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1. Theoretical Background

1.1. The Definition of Health Behavior

In the realm of health psychology, behaving in a health promoting way can hold different meanings. Before delving into conceptualizations of models predicting health behavior, it is necessary to first define which behaviors are specifically considered as health behavior. Sutton (2004) distinguishes between positive and negative behaviors, the former being healthful or health-enhancing behaviors such as taking regular exercise, going for annual health checks, including fruit and vegetables to diet, using a condom with a new sexual partner; whereas the latter being unhealthy, risky or health compromising behaviors such as heavily use of alcohol or tobacco, eating food with high saturated fat content, engaging in risky behavior while driving. Sutton points out the importance of broadening the indicators for health from a dichotomous state of behaving or not behaving in a certain manner to multiple steps of behavioral stages in order to assess the variability of that given behavior. People display different amounts of severity in a given risk behavior. For example some people never try cigarettes in their entire life while others do try. Some of those people who experiment with cigarettes quit after a short period, whereas others continue. From those who take up smoking as a habit may only smoke in rare occasions while others start smoking heavily and so on. Furthermore Sutton emphasizes the relevance of contexts in which the behavior takes place, so that the same behavior can be regarded either as health or illness behavior. One context-dependent feature may be the medical background of the person. If one takes up a

healthy habit (e.g., exercising regularly) as a result of a medically diagnosed condition (e.g., heart attack), this behavior classifies as illness behavior rather than health behavior (Sutton, 2004).

As outlined by Steptoe and Wardle (1996), health behaviors can be regarded as “activities that may help to prevent disease, to detect disease and disability at an early stage, to promote and enhance health, and to protect from risk of injury” (p. 51). Therefore in this study I consider both health improving and disease preventing behaviors as indicators of health behaviors.

1.2. Motivation and Health Behavior

Motivation to engage in any behavior has been subject to psychological research since the beginnings of experimental psychology. Psychologists, theorists and researchers have proposed numerous theories in an effort to offer an extensive framework in explicating the nature of motivation. According to Ryan and Deci (2000a) “To be motivated means *to be moved* to do something. A person who feels no impetus or inspiration to act is thus characterized as unmotivated, whereas someone who is energized or activated toward an end is considered motivated” (p. 54). Specifically in the field of health psychology, it is essential to understand the factors that motivate people to behave in health promoting ways. It is widely accepted that the majority of diseases of the 21st century (chronic conditions such as heart disease, obesity, cancer, respiratory diseases, diabetes, etc.) which cause 75% of all health care costs, are preventable by attaining health promoting behaviors (CDC, 2009). In order to understand what factors influence regulation of health related behaviors a

number of theories have been proposed. One of them is the health belief model (HBM), which offers a concept in which perceived susceptibility to disease and the perceived severity of the disease determine the overall perceived threat. On the other hand a comparison of the perceived benefits and the perceived barriers takes place. Along with the modifying factors such as cues to action and demographic variables, these factors influence the likelihood of taking a preventative health action or not (Rosenstock, 1974). Bandura's (2014) social cognitive theory (SCT) deems health behavior as a product of a set of determinants: *Knowledge* of risks and benefits of different health practices; perceived *self-efficacy*, which is defined by the ability to control health related habits; *outcome expectations* about the costs and benefits for different health habits; *goals* that are deemed important and achievable in either for the short or the long term; and the *perceived facilitating or hindering* socio-structural factors. These mechanisms all operate together in the regulation of health behavior. Another renowned theory for prediction of health behavior is postulated by Ajzen (1991), who summarizes the motivation to engage in a certain behavior in his theory of planned behavior (TPB) in two components: Both the individual's intention to perform a given behavior (i.e., one's motivation to put an amount of effort for a target behavior) and one's perceived behavioral control (i.e., the ability to carry out the intended behavior by utilizing the resources and opportunities that are available to the person) exert an influence on the desired outcome behavior.

1.2.1. Self-determination theory: A theory of motivation.

The vast amount of proposed health motivation theories are beyond the scope of this study. Nevertheless, the necessity of mentioning some of those theories is due to emphasizing the self-regulatory processes in these conceptualizations. The current study focuses on self-determination theory (SDT; Deci & Ryan, 1985, 2000; Ryan & Deci, 2000a, 2000b) as a theoretical framework to investigate its relation to health related behaviors and health information seeking behavior in the internet. SDT is one of the most influential approaches in the study of motivation and over the past few decades it has been successfully utilized in a wide range of research areas such as sports and exercise (Pelletier, Rocchi, Vallerand, Deci & Ryan, 2013; Stenling, Lindwall & Hassmén, 2014), well-being (Niemi, Lynch, Vansteenkiste, Bernstein, Deci, & Ryan, 2006; Niemi, Ryan & Deci, 2009; Nix, Ryan, Manly & Deci, 1999) as well as motivation in learning and education (Akbari, Pilot & Simons, 2015; Chen & Jang, 2010; Deci, Ryan & Williams, 1996). According to SDT (Deci & Ryan, 1985, 2000; Ryan & Deci, 2000a, 2000b) human beings are inherently motivated to explore their environments, widen their capabilities, and strive for growth and personal fulfillment, given certain circumstances. Motivation is conceptualized on a continuum, where changing degrees of motivation to engage in a given behavior depends on varying levels of autonomy. To which extent the behavior is considered as autonomous is explained by different internalization strategies. Not only changing amounts of motivation but also the different kinds of motivation are of importance. The question of how much motivation one displays has to do with the varying level of motivation; whereas the question of what type of motivation one displays refers to the

different orientations of motivation. Orientation of motivation specifies the underlying reasons and goals that stimulate the manifestation of behavior. Deci and Ryan (2000) illustrate the different types of motivation on their motivation continuum (see Figure 1). Three major types of motivation are postulated. On one far end of the spectrum lies *amotivation*, which describes the situation of lacking the intention to act and the absence of any regulation. At this stage the action either does not take place or is carried out without any intention in a mechanical manner. On the other far end of the motivation continuum lies *intrinsic motivation*. The term *intrinsic motivation* refers to “the inherent tendency to seek out novelty and challenges, to extend and exercise one’s capacities, to explore, and to learn” (Ryan & Deci, 2000b, p. 70). Here the behavior is carried out merely due to their interesting, optimally challenging and spontaneously satisfying features.

Behavior	Non-self-determined				Self-determined	
Type of Motivation	Amotivation	Extrinsic Motivation (EM)				Intrinsic Motivation (IM)
Type of Regulation	Non-regulation	External Regulation	Introjected Regulation	Identified Regulation	Integrated Regulation	Intrinsic
Locus of Causality	Impersonal	External	Somewhat External	Somewhat Internal	Internal	Internal

Figure 1. Motivation subtypes and their associated regulatory strategies according to SDT (Adapted from Deci & Ryan, 2000)

Between the far ends of amotivation and intrinsic motivation lies *extrinsic motivation* that describes the external regulation styles of behavior, varying in the extent to which their regulation is autonomous. Taking a closer look at the different forms of external regulation styles, authors introduce *external regulation* as being the least autonomous of all regulation styles, which is directly situated next to amotivation on the motivation continuum. At this point of the continuum, the behavior is performed under the influence of external reward contingencies. Authors draw attention to Skinner's operant conditioning theory (as cited in Ryan & Deci, 2000a), where all behavior is regarded as a product of obtaining rewards (i.e., food, material good, money etc.), and place this type of motivation at the end of all extrinsic motivation styles. Looking from a health behavior point of view, a child may comply with the demands of the doctor (e.g., eating less sugar and junk food), so that her/his father buys the new computer game, as promised. Since this change in health behavior depends fully on obtaining a separable outcome, as soon as the expectation of reward disappears, so does the behavior. The perceived causality in this case is attributed to outside influence and the behavior is experienced as controlled or alienated (Ryan & Deci, 2000a). The second least autonomous of external regulatory styles is *introjected regulation*. At this stage - as Deci and Ryan (2000) propose - introjected regulation "represents a partial internalization in which regulations are in the person but have not really become part of the integrated set of motivations, cognitions, and affects that constitute the *self*" (p. 236). This implies that there is a little amount of regulation taking place and this regulation is not fully accepted as one's own. Actions that are performed due to ego involvement (i.e., in order to enhance or maintain self-esteem)

present a typical example for introjected regulation of behavior. Another reason to engage in behavior in this level is to prevent feelings of anxiety and avoid guilt by trying to meet with the expectations of others or complying with societal norms. Since the regulation of behavior results from an outer influence, it is not experienced as part of the self and experienced more as being controlled.

When thinking in health related situations, behavior change towards healthy eating may result from the cosmetic benefits of losing weight which is then expected to enhance self-esteem. In their research, Pelletier, Dion, Slovinec-D'Angelo and Reid (2004) developed the Regulation of Eating Behavior Scale in order to find out the underlying reasons for healthy eating behavior. Exploratory factor analyses revealed that items like "I don't want to be ashamed of how I look" and "I feel I must absolutely be thin" correlated highly (.93 and .88 respectively) with introjected regulation styles.

Located on the left hand side of the self-determination continuum amotivation, external regulation and introjected regulation are displayed as non-self-determined styles of regulation. In contrast the self-determined regulation styles, namely, *identified regulation*, *integrated regulation* and *intrinsic motivation* are presented at the right hand side of the continuum. Identified regulation and integrated regulation present more autonomous, self-determined forms of extrinsic motivation. To specify, regulation through identification refers to a process, where the behavior is given value and regarded as personally important and integrated regulation to a process of successful internalization and assimilation of the identified regulations to

the self. Integrated regulation is the most autonomous form of all extrinsically motivated behaviors. At this stage the behavior is identified as not only important and valuable but also consistent with other aspects and values of the self. As Ryan and Deci (2000) suggest, if an extrinsically motivated behavior is internalized and assimilated to the self, it becomes more self-determined.

