1. Introduction

Close relationships provide fulfillment as well as frustration, support as well as distress. However, all of these aspects influence a couple's behavior and well-being in different ways.

To date, a large amount of studies have suggested that social support has beneficial effects on individual health (e.g. Antonucci, Birditt, & Webster, 2010; Berkman & Syme, 1979; Coyne, et al., 2001; Frasure-Smith, et al., 2000; House, Robbins, & Metzner, 1982; Schoenbach, Kaplan, Fredman, & Kleinbaum, 1986; Uchino, Cacioppo, & Kiecolt-Glaser, 1996) and that, in contrast, conflicts are negatively associated with health-related outcomes (Cohen, et al., 1998; DeLongis, Folkman, & Lazarus, 1988; Kiecolt-Glaser, et al., 2005; Kiecolt-Glaser, et al., 1993; Kiecolt-Glaser & Newton, 2001; Malarkey, Kiecolt-Glaser, Pearl, & Glaser, 1994). However, there are sex differences in terms of both components. Men benefit more and report more social support as compared to women (Schwarzer & Gutierrez-Dona, 2005), whereas women suffer more from interpersonal conflict than men (Kiecolt-Glaser & Newton, 2001; van Veldhoven & Beijer, 2012; Wanic & Kulik, 2011).

Furthermore, the mediating role of positive and negative emotions in this context has been rarely investigated to date (Salovey, Rothman, Detweiler, & Steward, 2000). However, there is evidence that positive emotions have beneficial influences on health (e.g., Bostock, Hamer, Wawrzyniak, Mitchell, & Steptoe, 2011; Cohen & Pressman, 2006; Danner, Snowdon, & Friesen, 2001; Levy, Slade, Kunkel, & Kasl, 2002; Moskowitz, Folkman, & Acree, 2003; Ostir, Markides, Black, & Goodwin, 2000; Pressman & Cohen, 2005; Steptoe, Dockray, & Wardle, 2009; Steptoe, O'Donnell, Marmot, & Wardle, 2008), whereas negative emotions have a negative impact on health (Moser, et al., 2010; Steptoe & Brydon, 2009; Vandervoort, 1995; Vogele & Steptoe, 1992). Here too, sex differences can be found: Women are generally

more expressive in both positive and negative emotions as compared to men (Barrett, Lane, Sechrest, & Schwartz, 2000; Goldsmith & Dun, 1997; Grossman & Wood, 1993) and suffer more from sadness or worry (Kessler, McGonagle, Swartz, Blazer, & Nelson, 1993), whereas both men and women are affected by the negative emotion anger (Gallacher, Yarnell, Sweetnam, Elwood, & Stansfeld, 1999; Harburg, Julius, Kaciroti, Gleiberman, & Schork, 2003; Shen, et al., 2008; Siegman, 1994; Suls & Bunde, 2005; Vogele, Jarvis, & Cheeseman, 1997). Furthermore, a possible mediating role of positive affect in the context of intimacy and decreased cortisol levels has been found (Ditzen, Hoppmann, & Klumb, 2008). Therefore, not only negative, but also positive emotions seem to play a role in the context of social interactions in close relationships and individual health.

The aim of this study was therefore to integrate positive and negative emotions in the associations between social support, interpersonal conflict, and individual health. The theoretical background (Part I) of the empirical studies (Part II) is presented in Chapters 2-6. In Chapter 2, a general overview of the definition of individual health, potential influences on health, and health in the Swiss population are described. In Chapter 3, positive and negative social interactions (social support and interpersonal conflict) are presented first in general terms and then within the aspect of close relationships. Chapter 4 is devoted to the association of these constructs with individual health. Following this, in Chapter 5, the role of emotions within the context of individual health is focused upon. Finally, Chapter 6 briefly summarizes the research findings and integrates emotions as mediators in the context of positive and negative social interactions and their influence on individual health. Subsequently, in Part II of this thesis, the data from the two conducted studies are presented. The thesis concludes with a general discussion in Part III of the obtained results and their implications for future studies.

