

IMPLICATIONS OF FEAR, ANXIETY, AND SHAME FOR SOCIAL HEALTH WEBSITES

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A THESIS

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

MASTER OF ARTS

Telecommunication, Information Studies and Media

2011

ABSTRACT

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Health information seeking (HIS) and emotional support seeking (ESS) for medical conditions are widespread, self-guided online activities that happen concurrently on social health websites. Appraisal and coping theory suggests that these activities may be caused by negative emotions that users experience. In this thesis, I examine three key negative emotions – fear, anxiety, and shame – for their potential impact on HIS and ESS. Through an online survey of 518 people, I found that only anxiety positively predicted HIS. In contrast, fear and anxiety both positively predicted ESS, while shame negatively predicted ESS. These findings result in important implications for social health websites. For example, my results suggest that people experiencing fear seek solace more than information, and they may benefit especially from receiving emotionally supportive comments about their medical condition.

ACKNOWLEDGEMENTS

First and foremost, I would like to express my gratitude to my thesis adviser, Gary Hsieh. Only because of his patience and ongoing effort since fall 2010 I was able to complete this thesis. I also thank the other two thesis committee members, Maria Lapinski and Wei Peng, for essential guidance along the way. Further valuable contributions came from Cliff Lampe, Amanda Holmstrom, and Paul Curran. Finally, I want to thank all friends and colleagues that took the time to give detailed feedback and pretest the survey.

The survey was funded mainly through a Summer Excellence Research Fellowship, awarded by the College of Communication Arts and Sciences, Michigan State University. Additional funding was provided through a Graduate Office Fellowship, awarded by the Michigan State University Graduate School.

TABLE OF CONTENTS

LIST OF TABLES	vi
LIST OF FIGURES	vii
KEY TO ABBREVIATIONS.....	viii
INTRODUCTION	1
CHAPTER 1: RELATED WORK AND HYPOTHESES	4
Challenges of Current Social Health Websites.....	4
The Role of Negative Emotions in Prior HIS and ESS Literature.....	6
HIS and ESS as Strategies to Cope with Negative Emotions	8
Fear, Anxiety, and Shame as Predictors of HIS and ESS	11
Fear	11
Anxiety	13
Shame	15
CHAPTER 2: METHOD.....	17
Procedure	17
Participants	18
Measurement.....	19
CHAPTER 3: RESULTS	21
Direct Effects of Emotions	22
Comparing Each Emotion’s Effects on HIS and ESS.....	23
CHAPTER 4: DISCUSSION	25
Differential Effects of Fear, Anxiety, and Shame on HIS and ESS	26
Fear	26
Anxiety.....	26
Shame.....	27
Discrete Emotions as Predictors of Specific Coping Strategies	28
Practical Implications	31
Encouraging Social Health Website Usage for Users Experiencing Shame.....	31
User Guidance Based on Users’ Seeking Disposition for Fear and Anxiety	32
Facilitating Emotional Support for Users Experiencing Fear	34
Guiding Users Experiencing Anxiety Based on Support Availability.....	35
Establishing a Catalog of Negative Emotions for Specific User Groups.....	35
CHAPTER 5: LIMITATIONS	38
CHAPTER 6: CONCLUSION	39

APPENDICES	40
APPENDIX A - Survey Instrument	41
APPENDIX B - Regression Results for HIS and ESS Organized By Medical Conditions	44
APPENDIX C - Structural Equation Model for Fear, Anxiety, and Shame with Direct Paths to HIS, ESS, Problem solving, and Escape-Avoidance	46
BIBLIOGRAPHY	487

LIST OF TABLES

Table 1: Selected Demographic Variables of Survey Participants	18
Table 2: Descriptive Statistics for HIS, ESS, and Negative Emotions Organized by Medical Conditions.....	19
Table 3: Pearson Product-Moment Correlations	21
Table 4: χ^2 Model Fit Comparisons of Baseline and Constrained Models	23
Table 5: Survey Instrument	41
Table 6: Regression Results for HIS and ESS Organized by Medical Conditions.....	44

LIST OF FIGURES

Figure 1: Structural equation model for fear, anxiety, and shame with direct paths to HIS and ESS.....	22
Figure 2: Structural equation model for fear, anxiety, and shame with direct paths to HIS, ESS, problem-solving, and escape-avoidance	46

KEY TO ABBREVIATIONS

e.g.:	exempli gratia
et al.:	et alii / aliae
HIS:	health information seeking
i.e.:	id est
ESS:	emotional support seeking

INTRODUCTION

Health information seeking (HIS) has long been a major online activity: the share of users that have used the Web to get medical information has risen from 54 % in 2000 to 80 % in 2011 (Fox, 2011a; Pew Internet & American Life Project, 2011). More recently, the rise of social media has also made it possible for people that suffer from or worry about a medical condition to go online to interact with others. Through the possibility of social interaction, emotional support seeking (ESS) has now become an important part of online health behavior next to HIS. Social health websites like WebMD (www.webmd.com), MedHelp (www.medhelp.org), or sharecare (www.sharecare.com) provide for HIS and ESS at the same time. These sites are very popular: Over the last years, for example, WebMD and MedHelp together have consistently had around 900 thousand visitors per day (<http://trends.google.com/websites>).