Finally, located at the far right position of the motivation continuum is *intrinsic motivation*. This type of motivation – as outlined above – refers to the natural tendency to engage in behavior that is experienced as rewarding not because of a separable outcome, but because of the inherent satisfactory properties of the behavior itself. These properties include novelty, challenge, and aesthetic value (Ryan & Deci, 2000a). One of the most influential psychologist and a leading researcher in the field of positive psychology, Csikszentmihalyi (1975) coined the term *autotelic* (from the Greek *auto* = self, *telos* = goal) to describe such activities which are experienced as rewarding in and of itself. The purpose of taking the action is not related to an end product, but to the intriguing and fulfilling properties of the action. In addition to these aspects, intrinsically motivated behaviors also differ in the quality of the behavior because they require a state of full concentration and intense engagement with the task as opposed to extrinsically motivated behavior that leads to a low quality in behavior because the person tends to do only what is required to obtain a separable outcome (Ryan & Deci, 2006).

Most of the behaviors that humans engage in everyday life (Ryan & Deci, 2000a) as well as in health context (Ryan, Patrick, Deci, & Williams, 2008) are not

necessarily influenced by intrinsic motivation. However it is important to realize that through the process of internalization, behaviors can become more self-determined. In order to achieve this, one does not have to walk through each individual step of the motivation continuum. It is important to identify the contextual properties that allow self-determined behavior to develop. Ryan and Deci give the example of a behavior which initially is performed because of an external reward. This behavior may in fact be experienced as intrinsically interesting, resulting in an orientation shift in the regulation style. Conversely, an activity which is initially experienced as integrated with the values of the self may be experienced less self-determined in the presence of outer pressure. Threats, deadlines, imposed goals, pressured evaluations and directives are shown to diminish intrinsic motivation because of the sense of being controlled externally (Ryan & Deci, 2000b). To examine the contextual properties in which self-determination flourish, authors introduce three fundamental needs in their cognitive evaluation theory (CET; Ryan & Deci, 2000b). Through the satisfaction of the basic psychological needs for *autonomy*, *competence* and *relatedness* human beings are provided with the optimal contextual properties that are necessary for more self-determined types of regulation and for psychological growth, integrity and well-being (Deci & Ryan, 2000). Deci and Ryan describe the specific properties of each of these needs as follows: According to SDT *autonomy* is characterized by a sense of choice, i.e., being the author of behavior. In this case the performed behavior is free from being imposed; it emerges on the basis of personal values and interests thus it is experienced as self-organized. Second need, *competence* is determined by the perceived ability of an individual to initiate, maintain and terminate behavior.

However individual's actual level of ability is not the issue here. As Deci and Ryan suggest, perceived competence can be enhanced through positive feedback or can be diminished through negative feedback from the environment, which then either facilitates or undermines intrinsic motivation. Third need identified as *relatedness* points out to the feelings of security and warmth in relationship with the environment. Although Deci and Ryan deem relatedness only as a distal contributing factor to self-determination and less central to intrinsic motivation (Deci & Ryan, 2000), it may be of importance considering change in health behavior (Ryan et al., 2008).

There is a growing body of research in health behavior field using the SDT as model to predict sustaining health behavior changes. Pelletier et al. (2004) investigated women's reasons for regulating their eating behaviors. They found that women who regulate their eating for more self-determined motives reported more healthy eating behaviors, higher self-esteem and greater life-satisfaction. Conversely, women who tend to regulate their eating behaviors for non-self-determined reasons, reported more bulimic and depressive symptoms, lower self-esteem and lower satisfaction with life. Likewise, Leong, Madden, Gray and Horwath (2012) found similar results, indicating lower measures of body mass index (BMI) associated with self-determined forms of regulation and non-self determined forms of regulation associated with higher measures in BMI. Furthermore, their results showed that autonomous forms of eating regulation were positively associated with healthy eating behaviors and negatively associated with less healthy eating behaviors. In a recent, rather interesting experiment, Suri, Sheppes, Leslie and Gross (2014) compared the

effectiveness of two conditions in promoting physical activity of pedestrians by exposing them to either a command phrase (i.e., “Take the Stairs”) or a question phrase (i.e., “Will You Take the Stairs?”) at a local train station. These signs were placed in front of the stair/escalator banks. The processing time of these signs were also varied by placing them either to a near or a far distance. The imperative sign – according to the heuristic systematic model - was expected to activate heuristic cues and function effectively in promoting activity when information processing time was limited. The interrogative sign, which was based on the SDT was expected to achieve a change in behavior by supporting the autonomous regulation, when time for processing information was less limited. Results confirmed researchers’ expectations showing not only that the interrogative sign was more effective than the imperative sign when processing time was less limited, but also that this change in behavior was in fact durable as observed at a second escalator/stair point (Suri, Sheppes, Leslie, & Gross, 2014). Nevertheless, these findings signify the requirement of having enough timeframe to process information, evaluate the options, select the best possible way to behave amongst these given options and put it into action. This kind complex information processing requires coordination among prefrontal cortical regions, subcortical striatal-thalamic areas that promote or inhibit motivation as well as inputs from the hippocampus and amygdala that provide contextual and affective information (Ryan & Deci, 2006). The authors conclude: “Thus, to support autonomous functioning, executive functions must be both selective and fully informed by affective and memory related processes” (Ryan & Deci, 2006, p. 1565).

1.2.1.1. *The Index of autonomous functioning.*

In SDT, individual's situational motivation towards autonomous behavior is introduced as a context specific factor. However through the accumulation of previous experiences, people develop tendencies towards being either more or less autonomous. These tendencies stabilize through time and bring about the individual differences in regulation of motivation (Weinstein, Przybylski & Ryan, 2012).

Following the premise of dispositional autonomy that has been proposed by the SDT, Weinstein et al. developed recently in 2012 a scale, namely the index of autonomous functioning (IAF) to find out stable, dispositional tendencies and attributions that are central to autonomous functioning. Starting off with a large item pool of 198 potential items they conducted a systematic investigation with exploratory and confirmatory factor analytical measures and the subsequent reliability and validity measures. Eventually they were able to narrow down the item pool to 15 items that resulted in three factors which together hypothesized to be central to autonomous functioning. The subscales are introduced below.

1.2.1.1.1. *Authorship/Self-congruence.*

This concept represents the integrated form of regulation of motivation and points out to a more autonomous type of behavior. When more autonomous, individuals have a feeling of being the author of the behavior. Behavior is fully compatible with one's own values, needs and interests and individuals have the sense of behaving consistently with these personal attitudes (Weinstein et al., 2012).

1.2.1.1.2. Interest-taking.

The second main characteristic of dispositional autonomy refers to being ready to constantly learn more about oneself. This requires being attentive to the events that are occurring in the environment, showing sincere interest in personal experiences, reflecting on the meaning or importance of things in order to gain an insight into oneself, which is then hypothesized to enhance autonomous decision making (Weinstein et al., 2012).

1.2.1.1.3. Susceptibility to control.

The third facet to predict dispositional autonomy is related to the introjected form of regulation. It refers to the feelings of external and inner pressure, which undermine autonomy in individuals. Those who are less susceptible to control show resilience in the face of social pressure and tend to avoid pressuring themselves with personally defined “must’s”. Conversely those who are dispositionally more susceptible to control, define their worthiness either by societal norms or self-constructed requisites.

1.3. Online Health Information Seeking

The premises behind the theoretical construct of interest taking of the IAF scale, i.e., being ready to openly reflect and learn more about the self and the events that are important to self (Weinstein et al., 2012), as well as the presumption that autonomous behavior requires certain amount of complex information processing (Ryan & Deci, 2006; Suri et al., 2014) made it essential for this study to examine the health information seeking behaviors and investigate its relation to autonomous behavior. In this section I will summarize the current state of knowledge in health

information seeking behaviors and introduce some of the recently conducted research on this topic.

In a research conducted in 1990 at a university outpatient rehabilitation center 106 patients were asked to report to what extent they (a) desired information from physicians and (b) felt they should take part in making medical decisions. In addition to this patients' interaction with physicians were recorded to see if they (c) engaged in information seeking behavior during medical encounters. Although a vast majority reported that they desired information in a wide variety of areas (e.g., information about why the doctor feels the patient needs medication, specific drugs, dosage of medication, treatment alternatives, risks and benefits of proposed diagnostic tests, risks and benefits of hospitalization versus outpatient treatment etc.), they did not show that much interest in taking responsibility to engage in medical decisions. Information seeking attempts during medical encounters were also very low, with 28.3% of the sample making no request for information at all, and a little more than half making attempts at most two times to seek information. These findings indicate that although there was desire for information, patients did not actively seek for it (Beisecker & Beisecker, 1990).

Since its invention in 1990, the World Wide Web has changed the traditional understanding of patient-health provider relationships. Internet is seen as the most significant technological advance of 21st century. It has enabled people to communicate with each other all over the world, empowering individuals with more information, helping them to become more actively involved in health matters

(Hardey, 2001). Self-perception of patients has changed from the traditional “sick role”, to being actively engaged health consumers (Hardey, 2001). Patients are not passive users of health services anymore; they have become actively criticizing, evaluating, decision-making consumers and producers of health (Berger, 2009). Since 1990 the amount of online information on health care has been increasing rapidly. The PEW Internet & American Life Project reported the percentage of health information seeking of American adults in year 2000 as 25%. In 2009, this rate increased up to 61% (Fox & Jones, 2009), and their latest report from 2013 indicates that 72% of the U.S population looked online for health information of some kind within the past year in areas ranging from general information to serious health conditions (Fox & Duggan, 2013). Another study conducted among European citizens revealed the top three countries that make use of the internet in health related subjects as Denmark (62%), Norway (59%) and Germany (49%; Andreassen et al., 2007). Eysenbach (2003) estimates that 4.5% of all internet searches on a global level (12.5 million searches every day) are health related.

This platform shift in meeting the information and communication needs of patients from physicians’ examination room to a network consisting of millions of people has raised concern amongst medical professionals and received criticism in academic circles. It has been criticized that reliability and quality of the information obtained from the internet is questionable (Hardey, 2001; Lewis, 2006), information obtained in the internet puts those who are not capable of differentiating between credible sources from less credible sources at risk (Berger 2009, Lewis, 2006),

information found online may be overwhelming for those who experience serious conditions and due to their illness are not capable of cognitively deal with this information (Brashers, Goldsmith & Hsieh,2002), some commercial websites increase panic and health anxiety in order to better promote the sales of certain health products (Berger 2009; Hardey, 2001; Heicappell & Schneider, 2002).

