplace safety is regulated by law; organizations are legally obligated not to harm employees. It has now reached a state where it was less important due to remarkable successes from blue-collar workers as well as supervisors' viewpoint. The findings of this research are in line with the results from a study from North Rhine Westphalia; arrangements of occupational health by choice are realized to a lesser extent than the conversion of legal duties. However, the willingness to invest in occupational health was high (62%). Especially organizations that have almost implemented all legal procedures were interested (Blume et al., 2003).

A remarkable conclusion of this research is that from the viewpoint of blue-collar workers a clear distinction was made between work-related and private-related health aspects. This distinction is consistent with findings from Plomp (1998); he argues that the intention to utilize occupational health services seems to be related to the work-relatedness of the problem. Also according to Lassen et al. (2007) food intake and overall health is a personal issue.

Regarding the perception of the causes of health blue-collar workers expressed that mainly the relationships among blue-collar workers and supervisors are most health influencing. Previous research has shown that employees have the need for support and respect from colleagues and direct supervisors; they value meaningful relationships as well as organizational commitment for safe behavior and a healthy work organization (Arwedson et al., 2007; MacDermid et al., 2008; Whitehead, 2006). Supervisors did not comprehend the blue-collar workers' complaints just as they thought that not sufficient time was given for communication that goes beyond pure instruction.

Physical aspects have been mentioned to influence health but have also been dealt with in line with workplace safety efforts. The respondents however argued about work-load and to which extend the organization should avoid overload. According to Lee and Ashforth (as cited in Schaufeli & Bakker, 2004) time pressure and work overload is related to emotional exhaustion.

Some blue-collar workers pointed out that shift work can influence health negatively by harming their life rhythm and because it impedes participation in health programs. Blue-collar workers felt that due to family commitment shift work was necessary. Supervisors recognized the health harming effect of shift work, yet believed that sufficient financial compensation were given and that it was employees' responsibility. Furthermore they thought that the organization needs shift work to meet production goals. Previous research pointed out that structural barriers, like time to participate, production conflicts or shift work, could have a negative impact on participation rate (Lassen et al., 2007). Structural barriers might occur if programs are not integrated into the organizational context (Grawitch et al., 2006).

Regarding healthy behavior interviewees expressed that healthy behavior was a private issue and that the organization cannot force them to behave healthy. Also according to Lassen et al. (2007) healthy behavior like food intake is personal. However, it seems that safety behavior (which is thought to be related to health behavior) has been communicated excessively; some blue-collar workers felt pressured through it. Various authors stated in previous research that psychosocial aspects matter most to employees (Arwedson et al., 2007; Mac Dermid et al., 2008; Whitehead, 2006). Also, the findings regarding supervisors' beliefs are supported by occupational health literature; according

to Rubenowitz (1997), it is a common belief within many industries that health problems like musculoskeletal symptoms can easily be eliminated by technical measures.

The most obvious finding from this study is that interpersonal communication was shown to greatly influence the evaluation of many mentioned aspects. For example when judging physical work-load, blue-collar workers argued that not the actual work-load is stress producing but the communication about it. Supervisors meanwhile believed that blue-collar workers complained wrongfully about increased work-load. Considering communication a directive communication style dominated.

It was mentioned previously that it is crucial to take the specific circumstances of the research setting, the context, into account. In this research it has to be mentioned that the massive-lay outs in the past, continuous restructuring and the conflicts with the workers council might influence health and therefore also the perception of health. According to Grunberg and colleagues (2008) Merging and mass-layoffs might result in negative psychological reactions like: job insecurity, lesser motivation to take risk, less commitment towards the organization and less trust in higher management. But on the long term mass layoffs might not only have negative effects on mental and psychological health: after surviving and getting through a crisis, depression and mastery values are more positive than before the mass layoffs (suggesting some degree of psychological recovery and strengthened confidence to deal with uncertainty and change) (Grunberg, Moore, Greenberg & Sikora (2008).

5.2. Definition of occupational health

In the introduction of this paper it was suggested that health problems have changed. While the amount of accidents has decreased in the last thirty years, chronic health problems are increasing. This tendency influences the findings of this study. First, respondents expressed that occupational health is new and undefined. Second, blue-collar workers mentioned multiple causes for health. Yet a technical view on health focusing on physical health hazards predominates.