PART I: THEORETICAL BACKGROUND

In this thesis, the associations between health and social support, interpersonal conflict in close relationships and the role of emotions in this context are investigated. There is strong evidence that interpersonal variables such as social support and interpersonal conflict influence individual health. Therefore, in the first chapter, the focus will be on individual health. Following this, social support and interpersonal conflict will be examined more precisely, before being integrated in terms of their associations with individual health. After this, positive and negative emotions and their mediating role in this context will be discussed.

2. Aspects of Individual Health

Besides economic concerns, people rate health as one of the highest values in their lives (World Health Orgainsation, 2012b). Although health seems to be a clearly defined construct, existing attempts to define health are inconsistent. Therefore, these definitions are discussed in the first section. Second, different variables which influence health are presented. Third, given that this thesis refers to two studies based on data from a Swiss population, health in Switzerland is discussed.

2.1. Definition of Individual Health

One of the most popular definitions is drawn from the World Health Organization (WHO, 1948): “Health is a state of complete physical, mental and social well-being and not merely the absence of a disease or infirmity”. The popularity of the WHO definition can be attributed

to the fact that it was used in many important studies, such as the Alameda County Study (Berkman & Syme, 1979) or the Study of the Research and Development Cooperation (RAND) (Ware, 1980). In this context, physical health refers to the physiological and physical status of the body, mental health refers to the state of mind, and social well-being means the participation in social activities and interactions (Ware, Brook, Davies, & Lohr, 1981). Although it was often used in previous research, there are several points of criticism in the WHO definition of health (Larson, 1999). First, physical, mental and social well-being are not clearly defined (Bice, 1976; Patrick & Erickson, 1993). Second, the definition of health is too general because cultural differences are not taken into account (Pannenborg, 1979). Third, it is questionable whether health can ever be "complete". The average adult reports about four symptoms during a two-week period, meaning that almost everybody would fulfill the WHO criteria for illness (Garner, 1979; Wood, 1986). This further gives rise to the question of whether an ill person cannot feel well. Fourth, the definition is too abstract and is more a goal than a guideline for interventions (Barenthin, 1975). Fifth, the WHO defines health as a state. However, it may be more of a continuum, which underlies certain environmental and individual changes (Wylie, 1970). Another aspect of the WHO definition that has been criticized is the fact that it neglects the subjective component of health (Sullivan, 2003). Not only the injury of an organ but how this injury is subjectively experienced is essential for the definition of health or illness (Bush, Fanshel, & Chen, 1972). Moreover, subjective measures are often more valid than objective measures (Swiss Federal Statistical Office, 2012).

Based on these criticisms, authors in the subsequent decades after the WHO definition (WHO, 1948) tried to define health more specifically (Lewis, 1953; Mechanic, 1968; Parsons, 1958; Wilson, 1970). However, these attempts were described as being still too vague and too global for measurement purposes (Patrick, Bush, & Chen, 1973).

One promising solution for the definition of health goes back to Wylie (1970), who distinguished between *asymptotic or open-ended concepts* (e.g., the WHO definition) and *elastic concepts* (e.g., adjustment of an organism to its environment) of health, and proposed that: "Health is the perfect continuing adjustment of an organism to its environment" . Another approach which integrates Wylie's thoughts is the definition by Bush, Fanshel and Chen (1972). In their view, health is the product of social weights assigned to the functional level and the expected total duration in the functional level over all time periods (Patrick, et al., 1973). Three decades later, Bircher (2005) suggested a more dynamic approach to define health: "Health is a dynamic state of wellbeing characterized by a physical, mental and social potential, which satisfies the demands of a life commensurate with age, culture, and personal responsibility. If the potential is insufficient to satisfy these demands the state is disease" .

To summarize, different definitions of health exist. Most of them have in common that health is a multidimensional construct influenced by many factors, and that the subjective aspects of health are important. Furthermore, health without illness does not exist and vice versa, because the presence or absence of disease defines health (Wylie, 1970). Despite different health definitions, the most popular definition is that of the WHO, and therefore this thesis focuses on this definition, with the above-mentioned limitations in mind.

2.2. Influences on Individual Health

Physical and mental health is influenced by many factors which threaten, promote or protect health. However, to gain an understanding of how health is influenced, all of these factors have to be combined. Dahlgren and Whitehead (1991) describe these influences in different

layers, starting with global aspects at the outside and ending with individual factors at the center (*Figure 1*).