Despite these concerns there is evidence that argues otherwise. Kitchens, Harle and Li (2014) performed multiple Google searches using 2069 health-related terms and examined the quality of the pages that were retrieved by the search engine. Results showed that 53% of first page results were certified by Health on the Net or by MedlinePlus and 61% were either certified or referenced. Results also showed the influence of using specific terms rather than general terms on the quality of the content retrieved. Search with broad terms such as “wellness and lifestyle,” “safety issues,” “food and nutrition,” and “personal health” which are related to general health and prevention produced significantly low quality results, whereas specific terms such as “cancers,” “diabetes,” “endocrine,” and “lung and breathing” produced high quality results. Hardey (2001) found in a qualitative research that the diversity in online information encourages users to be skeptical about the content that is presented to them. Lewis (2006) conducted semi-structured interviews with 19 individuals aged between 17 and 25 to learn more about young people’s usage of the internet on health related matters. Similarly, Lewis found that people are not just passive receivers of information. Rather than that people tend to collect information from various sources,

compare them with each other, critically evaluate them, and decide for themselves which information is the most trustworthy.

Reasons to engage in online information seeking vary depending on personal needs. Hardey (2001) reports that the average consultation duration equals to eight minutes; this time frame in some cases even drops down to just over a minute to five minutes. Physicians' acting in a rush and not listening the complaints of the patients leads to dissatisfaction in communication needs (Kassirer, 2000; Tustin, 2010).

According to Hardey (2001), patients may also feel anxious about "needlessly taking up time" of their practitioner. Dissatisfaction in patient-medical professional encounter has repeatedly been shown as a significant factor influencing online health information seeking behaviors. In a recent study two fifths of the respondents reported "unhappiness with the physician" as the main reason for post-visit online information seeking (Li, Orrange, Kravitz, & Bell, 2014). Patients with rare or stigmatized illnesses or those who experience embarrassing situations due to their conditions may avoid asking questions in direct communication with the physician, and prefer the online platform for information because of provided anonymity (Brashers et al, 2002; Hardey, 2001; Li et al., 2014). Specific patient groups like cancer patients may have special needs for information and connection that may cause the tendency for online information and support seeking. Tustin (2010) investigated the reasons of cancer patients for online information seeking after having visited the oncologist. Results of this study showed that dissatisfied cancer patients rated the internet and the online support group higher than their oncologists.

Furthermore quality of time and empathy provided by the oncologist were negatively associated with selecting the internet as the preferred source for cancer-related information. Demographic characteristics seem to interfere with online information seeking tendencies as well. Health Online 2013 report indicates that women are more likely than men to engage in online health information seeking. Other characteristics that influence online information seeking include, age (younger people), racial background (white adults), income levels (those who live in a household earning \$75,000 or more), education levels (those with a college degree or higher tend to search for online health information more; Fox & Duggan, 2013). Furthermore, individuals with a chronic condition, those with a chronic condition who do not have health insurance, and those who have to travel long distances to receive health care are more likely to report online health information seeking (Bundorf, Wagner, Singer, & Baker, 2006).

There is also conflicting evidence in the literature regarding the impact of online information seeking of patients on patient-physician relationship. In a qualitative study it is reported that patients who engage in online health information seeking are perceived by physicians negatively, when they used this information for self-diagnosis or self-treatment purposes (Ahmad, Hudak, Bercovitz, Hollenberg, & Levinson, 2006). Physicians reported they found these situations “awkward,” “hard time,” “annoying,” “irritating,” and “frustrating”; and reported they felt a lack of trust of their patients for their capabilities. According to the physicians, patients were confused by the information found online and expected clarification from the

physicians. It is reported to be burdensome for physicians to discuss the content of this online attained information because of time constraints. Physicians felt online information caused the patients unnecessary “anxiety,” “worry,” “nervousness,” and “panic”, because patients believed all of the listed symptoms are happening to them, even if this was not the case. Nevertheless, there was a distinction made by physicians between two groups of patients: the worriers and the self-educators. Those who were using the internet in order to educate themselves about their pre-established conditions were perceived positively. When these patients presented the online found information, they were perceived as less challenging physicians’ expertise and more trying to learn more about the condition itself (Ahmad et al., 2006). On the other hand, Murray et al. (2003) found that the vast majority of the patients taking information to the physician were perceived as beneficial, with 83% of the patients reporting feeling more in control, and 73% feeling more confident during the consultation. Sixty-seven percent of the patients reported that the physicians reacted positively, 27% neutrally and 7% negatively.

Berger (2009) summarizes the benefits and the risks involved in online health information and communication seeking practices as follows:

Online health information seeking can be beneficial in (a) enhancing the knowledge of patients, (b) making use of health services in a time efficient way by focusing on relevant aspects of patients’ problems, (c) enhancing patients’ control over illness and increase feelings of self-efficacy, (d) early identifying the symptoms of disease and taking necessary actions for treatment, (e) creating a sense of cooperation between

patient and physician by encouraging responsibility and therefore improve compliance, (f) facilitating the decision making process, (g) widening the knowledge obtained from the physician. Risks involve (a) encountering untrustworthy sources, (b) difficulties in distinguishing credible sources from the less credible ones, (c) making erroneous self-diagnose based on the information obtained, (d) encountering commercial websites which may foster anxiety or false hopes, (e) increase in appointments with the physician when it is unnecessary or conversely decrease when it is necessary based on the information found online, (f) exclusion of those from health care services who have limited access to internet-based information, are less educated, and with low income (Berger, 2009).

2. Research Questions

The current study is partly a replication of the studies that investigate the influence of autonomous regulation styles on healthy living and engaging in adequate preventive behaviors. In this study I also include online health information seeking behavior as a second concept to investigate its relation to autonomous functioning. To my knowledge there has not been any study to investigate these concepts all together. Also the IAF has been developed recently and has not been used in many studies to assess autonomous functioning. In this research following questions are addressed:

1. What are the variables that successfully predict health behaviors and to what extent are these variables predict *health behavior (health compromising behavior, inadequate weight control, inadequate preventive behavior)*?

Hypothesis 1.1. Autonomous functioning constructs, information seeking variables, sociodemographic variables together with health condition variables will predict health behaviors.

2. What is the relationship between autonomous functioning and information seeking behaviors considering the influence of the health condition of the participants?

Hypothesis 2.1. Self-congruence in individuals (high scores in the subscale autonomy/self-congruence) will correlate positively with online health information seeking variables (*number of checked health issues, number of checked websites*) when the influence of health condition is held constant.

Hypothesis 2.2. Interest-taking of individuals (high scores in the subscale interest-taking) will correlate positively with online health information seeking variables (*number of checked health issues, number of checked websites*) when the influence of health condition is held constant.

Hypothesis 2.3. Susceptibility to control in individuals (low scores in the subscale susceptibility to control) will correlate negatively with online health information seeking variables (*number of checked health issues, number of checked websites*) when the influence of health condition is held constant.

3. Method

3.1. Sample

Data for the study were collected with an online survey from an initial number of 438 participants. After excluding 148 participants due to incomplete survey and 8 participants due to lacking reliability and sincerity in given answers, the sample was reduced to $N = 292$ participants, resulting with a total dropout rate of 33.3%. Data came from 208 (71.2%) female and 84 male individuals with mean ages 29.5 and 33.1 respectively. Total sample age ranged between 15, being the youngest person, and 75 being the eldest ($M = 30.6$, $SD = 10$).

An international sample provided data for the study with participants from 26 countries world-wide. Place of birth and current place of residence of the participants were taken into account. Twenty-five point seven percent of the participants reported that they were born in Austria, 13% in Turkey, 12% in Finland and 11.6% in Germany. As far as current place of residence was concerned, 50% were living in Austria, 12% in Turkey, 11% in Finland and 6.8% in Germany. See Table 1 and Table 2 in Appendix B for a complete list of all countries with sample frequencies.

Information about employment was also asked to report. Selecting more than one option was allowed which produced overlapping groups. Thirty-nine point four percent reported being university students, 53.8% employees, 10.3% self-employed, 7% unemployed or seeking employment at the moment.

Access to medical services is regarded important for the study, 17.1% of the sample reported that they didn't have health insurance.

Participation to the study required sufficient English knowledge, since the material was in this language. Participants also needed to be skilled in using a computer to a certain degree in order to complete the survey. In accordance with these requirements and subsequent expectations, the participants presented high education levels with 30.5% of them having a high school graduation, 33.6% a Bachelor's and 29.5% a Master's Degree. No significant difference in the distribution of education levels between female and male participants was observed ($p = .830$), indicating comparable education levels for both men and women.

3.2. Procedure

In order to put my hypotheses to the test, I created a survey using the online software program "SoSci Survey" (Leiner, 2014). Survey was made available to the participants on the website <http://www.soscisurvey.com> for 6 weeks, from July 2015 to September 2015. During this time period the link was posted on various forums and internet platforms such as groups on social networks sites, and was sent to university mailing lists. In addition to this, a snowball sampling method was followed. Friends and acquaintances were kindly asked to distribute the link and ask for their connections to distribute it further. Participants who opened the survey page were welcomed with a greeting message and were provided with some information (e.g., duration, participation requirements) about the survey and its procedure. Importance of taking at least 15 minutes of time to fill out the survey was reminded.

Choosing a proper, quite place which would provide the setting for concentrated work without any interruptions was strongly advised. Participants could only begin the survey after reading the instructions and agreeing to take part in the study. Those who did not agree with the informed consent were automatically excluded.