A narrow definition of occupational health is however not sufficient. Rubenowitz (1997) argues that one will run the risk of not being successful, if one does not pay attention to the psychosocial work environment factors. According to Stokols (1992, p.6) effective

occupational health interventions focus more on health promotion where “the role of individuals, groups, and organizations as active agents in shaping health practices and policies to optimize both individual wellness and collective well-being”

The members of the organization need to find a clearer and wider definition of health. By doing so, all health influencing aspects the respondents mentioned can be included. For example, the definition of the World Health Organization defines health as a “state of complete physical, mental and social well-being and not merely the absence of disease or infirmity“, could be used.

5.3. Area of conflicts regarding responsibilities

The role of voluntariness is a frequent mentioned topic. However, it seems to be an area of conflict when it comes to evaluate the responsibilities towards health. Therefore some refinement is needed.

The responsibilities are the clearest regarding limiting health harming physical aspects. By law, the organization has the duty to limit hazards. These hazards are relatively easy to measure. However when it comes to the evaluation of work-load it has a two-sided aspect. The legal requirement not to harm still counts, still work and accompanying physical load was seen as part of the job. Considering shift work it is crucial to take the social dimension into account. Although financial compensations were given for shift work, family commitment impeded blue-collar workers. The social economical status is a risk factor for being unhealthy. Health in the field of prevention is seen to be closely related to social politics. According to the World Health Organization (WHO), addressing disease and lifestyle is not enough to improve overall health status. Attention also needs to be given to the social determinants of health (WHO, 1996). However, shift work was also regulated by the workers council, suggesting that employees have influence over the shifts. It can be suggested that shift work being still mentioned as an area of conflict was also due to a loaded relationship between blue-collar workers and supervisors. The distribution of responsibility was clear regarding healthy behavior. Health was seen as a private issue. However, healthy behavior of one person influences healthy behavior of others. Therefore one could argue that healthy behavior is also of public interest. Regarding safety behavior the organization was clearly trying to influence blue-collar workers and directive communication styles dominated. When targeting healthy behavior

and especially life-style related behavior, however, the decision to do so needs to be a joint decision. Responsibilities had been attributed to each other when it comes to interpersonal communication. However, blame-casting is not very helpful. Sharing responsibility in this case would make much more sense. Furthermore certain helplessness can be observed; the problem seems to lie outside of control; causes are attributed to environmental factors (such as the world economy) that can hardly be changed.

5.4. Role of communication

One of the most obvious findings in this research is the significant role of the relationship between blue-collar workers and supervisors. First, a pathogenetic and technical approach is evident along with a directive communication. A directive communication style assumes that supervisors assume that a rational and exclusive approach is the right one. This correct approach then needs to be instructed to the unknowing employee. Second, a tendency to blame-cast occurs among the respondents. This is especially visible when the respondents attribute the responsibility towards a bad employee-employer relationship. However it is essential that both blue-collar workers and supervisors acknowledge the viewpoints of each other, which requires that they build up trust.

The role of communication might be seen as even more significant when one takes into account the following thought. Interactions of perceptions occur through actual communication. Schegloff (as cited in Taylor, 2001, p. 151) claimed that cognition (thus individual perceptions) and interaction (communication) are “embedded and inextricable intertwined”. This connectivity returns additionally when considering that communication can be the cause of health problems but also the solution of health problems.

Theories regarding occupational health should take this connectivity into concern. Existing theories regarding occupational health distinguish between social aspects that consider interaction of people (like the concepts of organizational climate) and individual aspects (lay health beliefs). Theories however need to be developed that combine both the concept of health climate and theories of successful health interventions (and accordingly the concept of health beliefs). The social context of the organization would then be included into the theory just as special attention would be paid to the individual perceptions of health.