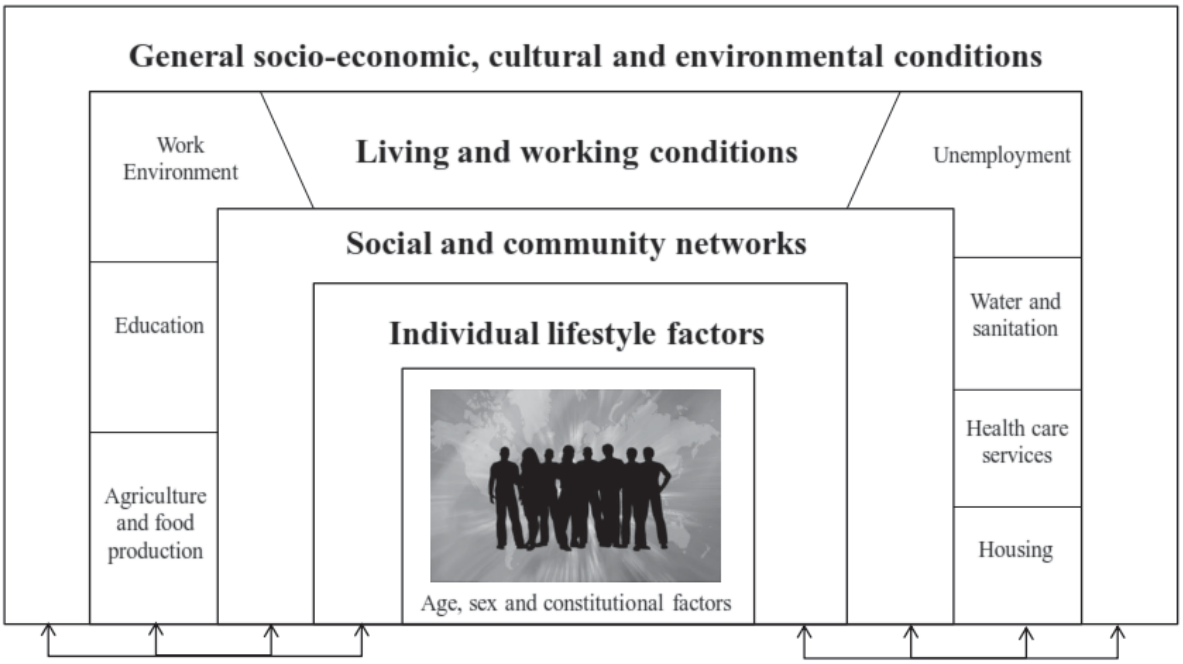

Figure 1. The main determinants of health (adapted from: Dahlgren & Whitehead, 1991, p. 11).

To date, this model has been tested within many studies. Starting from the outside layer, environmental aspects influence individual health (Muntaner, et al., 2009; Pathak, Sobers-Grannum, Hambleton, Rose, & Hennis, 2009; Rose & Hatzenbuehler, 2009; Sered, 2009). For example, among people in lower social classes, more obesity, smoking, alcohol abuse and unhealthy nutrition was found (Emmons, Barbeau, Gutheil, Stryker, & Stoddard, 2007; Hupkens, Knibbe, & Drop, 2000; Jarvinen, 2012; Kerson, 2009; Lahelma, et al., 2010; McFadden, et al., 2009). Individuals from lower social classes therefore show poorer health outcomes (Lampert, Ickovics, Horwitz, & Lee, 2005). One reason for these findings might be that social class can limit the access to, and the understanding of, otherwise available

interventions (Garrido-Cumbrera, et al., 2010; Marshall, et al., 2011). For instance, mass media communication can be an important source of health information. However, the access is patterned by race, ethnicity, and language, and there are therefore substantial social disparities in health knowledge (Oliver, 2008; Viswanath & Ackerson, 2011). Studying the influence of social class on health longitudinally, a decline of self-reported health with decreasing social class was found: the lower the social class, the higher the proportion with deterioration of self-reported health (Borg & Kristensen, 2000). Furthermore, not only health but also life satisfaction can be negatively influenced from the belonging to a lower social class (Laubach, Schumacher, Mundt, & Brahler, 2000).