3.3. Material

Items of the survey assessed information on sociodemographics, autonomous functioning, health behavior, current health condition and internet health information seeking behavior using the following instruments:

3.3.1. Index of autonomous functioning scale.

15 Items of the IAF Scale assessed traits indicating autonomous behavior in three dimensions which were *self-congruence*, *interest-taking* and *susceptibility to control* with five items for each scale (Weinstein, Przybylski & Ryan, 2012). Participants responded to items by placing themselves on 7-point Likert scale from *strongly disagree* to *strongly agree*. The scales build on the theoretical basis of Self-Determination Theory which is presented in length in the theory section of this work. Participants were repeatedly reminded to think about health related situations while responding to these items in order to ensure the association to autonomous behavior in the context of health. Internal consistency measures of the scales are reported in Weinstein et al. (2012) as $\alpha = .89$ for authorship/self-congruence, $\alpha = .83$ for interest-taking and $\alpha = .84$ for susceptibility to control.

3.3.2. PEW health online 2013.

In order to assess online health information seeking behaviors, five items were included from PEW Health Online 2013 Survey (Fox & Duggan, 2013).

Concentrating on 12 month time period prior to the survey date, items assessed information about people's behavior of looking for health information online, which topics they had sought information about, which sources they typically had gotten their information from, if they had ever tried to find out about a specific health problem that they or someone else they know might have, if they had ever talked about this information with a medical professional and in case they had, what kind of a response (meaning confirmation or rejection) they had received from the medical professional. Also three items from this survey were included to gather information about the current health condition and find out more about the present health state of the participants. One item of information seeking behaviors (listed as Q43 in Appendix B) was modified. Original item listed a number of websites to choose from in order to identify those which people began to look for information. For most of the people it is common strategy to begin with a search engine, however research shows (Hardey, 2001; Lewis, 2006) people browse different websites until they think they have obtained satisfying and credible information. Therefore the item was modified, asking the participants which websites were the sources where they got the information they were looking for.

3.3.3. European health and behavior survey.

Health behavior was assessed using items from The European Health and Behavior Survey (EHBS) which was developed based on data of over 16,000 students from 21 European countries between 1989 and 1991 (Wardle & Steptoe, 1991; Steptoe & Wardle, 1996, 2001). Since its emergence, the survey has been used in various European and UK samples, providing a solid source for health behavior monitoring purposes. Included items assessed information about: smoking habits, physical activity, alcohol consumption, eating habits (breakfast habits, number of meals in a day, number of between meal snacks in a day), fat consumption, fiber consumption, fruit consumption, weight control behavior (trying to lose weight), risky behaviors while driving, preventive behavior such as breast self-examination for women and testicle self-examination for men.

In addition to this *health condition* was assessed using items both from the EHBS and PEW Health Online 2013 Survey (Fox & Duggan, 2013). Participants were asked to rate their own health on a 5-point Likert scale from “poor” to “excellent” and their general life satisfaction from “very dissatisfied” to “very satisfied”. Participants reported if (1) they have faced a serious medical emergency or crisis, (2) been hospitalized unexpectedly, (3) experienced any significant change in their health in the past 12 months. They were also asked to choose from a list of health conditions in case they were experiencing any at that time. Any condition that didn’t appear on the list could be typed in individually after choosing the “other” option. The Item “Do you suffer from any health problems that have led you to visit a

doctor or health clinic in the past four weeks?” assessed if any health problems were present recently. Another item assessed if participants had been using any medication over the past four weeks. Weight and height information were used to calculate BMI as an indicator of current health condition, also their own perception about their weight on a 5-point Likert scale ranging between “very underweight” to “very overweight” was included as an important source of knowledge.

Finally, participants were asked to report their age, sex, education level, income level, employment status, birthplace and place of residency, as well as information about having health insurance in order to gather *sociodemographic information*. All questionnaire items are listed in Appendix B.

4. Data Analysis

4.1. Preliminary analysis and operationalization of variables.

For the analysis of data the statistics software IBM SPSS® 22 was used. Prior to the main data analysis, principal component analyses (PCA) were performed for the items that assess health behavior and health condition. PCA for health condition produced one factor, explaining 32.8% of the total variance. Items that were considered to predict health condition were: subjective health perception of the participant; BMI z-scores; number of mentioned health incidents in the last 12 months (facing a serious medical emergency, being hospitalized unexpectedly etc.); number of mentioned health problems (diabetes, high blood pressure, heart disease etc.); overall life satisfaction as predicted by the participant, subjective weight

perception of the participant and number of mentioned health problems in the last 4 weeks, and being on a medication treatment in the last 4 weeks. High scores on this scale indicated poor health. Variable health condition (HC) was built in correspondence with the weighted contribution of each item that was included in the factor analysis.

For the operationalization of health behavior, a list of individual items were included in the PCA, assessing eating habits (regular breakfast, eating fruits, amount of meals eaten per day, amount of snacks eaten per day, frequency of physical activity in the last two weeks, efforts to avoid fat and cholesterol, eating fiber rich food); amount of alcohol and tobacco consumed; preventive behavior (wearing seat belt when driving, driving within the speed limit, self-examination of possible breast and testicle lumps); efforts to control weight (dieting to lose weight, trying to lose weight). High scores in all of the items indicate inadequate health behaviors. PCA for health behaviors produced three factors explaining 36.1% of the total variance. Factor 1 is labeled as *health compromising behavior* (HCB), Factor 2 as *inadequate weight control* (IWC) and Factor 3 as *inadequate preventive behavior* (IPB). Detailed results of both PCA for health condition and health behavior with all included items can be seen in Table 1 and Table 2 respectively.

Table 1. Factor loadings for Principal Component Analysis With Varimax Rotation of Health Condition Items

z-score		Component	Communalities
		1	h_i^2
Q17	Current health problems	.755	.570
Q17a	Number of mentioned health problems	.728	.529
Q12	Health perception(recoded)	.723	.522
Q18	Medicine (recoded)	.531	.282
Q15	Life satisfaction (recoded)	.516	.267
Q14	Number of clicked health problems	.513	.263
Q16	Weight perception (recoded)	.426	.182
Q13	Number of mentioned unexpected health conditions	.423	.179
	BMI (recoded) ^a	.391	.153
Eigenvalue		2.95 (32.7%)	

Note. Rotation method: Varimax with Kaiser Normalization. Factor loadings >.40 are in boldface.

Corresponding items coded with Q-letters can be seen in Appendix B. ^a BMI was calculated with items Q10 and Q11 and was recoded according to World Health Organization (WHO) criteria.

Table 2. Factor loadings for Principal Component Analysis With Varimax Rotation of Health Behavior Items

z-score	Component			Communalities
	1	2	3	h_i^2
Q20 - Breakfast (recoded)	.681	-.126	.198	.518
Q19 - Smoking (recoded)	.580	.105	.059	.350
Q28,Q29,Q30,Q31,Q32,Q33 Alcohol (recoded)	.565	.198	-.160	.384
Q23 - Fruit consumption (recoded)	.535	-.071	.307	.386
Q22 - Snack frequency (recoded)	.487	.065	-.015	.242
Q37 - Drink & drive (recoded)	.468	.177	-.293	.336
Q36 - Speed limit (recoded)	.170	-.020	.067	.034
Q27 - Dieting (recoded)	.034	.780	-.078	.616
Q26 - Trying to lose weight (recoded)	-.048	.677	-.057	.464
Q24 - Fat & Cholesterol (recoded)	.012	.588	.502	.598
Q36 - Physical Activity (recoded)	.095	-.230	.622	.449
Q25 - Fiber consumption (recoded)	.173	.523	.563	.620
Q21 - Meal (recoded)	-.050	-.062	-.381	.151
Q38,Q39, Q40,Q41 – Self-examination (recoded)	-.061	.049	.372	.144
Q36 - Seat belt (recoded)	.110	-.035	.330	.122
Eigenvalue	1.95 (13.0%)	1.85 (12.4%)	1.61 (10.7%)	5.41 (36.1%)

Note. Rotation method: Varimax with Kaiser Normalization. Factor loadings >.40 are in boldface.

Corresponding items coded with Q-letters can be seen in Appendix B.

Intercorrelations of the factor HC and the three health behavior factors are shown in Table 3. Results showed low positive correlations between HC and HCB as well as IPB. A low negative correlation was observed between IWC and HC. As expected, none of the three health behavior factors correlated with each other, indicating strong divergent properties for these factors. All factors represent z-standardized values.

Table.3. *Intercorrelations of the Factors Health behavior and Health Condition*

	1	2	3	4
1.Health condition (HC)	-			
2.Health compromising behavior (HCB)	.114	-		
3.Inadequate weight control (IWC)	-.253**	.000	-	
4.Inadequate preventive behavior (IPB)	.252**	.000	.000	-

Note. **. Correlation is significant at the 0.01 level (2-tailed).

Reliability measures of autonomy scales were satisfactory for the scales authorship/self-congruence and interest-taking with Cronbach's α .709 and .783 respectively. For the scale susceptibility to control however, the obtained reliability indicated a low consistency with a Cronbach's α of .567, which was the highest value that could be obtained. It was not possible to increase the overall reliability of this scale by removing one or more items. Intercorrelations of autonomy scale measures as well as corresponding *M* and *SD* of each subscale can be taken from Table 4.

Variables authorship/self-congruence and susceptibility to control were not correlated and the obtained p -value was also non-significant ($p = .434$).

Table.4. *Summary of Intercorrelations, Means, and Standard Deviations for the Index of Autonomous Functioning Scales*

	1	2	3	<i>M</i>	<i>SD</i>
1.Authorship/Self-congruence	-			5.30	.771
2.Interest-taking	.266**	-		5.38	.941
3.Susceptibility to control	-.046	.308**	-	4.20	.933

Note. **. Correlation is significant at the 0.01 level (2-tailed).

Three of the five items (i.e., In Appendix B, items coded as Q42, Q43 and Q44) were considered relevant in fully assessing information seeking behavior. For items Q42 and Q43, two variables measuring the total number of clicks were built. Item Q42 assessed the various health issues that were made subject to online searching and indicated the *intensity* of health information seeking behavior. The more options were chosen, the more intensely one was searching health related information online. Item Q43 assessed the sources (i.e., different websites) from which the information was obtained and indicated the *variety* of information seeking behavior. As previous research indicates, info-seekers are not simply satisfied with the first information that is obtained from one source, but are more interested in finding various sources to confirm the validity of the information (Hardey, 2001; Lewis, 2006). Therefore the computed variable number of checked websites indicated the variety in health information seeking behaviors; high scores in this variable

belonged to someone who was engaging in a search higher quality. Third item labeled as Q44 in Appendix B assessed information on efforts to find out a specific medical condition using the internet. Item was included without further computation of a new variable, since it was a dichotomous variable.