5.5. Limitations

A number of caveats need to be noted regarding the present study. Some questions from the interview guide did provide ambiguous answers. Because blue-collar workers felt the strong distinction between the private and work situation, the role of health in the private situation could not be explored in depth. Most of the blue-collar workers that answered on which role health plays in life, expressed that health is very essential because health is a precondition for everything else. The role of health in personal life could have been further deepened out; but due to the strong distinction between work and private life this topic is only investigated when blue-collar workers mentioned own health themselves. A profound exploration of blue-collar workers own definition of health therefore could not be made. Within health beliefs the causes of health seemed most notable regarding the perception of occupational health interventions.

Focus group informants were difficult to categorize. Depending on the task of the supervisor, he/she might have more or less knowledge about health. Originally supervisors were seen as lays the same way like blue-collar workers, but directors of the occupational health service department as well as HSE-managers cannot be accounted as lays fully. As a consequence these respondents would have to be excluded from the focus group, or a separate group could have been made. Health is however not a main issue within the organization so not much respondents would have been available for the interviews. It was finally decided to also include medical personal as they play a great part in occupational health and thus can give useful insight into the role of health. As the supervisors formed a quite heterogeneous group it can be questioned whether it is justified to say that they represent a collective climate. By using a focus group method, the deviating opinions are discussed in the interview group, leading to more representative findings.

5.6. Final remarks

If one considers all the underlying factors dealing with occupational health or health in general, it manifestly an instant solution cannot be found. This means that it is difficult to determine the goals in terms of absolute measurements concerning occupational health policies and strategies. However, one should consider the following thought: the goal is not to achieve absolute health but to move towards abundant life. Health itself should be

seen as a resource and an essential prerequisite of human life and social development rather than the ultimate aim of life (Adkins, Quick, and Moe, 2000 as cited in Grawitch et al., 2006). Health is not a fixed end-point, a 'product' we can acquire, but rather something ever changing, always in the process of becoming (WHO, 1991 as cited in Arwedson et al., 2007).

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7. APPENDIX

7.1. Appendix A: Interview Guide Blue-collar Workers

Nr.	Datum	Zeit	Raum
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Einführung

Selbst vorstellen / Erklären was meine Masterthese beinhaltet / Es gibt hier keine falschen und guten Antworten. Ich möchte nur Ihre Meinung hören. / Dauer Interview 30 min / Tonband / Alles bleibt anonym, ich fasse den Bereich zusammen, das Tonband wird nach meiner Analyse vernichtet.

Arbeit bei Freudenberg

Können Sie mir beschreiben was Sie hier bei Freudenberg machen?

Wie lange arbeiten Sie hier schon?

Seit wann arbeiten Sie im Bereich Verpackung und Sortierung?

Wo haben Sie früher gearbeitet?

Definition von Gesundheit

Was verstehen Sie unter gesund sein?

Welche Dinge beeinflussen nach Ihrer Meinung nach Ihre Gesundheit am Meisten?

Inwieweit sind diese Dinge veränderbar?

Rolle von Gesundheit im Leben

Welche Rolle spielt Gesundheit im Leben? Warum? Alternativ:

Wie wichtig ist Gesundheit im Gegensatz zu anderen Dingen im Leben? Beispiel?

Soweit ich Sie bis jetzt verstanden beeinflussen Ihrer Meinung nach folgende Dinge Gesundheit:... (bisheriges Interview zusammenfassen). Sind Sie damit einverstanden?

Gibt es Punkte die ich nicht richtig verstanden habe?

Rolle von Betrieb auf Gesundheit

Inwieweit hat der Betrieb Einfluss auf Ihre Gesundheit?

Inwieweit gibt es positive Dinge die Ihre Gesundheit beeinflussen?

Verantwortung für Gesundheit

Inwieweit ist Ihr Betrieb verantwortlich für Ihre Gesundheit?

Paraphrasieren... Sind Sie damit einverstanden? Gibt es Punkte die ich nicht richtig verstanden habe?

Gestaltung von Gesundheitsprogrammen

Welche Maßnahmen die mit Gesundheit zu tun haben gibt es bei Freudenberg nach Ihrem Wissen?

Was finden Sie davon?

Gesundheit ist zum Teil abhängig von dem Verhalten des Einzelnen. Inwieweit finden Sie, dass der Betrieb gesundes Verhalten fördern sollte?