The second layer concerns living and working conditions. Among living conditions, education shows positive associations with individual health (Honjo, et al., 2006). Furthermore, health care services can improve health (Adams, Hollenberg, Lui, & Broom, 2009; Fisher & Elnitsky, 2012; Saraceno, 2012; Williams, 2012). Additionally, physical aspects of housing such as thermal properties of the house (heating or ventilation) (Howden-Chapman & Chapman, 2012) and satisfaction with housing and neighborhood conditions (Rourke, et al., 2012) can influence health positively. On the other hand, poor housing conditions (Keall, et al., 2012) such as insanitary housing (Ginot & Peyr, 2010) have a negative impact on health. Among working conditions, work environment influences individual health. Good psychosocial working conditions influence health positively in men and women (Rahkonen, Laaksonen, Martikainen, Roos, & Lahelma, 2006). When distinguishing work classes according to Wright's scheme (Wright, 1989) (capitalists, petit bourgeoisie, managers, supervisors, and skilled, semi-skilled, and unskilled workers), workers and managers have a higher risk of death compared to capitalists (Muntaner, et al., 2011). However, these results were only found for men, not for women. Nevertheless, there is a need for new concepts of

work classes and measures to explain social differences in health (Muntaner, et al., 2010). However, not only employment but also unemployment and retirement can affect individual health (Artazcoz, Cortes, Borrell, Escriba-Aguir, & Cascant, 2010; Calvo, Sarkisian, & Tamborini, 2013; Harma, 2012).

The third layer concerns social and community networks. Nowadays, there is strong evidence that social integration has positive influences on individual health. Social isolation shows negative influences on health (Cacioppo & Hawkley, 2003; Cornwell & Waite, 2009; Coyle & Dugan, 2012; Hall-Lande, Eisenberg, Christenson, & Neumark-Sztainer, 2007; Shankar, McMunn, Banks, & Steptoe, 2011), whereas social integration shows beneficial effects on individual health (Baumgartner & Susser, 2012; Berkman, Glass, Brissette, & Seeman, 2000; Orwelius, et al., 2011).

Individual lifestyle factors further influence health (Hollister & Anema, 2004). For example, drugs and alcohol (Chung, et al., 2009; Jane-Llopis & Matytsina, 2006; Reid, Boutros, O'Connor, Cadariu, & Concato, 2002), smoking (Hawamdeh, Kasasbeh, & Ahmad, 2003; Hymowitz, 2011; Prasad, Kabir, Dash, & Das, 2009), eating behavior (Chung, et al., 2009; Higdon & Frei, 2006; McEvoy, Temple, & Woodside, 2012) physical activity (Jahnke, Larkey, Rogers, Etnier, & Lin, 2010; Ross & Thomas, 2010), sexual behavior (Brown, Morrison, Calibuso, & Christiansen, 2008; Choe, et al., 2012; Ferris, et al., 2008; Haydon, Herring, & Halpern, 2012; Pitpitan, et al., 2012) or spiritual factors (Como, 2007) have an impact on health.

Last but not least, individual factors such as age (Anstey & Christensen, 2000), sex (Bottorff, Oliffe, Robinson, & Carey, 2011) or disposition play an important role in the context of health influences. For instance, many studies were able to show that the Type D personality

(negative affectivity and social inhibition) has a negative impact on physical and mental health (for an overview: Mols & Denollet, 2010). Furthermore, the Big Five personality traits of extraversion, conscientiousness and agreeableness are positively associated with mental health, whereas neuroticism shows high correlations with psychopathology (Lamers, Westerhof, Kovacs, & Bohlmeijer, 2012; Turiano, et al., 2012).

To maintain and improve individual health, the WHO calls for a resource-based empowerment, meaning not only to improve environmental circumstances (Jacobs, et al., 2010), but also to provide a person with more options for self-determination (Carson, et al., 2012) and individual development in order to enhance individual health (WHO, 2012b).