4.2. Hypothesis testing.

4.2.1. Hypothesis 1.

After successful operationalization of the individual items to health behavior and health condition constructs, a multiple regression analysis was run, in order to test hypothesis one, i.e., determining which predictors play a significant role in the explanation of health behavior constructs. To achieve this in the most accurate way possible, a backward stepwise method was chosen. 12 predictor variables were regressed on each health behavior constructs (i.e., HCB, IWC and IPB) in two blocks. First block of predictor variables consisted of autonomy scale measures (i.e., authorship/self-congruence, interest-taking and susceptibility to control) as proposed in hypothesis 1.1 and three information seeking variables (number of checked health issues, number of websites and searching for a specific condition; hypothesis 1.2). The second block consisted of sociodemographic variables (sex, age, BMI z-scores, income level, education level; hypothesis 1.3) and HC (hypothesis 1.4). For each of the three regression models the assumptions for a multiple regression analysis were met. Normal distributions of residuals were ensured by examining histograms and p-p plots. Durbin-Watson statistics showed constant variances of the residual terms for all regression models. The obtained individual values were 1.94 for regression model 1

and regression model 2, 2.14 for regression model 3; all greatly satisfactory. Also no perfect relationship between predictors was observed. Particular values of VIF and tolerance statistics can be taken from Tables 5, 6 and 7.

4.2.2. Hypothesis 2.

To examine the relationship between autonomous functioning traits and information seeking behaviors more closely, I conducted partial correlations for autonomous functioning variables and two of the information seeking variables, namely Q42 and Q43, while controlling for the possible moderating influence of HC. Autonomous and less autonomous people can have different information needs with regard to their health situation. Dealing with serious health conditions, people will differentiate in their need for online health information from healthy individuals. Therefore it was deemed necessary to cancel out the possible effects of health condition when investigating the relationship between autonomous functioning variables and information seeking variables.

5. Results

5.1. Descriptive Analysis

First, I present descriptive information of the sample for all three constructs of health information seeking behavior, health condition and health behavior. For these analyses I take individual items that were used in the PCA. Reason to report this information is due to providing a deeper understanding of sample properties.

For health condition items, 6.5% ($n = 19$) of the sample reported having faced a serious medical emergency, 11.3% ($n = 33$) being unexpectedly hospitalized, 17.1% ($n = 50$) having experienced significant changes in physical health in the last 12 months. When asked to report any current health conditions a total of 34% ($n = 100$) of the sample reported to be struggling with one of the conditions listed. Most frequently reported condition was asthma, bronchitis or other lung conditions with 9.9% ($n = 29$), and high blood pressure with 4.8% ($n = 14$). Also 15.8% ($n = 46$) reported to have a condition other than the listed options.

As far as healthy living habits were concerned, cumulatively 81.2% ($n = 237$) of the sample reported either very limited or no smoking behaviors, with 9.6% smoking only one cigarette a day, 23.6% to have smoked previously but quit, 28.1% having tried one or two cigarettes, 18.2% have never tried a cigarette. Remaining 18.8% reported to smoke from 1 to 10 (7.5%), 10 to 20 (8.6%) and more than 20 (2.7%) cigarettes per day.

When asked to report alcohol consumption habits, 9.6% ($n = 28$) described themselves as a non-drinker person, 28.1% ($n = 82$) a very occasional drinker, 47.6% ($n = 139$) an occasional drinker and 14.7% ($n = 43$) a regular drinker. On a typical drinking session, 79.1% ($n = 231$) reported to drink between 0.5 and 2 drinks, one drink corresponding to 0.5 liter beer or 0.2 liter wine or 3 shots of hard liquor. Desire to reduce the amount of alcohol consumed was confirmed by 15.8% ($n = 46$); the remaining 84.2% did not report the need to reduce.

Sixty-eight point two percent ($n = 199$) of the sample reported to have taken at least five times physical exercise in the last two weeks. 79.8% ($n = 233$) reported that they would like to increase the amount of their exercise.

Participants' overall life satisfaction was reported to be very low for 2.1% ($n = 6$), moderately low for 8.9% ($n = 26$), neither low nor high for 13.0% ($n = 38$), moderately high for 53.1% ($n = 155$), and very high for 22.9% ($n = 67$) of the sample.

Looking closer to the responses given to health information seeking items, 90.1 % ($n = 263$) of the participants reported that they have searched the internet for health information about at least one health issue. Among these 263 participants the most frequently searched subjects were a specific disease or medical problem (72.6%, $n = 212$), a certain medical treatment or procedure (43.8%, $n = 128$), how to lose weight and how to control weight (36%, $n = 105$), followed by food safety and recalls (25.3%, $n = 74$), pregnancy and childbirth (16.8%, $n = 49$), and medical test results

(15.1%, $n = 44$). The least frequently searched information was about “how to reduce health care costs” with 4.1%, $n = 12$.

For the variety of the sources, 51.4% ($n = 150$) of the participants reported that they received the information that they were looking from a website like WebMD that specializes in health information, 51.4% ($n = 150$) from a more general website like Wikipedia that contains information on all kinds of subjects, 36.6% ($n = 107$) from a medical article that they have found online, 34.9% ($n = 102$) from posts by other users on an online support forum. Only 6.2% ($n = 18$) were utilizing social network sites like Facebook as a source of health information. Finally 3.5% reported to have posted a question on an online support forum or a question-answer website. Those who chose the other option mentioned visiting blogs, hospital websites, and the official website of National Health Service in the UK (<http://www.nhs.uk/pages/home.aspx>). Also frequently reported was engaging in Google search.

Due to lacking normal distribution in the number of checked health issues and websites, a non-parametric correlation was conducted. Spearman’s rho indicated that these variables were moderately correlated ($\rho = .562$, $p < .001$).

To investigate the relationship between online information seeking about a specific condition (see Q45 in Appendix B) and consulting with a medical professional about the information found online (see Q46 in Appendix B), a chi-square test was performed. Cross tabulation table showed 35.6% of those who were searching information specifically to find out about a condition also sought the

opinion of a medical professional, whereas 34.6% did not. On the other hand 3.8% of those who did not engage in specific information seeking, preferred to consult with the physician about it, and 26.0% of them neither engaged in online information seeking nor consulted with a physician. Results represented a medium association between online health information seeking for a specific condition and consulting with a physician (Cramer's $V = .357, p < .001$).

5.2. Inference Analysis

5.2.1. Hypothesis 1.

From all 12 predictors that were regressed on HCB, two predictors exerted the most influence in predicting health compromising behaviors, i.e., heavy use of alcohol and tobacco and failure in following healthy eating habits. Sex and HC together accounted for 6.9% of the variance in change in risky health behaviors ($R^2 = .069$; $F(2, 289) = 10.73, p < .001$). Sex had the strongest prediction value with $\beta = .237, (p < .001)$, followed by HC with $\beta = .115, (p = .044)$. This indicated that men were engaging more in health compromising behaviors than women. Those who reported to have poor health were also positively related to non-optimal health behaviors. Table 5 shows details of the regression model.

Table.5 Coefficients of the dependent variable HCB

Model	Unstandardized		Standardized	<i>t</i>	<i>p</i> - value	Collinearity	
	Coefficients		Coefficients			Statistics	
	<i>B</i>	<i>SE</i>	β			Tolerance	VIF
(Constant)	-.673	.171		-3.939	<.001		
Sex	.523	.125	.237	4.176	<.001	1.000	1.000
HC	.115	.057	.115	2.020	.044	1.000	1.000

In the second regression model the same 12 predictors were regressed on the variable IWC, which indicated inadequate behaviors in weight control. Health condition, number of online searched health issues, sex and BMI accounted together for 17.3% of the variation in weight control behaviors with $R^2 = .173$; $F(4, 287) = 14.97$, $p < .001$. Not surprisingly the strongest predictor in this model was BMI with $\beta = -.300$, ($p < .001$). Higher values in BMI were related to more efforts in controlling the weight (i.e., dieting and trying to lose weight). Those who scored less in BMI showed inadequate weight control behavior, probably because they did not experience weight problems in the first place. Second strongest predictor was sex ($\beta = .221$, $p < .001$), which suggested that women were more likely than men in making efforts to control their weight. Although health condition was a weaker contributor, its relationship with IWC (as in BMI as well), was negative which pointed out to more efforts in weight control for those who were reported to have poor health. Table 6 shows the details of the second regression model.

Table.6 Coefficients of the dependent variable IWC

Model	Unstandardized		Standardized	<i>t</i>	<i>p</i> -value	Collinearity	
	Coefficients		Coefficients			Statistics	
	<i>B</i>	<i>SE</i>	β			Tolerance	VIF
(Constant)	1.224	.357		3.428	.001		
NoC ^a Health Issues	-.049	.030	-.088	-1.611	.108	.957	1.045
Sex	.488	.123	.221	3.958	<.001	.922	1.084
BMI	-.074	.015	-.300	-5.058	<.001	.821	1.218
HC	-.132	.058	-.132	-2.259	.025	.849	1.178

Note. ^a NoC stands for number of checked

Finally the same 12 predictors were regressed on the third health behavior variable, labeled as inadequate preventive behavior (i.e., less physical activity, no conscious efforts to control the consumption of fat and cholesterol, no conscious efforts to eat fiber rich food) to see which of those 12 predictors contributed most to the explanation of IPB. Regression model produced five variables which together explained 10% of the variance ($R^2 = .100$; $F(5, 286) = 6.37$, $p < .001$). Predictor HC showed the highest contribution to, and was positively related with IPB ($\beta = .258$, $p < .001$). This implied that those who reported to have more health problems were more likely to be the ones who obtained also high scores in IPB. Also sex was positively associated with IPB, indicating high scores in IPB for men ($\beta = .122$, $p = .044$). Number of clicked websites was also positively associated with IPB, indicating high scores in IPB for those who are using various sources when searching for online health information, although this relationship was non-significant ($\beta = .113$, $p = .100$). Interestingly number of health issues - the second strongest predictor ($\beta = -.155$, $p = .022$) - was negatively associated with IPB. Although that people were seeking information from various online sources, they were not searching for a wide

range of topics, which would suggest that their searches were condition specific. Finally income level was negatively associated with IPB, indicating an association between lower income levels and less preventive behaviors. Table 7 shows detailed results of the regression model.