Wie sollte ein Betrieb gesundes Verhalten fördern?

Es gab hier vor einiger Zeit einen Container um Rückenübungen zu machen. Was fanden Sie von dem Container?

Broschüre der Service KG (Betriebsärztlicher Dienst) sehen lassen

Kennen Sie die Programme?

Wie finden Sie die angebotenen Programme?

Nehmen Sie an einem dieser Programme teil?

Bei ja: Was gefällt Ihnen daran?

Bei nein: Warum nicht?

Wenn Sie einen Tag Unternehmensführer wären und Geld keine Rolle spielen würde.

Was würden Sie tun um die Gesundheit von Mitarbeitern zu verbessern?

Paraphrasieren... Sind Sie damit einverstanden? Gibt es Punkte die ich nicht richtig verstanden habe?

Veränderung von Gesundheit im Betrieb im Laufe der Zeit

Inwieweit hat sich im Laufe der Zeit etwas verändert im Bezug auf Gesundheit im Betrieb?

Schluss

Soweit alles gefragt/Gibt es noch etwas was Sie zu diesem Thema sagen möchten?

/Bedanken

Zusatzprotokoll

Wie ist das Gespräch verlaufen?	
Gesprächsdynamik	
Auffälligkeiten	
Gefühle	
Was geschah vor und nach dem ‚offiziellen‘ Interview, bzw. der Tonbandaufzeichnung?	
Vorher	
Nachher	

7.2. Appendix B: Interview Guide Focus Group

Einleitung

1. Thema: unterschiedlichen Meinungen über Gesundheit im Betrieb.
2. Physiotherapeutin, unwichtig was ich denke, geht um Ihre Meinung
3. Keine richtigen und falschen Antworten. Andere Meinungen sind in Ordnung. Ziel ist nicht einheitliche Meinung. Antwort nicht wissen ist ok.
4. Bitte deutlich sprechen und einander aussprechen lassen.
5. Tonband, zur besseren Analyse und besser konzentrieren. Das was gesagt wird, wird nur für den Zweck der Masterarbeit benutzt und danach vernichtet.
6. Es kann sein, dass ich Sie unterbrechen werde, wenn wir vom Thema abgeschweift bin. Bitte nehmen Sie das nicht persönlich.
7. Anonymität . Keine einzelnen Personen werden genannt. Alles was gesagt wird bleibt in diesem Raum, einverstanden?
8. Bitte stellen Sie Ihr Handy aus oder auf lautlos.
9. Das Gespräch wird etwa 1/1/2 Stunden dauern.

Vorstellrunde

Namen, was die Arbeit ist bei Freudenberg, wie lange man schon bei Freudenberg arbeitet, wo man eventuell früher gearbeitet hat

Rolle von Gesundheit im Betrieb

- Welche Rolle Gesundheit von Mitarbeitern im Betrieb spielt
- Inwieweit Betrieb verantwortlich ist für Mitarbeiter
- Inwieweit Gesundheit von Mitarbeitern bei der täglichen Arbeit eine Rolle spielt von den einzelnen Respondenten
- Wie man Gesundheit fördern sollte

Reaktionen auf (Meinung dazu & inwieweit beeinflussbar):

- Mitarbeiter Gefühl, viel getan Gesundheit und Arbeitsschutz.
- Verletzung abhängig vom Verhalten des Einzelnen.
- Gesundheit Privatsache.
- Eingriff bei Vorschrift.

Faktoren, die Gesundheit beeinflussen

Ich habe die Mitarbeiter aus dem Bereich Sortierung und Verpackung gefragt, was ihrer Meinung nach ihre Gesundheit am Meisten beeinflusst.

- Was denken Sie, haben die Mitarbeiter geantwortet?

Reaktionen auf:

- Im Bereich Gesundheit bzw. Arbeitssicherheit laut Mitarbeiter viel getan.
- Nicht mehr so viel was getan werden kann.