To summarize, individual health underlies a large number of influences such as environmental circumstances, living or working conditions, as well as social and community networks and integration, lifestyle factors and individual differences. However, one of the most important factors in this context is social networks (Holt-Lunstad, Smith, & Layton, 2010). Positive and negative social interactions are omnipresent in social networks and they influence health differently. Among positive social interactions, social support has been identified as an important factor for promoting health (for an overview: Uchino, 2006; Wang, Wu, & Liu, 2003) and healthy behavior (Baheiraei, et al., 2011; Harvey & Alexander, 2012; Piwonski, Piwonska, & Sygnowska, 2012). On the other hand, negative social interactions such as interpersonal conflict influence health negatively (Inoue & Kawakami, 2010). Therefore, in this thesis, the focus will be on these social influences. Nevertheless, since a Swiss population is investigated in this thesis, it is necessary to introduce individual health in Switzerland in the next chapter.

2.3. Individual Health in Switzerland

Despite the fact that health is a multidimensional construct, the Swiss Federal Statistical Office [Bundesamt für Statistik] states that people are able to realistically assess their general state of health (Swiss Federal Statistical Office, 2012).

Life expectancy at birth in 2011 in Switzerland was fairly high, with men reaching 80.3 years and women 84.7 years, with a declining mortality rate (Swiss Federal Statistical Office, 2012). In comparison, the global health statistics of the WHO (2013) reports an average life expectancy at birth of 68 years for the global population. However, life expectancy differs according to the country. For example, in the United States of America, life expectancy at birth is 76 years for men and 80 years for women, whereas in developing countries such as Uganda, life expectancy is only 48 years for men and 57 years for women (WHO, 2012a). The higher life expectancy of Swiss persons might be due to better health care systems and sanitation in Switzerland as compared to other countries (Busato & Kunzi, 2008; Herzlinger & Parsa-Parsi, 2004; Okma, et al., 2010; Schoenenberger & Stuck, 2006). As cause of death, cardiovascular disease is mentioned the most frequently, followed by malignant tumors, accidents and suicide (Swiss Federal Statistical Office, 2012).

Data from the Swiss Federal Statistical Office (2012) show that in 2007, 86.8% of the Swiss population aged 15 and over considered themselves to be in good or very good health, while 27.3% reported a long-term health problem. As one predictor of health, over half (59.2 %) of Swiss residents in 2007 showed a normal weight (Body Mass Index 18.5-25); however, more than a third (37.3%) of persons were overweight and obese. Interestingly, more men were overweight (46.3%) than women (28.6%). This is in line with data of the WHO (2012a) which indicate that health risk factors such as raised blood pressure, obesity and tobacco use

are more common in Swiss men compared to Swiss women. However, these data also vary depending on the country. When comparing, for example, obesity of Swiss people with individuals living in the United States of America, or developing countries such as Uganda, large differences can be detected for men (CH: 18.3%; USA: 30.2%; UG: 4.3%) and women (CH: 11.6%; USA: 33.2%; UG: 4.9%) (WHO, 2012a).

Statistics reveal that approximately 30% of Swiss inhabitants older than 15 years are of a migrant background (Swiss Federal Statistical Office, 2012) and studies suggest that immigrants in Switzerland have a higher hospitalization rate, more dental cavities, are more obese and more frequently affected by psychological problems (Bischoff, Schneider, Denhaerynck, & Battegay, 2009; Bischoff & Wanner, 2008; Jaeger, Hossain, Kiss, & Zimmerman, 2012). Furthermore, in line with other research (Rahkonen, et al., 2006), physical and psychosocial working conditions reported by Swiss employees are significant predictors of self-rated health and have to be taken into account for the interpretation of the above-mentioned data (Bauer, Huber, Jenny, Muller, & Hammig, 2009).

2.4. Summary

In conclusion, health is a complex construct influenced by many different factors, making a clear definition complicated. Therefore, the individual component of health is very important, although it is not mentioned in the WHO definition. Nevertheless, this definition has become hugely important (Berkman & Syme, 1979; Ware, 1980) and is therefore used in this thesis. As the focus of this thesis lies on a Swiss population, it is important to refer to health data of individual health in Switzerland. These data indicate that Swiss individuals show an above-average health as compared to a whole-world population (WHO, 2012b).