Table.7 Coefficients of the dependent variable IPB

Model	Unstandardized		Standardized	<i>t</i>	<i>p</i> -value	Collinearity	
	Coefficients		Coefficients			Statistics	
	<i>B</i>	<i>SE</i>	β			Tolerance	VIF
(Constant)	-.106	.224		-.475	.635		
NoC ^a Health Issues	-.086	.037	-.155	-2.308	.022	.697	1.434
NoC ^a Websites	.094	.057	.113	1.650	.100	.672	1.489
Sex	.269	.133	.122	2.026	.044	.869	1.151
Income	-.044	.023	-.113	-1.934	.054	.917	1.091
HC	.258	.057	.258	4.518	<.001	.966	1.035

5.2.2. Hypothesis 2.

Since the multiple regression analyses were insufficient in providing information on autonomous functioning constructs, the decision was made to conduct individual partial correlations to investigate the relationships between IAF scales and information seeking variables while controlling for the modifying effects of HC.

For the scale authorship/self-congruence the obtained correlation coefficients were $r = .202$, $p < .001$ for number of checked health issues, and $r = .101$, $p = .087$ for number of checked websites. Although authorship/self-congruence was positively correlated with both information seeking variables, the correlation was not significant for the number of websites. Both correlations were low, and did not indicate a strong

relationship between congruence feelings of individuals and their health information seeking behavior. The obtained value of $R^2 = .04$ suggests only 4% of the variability in information seeking intensity is shared by autonomy/self-congruence.

Second autonomy construct of the IAF scale, interest-taking was significantly correlated with both number of online searched health issues ($r = .282, p < .001$), and websites ($r = .148, p = .012$). The obtained effect for the intensity of online health information seeking was medium, whereas for variety of the sources it was small. Results suggest that 8% of the variability can be made accountable for how intensely individuals were looking for online health information ($R^2 = .08$), but only 2% for the variety of sources that were involved in online health information seeking ($R^2 = .02$).

Finally for the partial correlation of susceptibility to control and number of online searched health information obtained correlation coefficient was ($r = .112, p = .057$), which showed a non-significant correlation between these two variables with a p -value slightly above the .05 threshold. There was no correlation between susceptibility to control and the number of selected websites as a source of health information ($r = -.005, p = .935$).

6. Discussion

Results of the first hypothesis testing in all three models revealed constant presence of the variables sex and HC as meaningful contributors to the explanation of health related behaviors. Looking closer to the results, women showed less health compromising behaviors, more efforts in controlling weight and better preventive

behaviors. Similar findings were also observed in previous studies. Factor HCB assessed risky behaviors of participants, such as the amount of alcohol and tobacco use. The global status report on alcohol and health published by WHO in 2014 revealed that 7.6% of all male deaths in 2012 were attributable to alcohol when compared to 4.0% of female deaths and explained this difference by the fact that men are less often abstainers, drink more frequently and in large amounts. According to the report's statistics coming from six WHO regions (African Region, Region of the Americas, Eastern Mediterranean Region, European Region, South-East Asia Region, and Western Pacific Region) females were more often lifetime abstainers than males. Also it is reported that women drink less in general and engage less often in heavy episodic drinking (WHO, 2014). A recent study conducted at the Utrecht University investigated the relationship between risk-taking behavior and alcohol use in young adults (de Haan, Egberts, & Heerdink, 2015). 6002 participants reported data on alcohol consumption levels, risk taking behavior, depression and anxiety levels. Men reported more use of tobacco, illicit drugs and alcohol. Of the 2116 male participants 75.4% were binge drinkers whereas for the female participants this rate was 59.5%. The odds of binge drinking versus non-binge drinking or abstinence were 4.12 for men and 2.77 for women. Moreover risk taking behavior was significantly related to alcohol use and men reported more risk taking behavior than women. A review on gender differences in alcohol use by Nolen-Hoeksema (2004) summarizes possible risk factors that may explain the difference in alcohol use in women and men, as follows: genetics, alcohol reactivity, social sanctions, gender roles, coping styles, motives and expectancies, depression and anxiety, self-esteem, sensation-seeking and

impulsive behavior, interpersonal relationships and sexual assault. Similarly data found on smoking behaviors revealed that women tend to smoke less than men. National Health Interview Survey reported smoking rates for working adults between 2004 and 2011 for women 18.3% whereas for men 22.8%. Women smokers were also more likely to report heart disease, cancer, current asthma, poor mental and physical health and chronic obstructive pulmonary disease than smoking men (Syamlal, Mazurek & Dube, 2014). The adverse effects of smoking and alcohol use seem to have larger influence on women than men. This may be a reason for women to less engage in such risk behaviors. Women have lower body weight, smaller liver capacity and higher proportion of body fat which all together lead to higher blood concentrations of alcohol compared to men for the same amount of alcohol consumed. Social norms and cultural contexts may also play a big role in women's alcohol consumption behavior. In many societies there is negative attitude towards women's consumption of alcohol than men's (WHO, 2014). Other than this, HC was observed to be an influential link to non-optimal health related behaviors. There was a weak but significant contribution of poor health to more health compromising behaviors. In other words, that the ones who reported poor health condition were practicing more health compromising behavior. The direction for a causal relationship cannot be inferred.

For efforts to control weight the strongest prediction value was exerted by variable BMI. Those who reported to have high BMI values were making more efforts to control their weight. This result is conflicting with the first model where

poor health was associated with health compromising behavior. While individuals with poor health and higher BMI reported to put more efforts into controlling their weight, they still followed inadequate breakfast habits combined with more alcohol consumption and more in-between snacking Sex was the second strongest predictor for weight regulatory behavior. Women showed more efforts to control weight. This may have to do with body image attributions and social norms that define femininity. Men also seem to have different perceptions when it comes to being overweight than women. Large men are less likely than women to get concerned about their weight or perceive themselves as fat. Likewise women are more likely than men to aim for staying healthy by watching eating habits, engaging in sports and exercise (Mallyon, Holmes, Conevey, & Zadoroznyj, 2010). Also study shows that men perceive dieting or efforts to control weight as a womanly thing or even as a threat to their masculinity. In a qualitative study men reported interest to take part in the weight loss programme for the scientific aspects of the study; neither of the men reported previous attempts to lose weight; half of them reported to be persuaded to join the study by a woman family member or a friend (Mallyon et al., 2010).

For the third model of the regression analysis the dependent variable which was labeled as inadequate preventive behavior and assessed physical activity behaviors, conscious regulation of fat, and fiber consume. The strongest predictor variables were HC, NoC health issues and sex. According to these results the ones who reported poor health were more likely to have sedentary life style and not to care so much for fat or fiber consumption. This finding was in line with HCB, where poor

health condition was associated with more health compromising behaviors. In this model an information seeking variable was present as an important contributor, namely the intensity of health subjects that were searched online. Someone who reported to search for health information on various subjects (intensity of health related information seeking) showed better preventive behaviors, engaging in physical activity more and watching for fat consumption. The fact that the more someone searched for various health related subjects the better the preventive behaviors were, may indicate to a health conscious orientation of these individuals

Contradictory to this finding was the influence of NoC websites on preventive behaviors. Although its predictive value was roughly significant, this variable appeared to be in a different relationship with preventive behaviors. This means someone who reported more sources while looking for health related information, reported less physical activity and more careless consumption of fat. Theory suggests that people prefer to obtain health related information from different sources and compare them to each other regarding their credibility. This finding was not in line with the results of previous studies. Perhaps people were overwhelmed by the different information from various sources and found it difficult to implement the necessary health behavior changes into their lives. In the third model another predictor to explain preventive behaviors was sex. Again women reported more physical activity and more conscious consumption of fat containing food, whereas men reported more inadequate behaviors. None of the IAF scale measures came out to be relevant for the explanation of health related behavior.

The second hypothesis investigated the individual contribution of IAF scale measures on health related online information seeking, while controlling for the modifying influence of health condition. In all correlations the results showed very low to slightly medium correlations. The strongest relationship was observed between interest-taking subscale of IAF and the intensity of online health information seeking. Although hypothesis 2.1 which posited a positive correlation between more self-congruent trait and information seeking behavior; and hypothesis 2.2 which posited a positive correlation between interest-taking subscale and information seeking behavior were both confirmed, theory driven expectations would suggest stronger relationships between these variables. Hypothesis 2.3 expected negative correlations between information seeking variables and the subscale susceptibility to control, i.e., the more someone has the feelings of being controlled the less information seeking behavior this person would display. No correlations between these variables were observed. These results can be explained by unsatisfactory reliability of the scale. The presented alpha values in the original publication were much higher than the ones obtained in this study, especially for the variable susceptibility to control. Issues of sample size and more heterogeneous nature of the sample in the original study may offer an explanation for the obtained unsatisfactory reliability measures.

To summarize, it is plausible to assume that other variables play a role in the prediction of motivation for optimal health behaviors. Committee on health and behavior research of the Institute of Medicine (2001) suggests various different factors that collectively and in an interacting manner influence health. Biological

factors such as genetic endowment; behavioral factors such as cognitive and emotional interpretations of experience; together with social factors such as physical environment, social relationships, and socioeconomic status interact through multiple feedback mechanisms and exert their influence on health over time. These complex interactions should not be regarded as cause and effect models because of the bidirectional nature of these relationships. In this study I included personal feelings of autonomous functioning, online health information seeking behaviors along with various cues to define health condition and sociodemographic variables to predict health behaviors. This conceptualization still had to leave many other aspects that may influence health behavior disregarded. Also this study aimed to assess the influence of various variables on health related behaviors for the general population. It may be important to conduct separate studies on target groups defined by sociodemographic characteristics or the (non-)existence of specific health problems to better assess the nature of these relationships.