- Belastung von Rücken durch Heben, Tragen, Stehen unterschiedlich schwer empfunden, nicht am eigenen Arbeitsplatz.
- Für einige Schichtbetrieb Einfluss auf die Gesundheit.
- Schlecht schlafen und nicht möglich an Gesundheitsprogrammen (z.B. Sportverein) teil zu nehmen.
- vor allem Stress hat einen Einfluss auf ihre Gesundheit. Manche der Meinung dass Stress auch eher zu Arbeitsunfällen führt. Ursachen: Leistungsdruck; allgemeine Stimmung untereinander; Umgang des Einzelnen

Leistungsdruck

Reaktionen auf:

- Allgemeine Stimmung: Kommunikation zw. Mitarbeitern untereinander und Vorgesetzten und Mitarbeitern
Umgang des Einzelnen damit

Mitarbeiter Beteiligung

Bei der FV KG gab es einen Container wo Mitarbeiter Rückenübungen machen konnten. Die Teilnahme hat mit der Zeit abgenommen. Welche Gründe gibt es Ihrer Meinung nach für die beschränkte Teilnahme an Gesundheitsprogrammen?

Reaktionen auf

- Bekanntheit, Schichtarbeit, Faulheit, lieber Privates vom Beruflichen trennen.
- Was kann man dagegen tun?

Habe in der Literatur gelesen, dass das Gesundheitsmaßnahmen im Betrieb erst effektiv sind wenn Mitarbeiter beim Definieren von Problemen und bei der Planung und Ausführung von Maßnahmen einbezogen werden. Inwieweit halten sie das für sinnvoll und durchsetzbar?

Reaktionen auf

- Bekanntheit von Gesundheitsprogrammen bei Freudenberg ist beschränkt.
- Schichtarbeit ist ein Hindernis um teilzunehmen.
- Faulheit ist ein Hindernis um teil zu nehmen.

Inwieweit werden Mitarbeiter hier beim Feststellen von Problemen und bei der Planung und Ausführung von Maßnahmen, die mit ihrer Gesundheit zu tun haben, einbezogen?

- Was finden Sie davon?
- Inwieweit finden Sie das sinnvoll?
- Inwieweit halten Sie das für durchsetzbar im Betrieb?

Wenn noch Zeit ist:

Erläuterung von Tailoring

- Was finden Sie hiervon?
- Inwieweit halten Sie das für durchführbar innerhalb ihres Betriebes?

Zusatzprotokoll

1. Gruppe:
2. Datum:
3. Zeit:
4. Aufenthaltsraum
5. Teilnehmer
6. Gruppendynamik
7. Unterbrechungen
8. Eindrücke und Beobachtungen
9. Vorher
10. Nachher
11. Sitzordnung
12. Laufende Notizen

7.3. Appendix C: Transcription Guideline

1. Numbering of the lines in blocks of 5
2. Coding of the respondents (A, B)
3. Breaks with dots, amounts of dots estimated length of break =
(Interview G and M_N . . = short break, ... = middle break, (Pause)
= long break)
4. Nonverbal comments in brackets = (like this)
5. Situation specific noises in pointed brackets = >like this<
6. Break fillers in normal text = mhm
7. Noticeable accentuation underscored = like this
8. Incomprehensible points in brackets with points signaling length
(. . .)
(Interview G and M_N see below)
9. Supposed wording in brackets (like this)
(Interview G and M_N with questioning mark at the end (like this?))
10. Very stretched speech with spaces between the letters.
11. Leave enough space for side comment

In Interview G and M_N:

(ˈ)= raising the voice

(?)= questioned intonation

7.4. Appendix D: Declaration of Interview Method

Erklärung bezüglich der Vorgehensweise der Interviews

Die Mitarbeiter nehmen auf freiwilliger Basis an der Befragung teil. Durch Nichtteilnahme werden keine negativen Konsequenzen erfolgen.

Zur gründlichen Datenverarbeitung werde ich die Mitarbeiter fragen, ob das Gespräch aufnehmen kann.

Die Aufnahme und die sich daraus ergebenden Daten werden nur für den Zweck der Masterarbeit verwendet und nach der Masterarbeit vernichtet. Jegliche Daten die die Identität des Interviewten preisgeben könnten, werden weder offiziell (in der Zusammenfassung) noch inoffiziell weiter gegeben.

Shao-Xi Lu

3. März, 2010