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Appendix A

Abstract

Most of the chronic conditions of the 21st century are linked to non-optimal health behaviors and can be prevented by attaining a healthier lifestyle. Research shows that more autonomous regulation styles of individuals can facilitate optimal health behavior. Also Internet and its role in health related behavior is increasing in the last two decades. In this study I investigated factors that influence health related behaviors. Autonomous functioning traits of individuals, online information seeking behavior, sociodemographic variables and variables that assess health condition were regarded as relevant to predict health related behaviors. In all three multiple regression models health condition and sex came out to be relevant in the explanation of health behaviors. Women were more likely to report reduced alcohol and tobacco consumption, reduced fat consumption, more efforts in controlling weight and more physical activity than men. BMI was the strongest indicator of weight loss efforts. Index of autonomous functioning scale which is based on Self-Determination Theory did not contribute to the explanation of health related behaviors. Information seeking variables indicated more physical activity and careful consumption of fat for individuals who were searching for various health related subjects but less of these behaviors for individuals who were browsing many websites. Positive correlations were observed between the two IAF subscales and information seeking variables, as expected. Still the magnitude of these relationships was small. Third subscale of the

IAF, which suffered from low reliability, was not associated with information seeking behavior variables.

Keywords: SDT, autonomy, autonomous regulation, health, online information seeking

Zusammenfassung

Die meisten chronischen Störungen des 21. Jahrhunderts sind verbunden mit fehlendem Gesundheitsverhalten und vermeidbar durch das Übernehmen gesünderer Verhaltensweisen. Studien zeigen, dass autonome Regulierungen der Individuen das optimale Gesundheitsverhalten begünstigen. Das Internet und seine Rolle im Gesundheitsverhalten steigen in den letzten zwanzig Jahren an. Diese Studie untersucht jene Faktoren, welche das Gesundheitsverhalten beeinflussen.

Autonomiegefühle der Individuen, Suche nach Online-Gesundheitsinformationen, soziodemographische Variablen gemeinsam mit Variablen, die den Gesundheitszustand erfassen, wurden zur Vorhersage des Gesundheitsverhaltens als relevant angesehen. Mittels drei Modellen multipler Regressionsanalysen, haben sich die Variablen Gesundheitszustand und Geschlecht als wichtigste Prädiktoren ausgezeichnet. Frauen berichteten im Vergleich zu Männern, einen reduzierten Alkohol-, Tabak-, sowie Fettkonsum; zeigten besseres Gewichtskontrollverhalten und waren körperlich aktiver. Der BMI war der stärkste Prädiktor in der Vorhersage des Gewichtskontrollverhaltens. Der Index von Autonomous Functioning Scale, basierend auf der Self-Determination Theory trug nicht zu der Erklärung von Gesundheitsverhalten bei. Variablen, die die Suche nach Online-

Gesundheitsinformationen erfassen, zeigten eine vermehrte körperliche Aktivität sowie einen vorsichtigeren Fettkonsum bei Personen, die über vielen verschiedenen Gesundheitsthemen recherchierten, aber eine niedrige Ausprägung der oben genannten Verhaltensweisen für diejenigen Personen, die viele Webseiten besuchten. Zwei Subskalen des IAF zeigten positive Korrelationen mit den Variablen der Informationssuche, jedoch war der Ausmaß dieser Beziehungen niedrig. Die dritte Subskala des IAF litt unter einem niedrigen Reliabilitätswert und war nicht assoziiert mit den Variablen der Online Informationssuche.

Appendix B

Questionnaire Items

Demographical Information

Q1. I identify my (biological) sex as

☐ female

☐ male

☐ other

Q2. How old are you?

years old

Q3. Which country were you born in?

Country:

Q4. In which country are you currently living?

Country:

Q5. Are you currently employed?

☐ Yes, I am employed.

☐ No, I am unemployed.

☐ No, I am retired.

☐ No, I am a homemaker.

☐ No, none of the above.

Q6. What do you do professionally? (Selecting more than one option is possible.)

- ☐ Pupil/in school
- ☐ Training/apprenticeship
- ☐ University student
- ☐ Employee
- ☐ Civil servant
- ☐ Self-employed
- ☐ Unemployed/seeking employment
- ☐ Other:

Q7. Do you have a health insurance?

- ☐ Yes
- ☐ No

Q8. What is your monthly net income?

(Net income is defined as your total income after tax and social security deductions.)

- ☐ I do not have personal income
- ☐ Less than 250€
- ☐ 250€ up to 500€
- ☐ 500€ up to 1000€
- ☐ 1000€ up to 1500€
- ☐ 1500€ up to 2000€
- ☐ 2000€ up to 2500€

Q9. What is the highest level of education you have completed?

☐ No education

☐ Primary school

☐ High school

☒ College/University (Bachelor's Degree)

☐ College/University (Master's Degree)

☐ College/University (Doctoral Degree)

☐ In training/apprenticeship

Health Condition Items

Q10. How tall are you?

cm

Q11. How much do you weigh?

kg

Q12. In general how would you rate your own health?

☐ Poor ☐ Fair ☐ Good ☐ Very good ☐ Excellent

Q13. In the last 12 months, have you personally

☐ Faced a serious medical emergency or crisis

☐ Gone to the emergency room or been hospitalized unexpectedly

☐ Experienced any significant change in your physical health, such as gaining or losing a lot of weight, becoming pregnant, or quitting smoking

☐ None

Q14. Are you now living with any of the following health problems or conditions?

☐ Diabetes or sugar diabetes

☐ High blood pressure

☐ Asthma, bronchitis, emphysema, or other lung conditions

☐ Heart disease, heart failure or heart attack

☐ Cancer

☐ Other

Q15. All things considered, how satisfied are you with your life as a whole?

☐ Very
dissatisfied

☐ Moderately
dissatisfied

☐ No feelings either
way

☐ Moderately
satisfied

☐ Very satisfied

Q16. Do you consider yourself to be

☐ Very underweight

☐ Slightly underweight

☐ About right

☐ Slightly overweight

☐ Very overweight

Q17. Do you suffer from any health problems that have led you to visit a doctor or health clinic in the past four weeks?

☐ Yes

☐ No

Q17a. If 'YES', please give details:

Q18. Have you taken any treatment (pills or medicines) over the past four weeks? (e.g., Painkillers for headache, vitamins, antibiotics)

☐ Yes, prescribed by a doctor

☐ Yes, bought in a shop

☐ No

Health Behavior Items

Q19. Please read all the following statements carefully and tick the box next to the one that best describes you.

☐ I have never smoked a cigarette, not even a puff

☐ I have only ever tried one or two cigarettes

☐ I used to smoke sometimes, but I don't now

☐ I don't smoke cigarettes, but smoke a pipe or cigars

☐ I smoke cigarettes, but not as many as one per day

☐ I usually smoke between 1 and 10 cigarettes per day

☐ I usually smoke between 10 and 20 cigarettes per day

☐ I usually smoke more than 20 cigarettes per day

Q20. How often do you eat breakfast?

☐ Rarely or never

☐ Sometimes

☐ Almost every day

Q21. How many meals do you eat each day?

☐ none

☒ 1

☐ 2

☒ 3

☐ 4

☒ 5 or more

Q22. How many between-meal snacks do you eat each day?

☐ none

☒ 1

☐ 2

☒ 3

☐ 4

☒ 5 or more

Q23. How often do you eat fruit?

☒ Never

☐ Less than once a week

☒ About once a week

☐ Every 2 or 3 days

☒ At least once a day

Q24. Do you make a conscious effort to avoid eating foods that contain fat and cholesterol?

☐ Yes

☒ No

Q25. Do you make a conscious effort to eat foods that are high in fiber?

☐ Yes

☒ No

Q26. Are you trying to lose weight?

☐ Yes

☒ No

Q27. Are you dieting to lose weight?

☐ Yes

☒ No

Q28. How often do you consume alcohol?

☒ Never

☐ 2 to 4 times a year

☒ Once a month

☐ 2 to 4 times a month

☒ 2 to 3 times a week

Q29. How many drinks do you normally consume on a typical drinking session?

(One drink corresponds to 0.5 liter beer, 0.2 Lt. wine or 3 shots of hard liquor (vodka, rum, whisky etc.)

☐ 0,5 – 1

☒ 1,5 – 2

☐ 2,5 – 3

☒ 3,5 – 4,5

Q30. How often do you drink 3 or more drinks during a celebration event or at dinner?

(One drink corresponds to 0.5 liter beer, 0.2 Lt. wine or 3 shots of hard liquor (vodka, rum, whisky etc.)

☐ Never

☒ Less than once a month

☐ Once a month

☒ Once a week

Q31. Would you describe yourself as

☐ A non-drinker

☒ A very occasional drinker (special occasions only)

☐ An occasional drinker

☒ A regular drinker

Q32. Would you like to reduce the amount you drink?

☐ Yes

☒ No

Q33. How many times over the past 2 weeks did you take exercise?

times

Q34. Would you like to increase the amount that you exercise?

☐ Yes

☒ No

Q35. When driving or riding in the front seat of a car do you wear a seat belt?

☐ I don't ride in cars

☐ Never

☐ Some of the time

☐ Most of the time

☐ All of the time

Q36. If you do drive a car, do you travel within the speed limit?

☐ Little of the time

☐ Some of the time

☐ Most of the time

☐ All of the time

☐ I don't drive

Q37. 45. Over the last year, how many times did you drive when you felt that you had perhaps had too much to drink?

☐ Never

☐ times

The following questions are addressed ONLY to women.

Q38. Do you know how to examine your own breasts for lumps ?

☐ Yes

☒ No

Q39. If 'YES', about how many times a year do you examine your breasts for lumps?

- ☐ Never
- ☒ 1-2 times per year
- ☐ 3-10 times per year
- ☐ More than 10 times

The following questions are addressed ONLY to men.

Q40. Do you know how to examine your own testicles for lumps?

- ☐ Yes
- ☒ No

Q41. If 'YES', about how many times a year do you examine your testicles for lumps?

- ☐ Never
- ☒ 1-2 times per year
- ☐ 3-10 times per year
- ☐ More than 10 times

Information Seeking Behavior Items

Q42. Now, we'd like to know if you've looked for information ONLINE about certain health or medical issues, either for yourself or someone else. Specifically, in the last 12 months, have you looked online for information about...

(Selecting more than one option is possible.)

- ☐ A specific disease or medical problem
- ☒ A certain medical treatment or procedure
- ☐ Pregnancy and childbirth
- ☒ Food safety or recalls

- ☐ Drug safety or recalls
- ☐ Medical test results
- ☐ How to lose weight or how to control your weight
- ☐ How to reduce your health care costs
- ☐ Caring for an aging relative or friend
- ☐ A drug you saw advertised
- ☐ Any other health issue
- ☐ I haven't looked information on the internet

Q43. Thinking about the LAST time you went online to look for health information... What did you do? Which websites did you visit to get the information you were looking for? Please think about the source where you got the information you needed!

(Selecting more than one option is possible.)

- ☐ went to a site that specializes in health information, like WebMD
- ☐ went to a more general site like Wikipedia, that contains information on all kinds of
- ☐ went to a social network site like Facebook
- ☐ read posts on an online support forum
- ☐ posted a question on an online support forum
- ☐ posted a question on an online Q&A site
- ☐ read an online medical article
- ☐ other
- ☐ I didn't look for health information on the internet

Q44. Have you ever gone online specifically to try to figure out what medical condition you or someone else might have?

- ☐ Yes
- ☐ No

Q45. Did you happen to talk with a medical professional about what you found online?

☐ Yes

☒ No

Q46. Did a medical professional confirm what you thought the condition was with a medical diagnosis, did they offer a different medical opinion or diagnosis, or did you not visit a doctor or other medical professional for a diagnosis?

☒ Yes, confirmed

☐ No, did not confirm/offered different diagnosis

☒ Did not visit a doctor or medical professional for a diagnosis

☐ Medical professional was unable to diagnose

☒ Don't know

Index of Autonomous Functioning

"Authorship/Self-congruence"

Q47. My decisions represent my most important values and feelings.

☐
Strongly
disagree

☐
Disagree

☐
Somewhat
disagree

☐
Neither agree nor
disagree

☐
Somewhat
agree

☐
Agree

☐
Strongly
agree

Q48. I strongly identify with the things that I do.

☐
Strongly
disagree

☐
Disagree

☐
Somewhat
disagree

☐
Neither agree nor
disagree

☐
Somewhat
agree

☐
Agree

☐
Strongly
agree

Q49. My actions are congruent with who I really am.

☐
Strongly
disagree

☐
Disagree

☐
Somewhat
disagree

☐
Neither agree nor
disagree

☐
Somewhat
agree

☐
Agree

☐
Strongly
agree

Q50. My whole self stands behind the important decisions I make.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q51. My decisions are steadily informed by things I want or care about.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

“Interest-taking”

Q52. I often reflect on why I react the way I do.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q53. I am deeply curious when I react with fear or anxiety to events in my life.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q54. I am interested in understanding the reasons for my actions.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q55. I am interested in why I act the way I do.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q57. I like to investigate my feelings.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

“Susceptibility to control”

Q58. I do things in order to avoid feeling badly about myself.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q59. I do a lot of things to avoid feeling ashamed.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q60. I try to manipulate myself into doing certain things.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q61. I believe certain things so that others will like me.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Q62. I often pressure myself.

☐	☐	☐	☐	☐	☐	☐
Strongly disagree	Disagree	Somewhat disagree	Neither agree nor disagree	Somewhat agree	Agree	Strongly agree

Appendix C

Table. 1 Frequency table of Birthplace

Country	Frequency	Percent	Valid Percent	Cumulative Percent
Austria	75	25.7	25.7	25.7
Belgium	8	2.7	2.7	28.4
Bulgaria	2	.7	.7	29.1
Belarus	1	.3	.3	29.5
Canada	1	.3	.3	29.8
Costa Rica	1	.3	.3	30.1
Croatia	5	1.7	1.7	31.8
Cyprus	1	.3	.3	32.2
Estonia	2	.7	.7	32.9
Finland	35	12.0	12.0	44.9
Germany	34	11.6	11.6	56.5
Greece	1	.3	.3	56.8
Hungary	3	1.0	1.0	57.9
India	2	.7	.7	58.6
Iraq	1	.3	.3	58.9
Israel	1	.3	.3	59.2
Italia	10	3.4	3.4	62.7
Lithuania	1	.3	.3	63.0
Luxembourg	9	3.1	3.1	66.1
Malta	1	.3	.3	66.4
México	2	.7	.7	67.1
Poland	8	2.7	2.7	69.9
Portugal	1	.3	.3	70.2
Romania	11	3.8	3.8	74.0
Russia	2	.7	.7	74.7
Serbia	1	.3	.3	75.0
Slovakia	5	1.7	1.7	76.7
Slovenia	3	1.0	1.0	77.7

South Africa	2	.7	.7	78.4
Spain	4	1.4	1.4	79.8
Switzerland	1	.3	.3	80.1
Turkey	38	13.0	13.0	93.2
Ukraine	2	.7	.7	93.8
United Kingdom	13	4.5	4.5	98.3
United States	3	1.0	1.0	99.3
Venezuela	1	.3	.3	99.7
Kosovo	1	.3	.3	100.0
Total	292	100.0	100.0	

Table 2. Frequency table of Current Residency

Country	Frequency	Percent	Valid Percent	Cumulative Percent
Austria	146	50.0	50.0	50.0
Belgium	8	2.7	2.7	52.7
Bulgaria	1	.3	.3	53.1
Czech Republic	2	.7	.7	53.8
Estonia	1	.3	.3	54.1
Finland	32	11.0	11.0	65.1
France	1	.3	.3	65.4
Georgia	1	.3	.3	65.8
Germany	20	6.8	6.8	72.6
Greece	1	.3	.3	72.9
India	1	.3	.3	73.3
Italia	1	.3	.3	73.6
Luxembourg	10	3.4	3.4	77.1
Malta	1	.3	.3	77.4
México	1	.3	.3	77.7
Norway	1	.3	.3	78.1
Poland	3	1.0	1.0	79.1
Romania	3	1.0	1.0	80.1

▪ Slovakia	3	1.0	1.0	81.2
Spain	2	.7	.7	81.8
Sweden	1	.3	.3	82.2
Switzerland	2	.7	.7	82.9
Turkey	35	12.0	12.0	94.9
Ukraine	1	.3	.3	95.2
United Kingdom	9	3.1	3.1	98.3
United States	4	1.4	1.4	99.7
Kosovo	1	.3	.3	100.0
Total	292	100.0	100.0	

Appendix D

Eidesstattliche Erklärung

Hiermit versichere ich, dass ich die Diplomarbeit selbständig angefertigt, andere als die angegebenen Hilfsmittel und Quellen nicht benutzt und mich auch sonst keiner unerlaubten Hilfe bedient habe. Ich versichere, dass ich dieses Diplomarbeitsthema bisher weder im In- noch im Ausland in irgendeiner Form als Prüfungsarbeit vorgelegt oder veröffentlicht habe.

Ort, Datum

Unterschrift

Curriculum Vitae

Personal Information

NAZLI AHU AMANET

E-Mail : ahuemanet@gmail.com

Date of Birth: August 12th, 1986

Place of Birth: Istanbul, Turkey

Nationality: Turkey

Work Experience & Internships

07.2015 – 09.2015 Sozial Medizinisches Zentrum Ost – Donauspital
(Internship) Under the supervision of Dr. Christa Felsberger, two months of intensive work with children with various psychological Problems.

Education

Since 2008	University of Vienna - Ongoing Studies at the Faculty of Psychology (Dipl.)
2007 – 2008	University of Vienna - Entrance examination to Faculty of Psychology
2006 – 2007	The Viennese University Preparation Programme
2001 – 2004	Kenan Evren Anadolu Lisesi (İstanbul) – Highschool
1997 – 2001	Özel Bilimsel Eğitim Merkezi Lisesi (İstanbul) - Secondary School
1992 – 1997	Moda İlköğretim Okulu (İstanbul) - Primary School

Languages

Turkish (Mother tongue, excellent skills in both speaking and writing)

English (Fluent, very good skills in reading, writing and speaking)

German (Fluent, very good skills in reading, writing and speaking)

French (Beginner)

Research Experience

- | | |
|------|---|
| 2016 | Completion of the diploma thesis in which I investigate people's autonomy feelings and information seeking behaviors in relation to health decisions. (Supervision: Prof. Dr. Rainer Maderthaner) |
| | |
| 2011 | As a part of the bachelor thesis, I conducted tests measuring verbal skills, three-dimensional thinking and attention on 242 individuals, half of them being in a disturbance condition (tasks completed when exposed to loud noise) and the other in a non-disturbance condition (tasks completed in a silent condition). I looked at the gender differences in the amount of distractibility. |

Conference Attendances & Presentations

- | | |
|------|---|
| 2013 | 45 min. lecture at the 27th EFPSA Congress with the title " <i>Cultural Aspects of Life From A Psychological Perspective</i> " discussing various approaches to the concept of culture, their methodologies, comparison between their strong points and weaknesses. |
|------|---|

- 2013 27th EFPSA Congress in Izmir
- 2013 TeaP - Tagung experimentell arbeitender Psychologen

IT

Competent in using

- SPSS
- Microsoft Office Word
- Microsoft Office Excel
- Microsoft Office Powerpoint
- Adobe Photoshop CS5

Interests and other

Since 2014 Voluntary work as a member of the control committee for the
Students' Representatives Association Haus Döbling

**IVHD - Interessensvertretung der Bewohner des
Studentenheims Haus Döbling**

2013 – 2014 Voluntary work as an executive member and secretary of Students'
Representatives Association Haus Döbling

**IVHD - Interessensvertretung der Bewohner des
Studentenheims Haus Döbling**

Since 2011 Student Member of Professional Association of Austrian
Psychologists PLAST

BÖP - Berusverband Österreichischer PsychologInnen