On social health websites, users can benefit both from others' knowledge and care. For example, PatientsLikeMe (www.patientslikeme.com) uses self-reported information to introduce patients to others that can offer help, like people who have faced a similar situation or who are 'expert patients' (Brownstein, Brownstein, Williams, Wicks, & Heywood, 2009; Wicks et al., 2010). It was shown that users find PatientsLikeMe valuable to acquire information, but also to build lasting relations with others (Frost & Massagli, 2008; Wicks et al., 2010). HIS and ESS were found to be main activities on many other social health websites as well, in particular in online support communities (Coursaris & Liu, 2009; Greene, Choudry, Kilabuk, & Shrank, 2010; Kim, Oh, & Oh, 2008; Wang, Kraut, & Levine, 2012). These cases illustrate how the traditional one-way flow of information dissemination from experts (doctors, health /

pharmaceutical organizations, health journalists) to laypeople (users and patients) has been blurred or replaced by interactive and interpersonal communication features.

Although users can greatly benefit from getting both health information and emotional help from others, there may be some risk in this development. First, in this setup, users might be overwhelmed by the mass of content they face. For design, it is not clear how to provide guidance to users regarding where and how to find what they are looking for, so users often have to sift through extensive amounts of information themselves.

Second, users of social health websites who want to support others mostly do not receive recommendations where and how to do so. Helping others can be much more rewarding if one is put in touch with someone that appreciates one's support and if it is clearer what kind of help is needed. When people are diagnosed with a medical condition, they have many questions and a lot to contribute, but they need assistance in finding the right information and the right people.

Third, sometimes, the kind of support that a patient is looking for may not be available. For example, for patients suffering from new and unknown diseases, valid medical information might simply not exist. Searching websites for this information will be very frustrating for these users. However, potentially the site could compensate the lack of information with emotional help, e.g., by encouraging emotionally supportive answers in a support community and / or linking to them. While this is an interesting idea to enhance social health sites, designers simply lack the understanding to do this effectively.

Therefore, to advance existing social health websites, researchers and site designers will need to understand what factors make people seek health information or emotional support. I argue that negative emotions are the key to differentially predict HIS and ESS. Prior research suggests that HIS and ESS are both coping strategies that people use to deal with the negative

emotions they experience. Using this perspective, I modeled the parallel, direct effects of three negative emotions – fear, anxiety, and shame – on HIS and ESS.

Through an online survey of 518 people, (a) I found positive effects of anxiety on HIS and of both fear and anxiety on ESS, while shame had a negative effect on ESS. (b) I also found that fear had a stronger positive effect on ESS than on HIS, and that shame had a stronger negative effect on ESS than on HIS. These findings lend support to the following theoretical contributions: (a) I conceptualize HIS and ESS as strategies to cope with negative emotions. (b) I establish negative emotions as differential predictors of HIS and ESS through integration of emotion appraisal and coping literature with research on HIS and ESS. Finally, this work offers important practical implications. For instance, I recommend connecting content and users that have shown to be emotionally supportive with patients who suffer from diseases that are linked to fear. The same holds for users with medical conditions that evoke anxiety but for which little valid medical information is available.

CHAPTER 1: RELATED WORK AND HYPOTHESES

Challenges of Current Social Health Websites

This work applies to social health websites, that is, sites offering means for both HIS and ESS. While many of them also provide static, editorial content (like articles on common medical conditions and health tips), all social health sites offer some way for users to interact. Mostly this interaction happens through online support communities that are typically organized according to medical conditions. Some social health sites rely completely on support communities and contain only little static information, e.g., on usage rules. Users commonly have to sign up to participate but the sizes of communities and how much active participation they require from users varies. For instance, Yahoo! Answers (<http://answers.yahoo.com>) has a health section with a large, broad user community and easy sign-up, while PatientsLikeMe offers interfaces designed specifically for a few life-changing diseases and users need to enter extensive amounts of data for the site's matching systems to be effective. Social health websites are extremely popular. For instance, over the last 3 years, WebMD and MedHelp have consistently received around 700 and 200 thousand unique visitors per day respectively (<http://trends.google.com/websites>).

HIS has consistently been found to be the most dominant health-related online activity, and there is strong evidence that ESS, enabled through social health websites, has become the second most important one, especially in support communities (Cline & Haynes, 2001; Coursaris & Liu, 2009; Fox, 2011a,b; Frost & Massagli, 2008; Greene et al., 2010; Kim et al., 2008; Pew Internet & American Life Project, 2011; Wang et al., 2012; Wicks et al., 2010). Communities are useful features for social health websites, as they help users manage their medical condition and make them feel 'better informed,' while at the same time fostering social interactions and well-

being (Barak, Boniel-Nissim, & Suler, 2008; Rains & Young, 2009; van Uden-Kraan, Drossaert, Taal, Seydel, & van de Laar, 2009). Another advantage of communities is that users sometimes prefer lay contributions, depending on the nature of the support they seek (Bernhardt & Felter, 2004). Moreover, in cases of terminal diseases, patients were observed to consciously reject HIS in favor of ESS (Brashers, Goldsmith, & Hsieh, 2002; Yeh & Chou, 2007). Other findings show that combining expression and reception of empathy can be optimal for patients to cope with severe diseases such as cancer (Han et al., 2011). ESS is almost impossible through static content, so that implementing support communities on social health sites is essential to offer users with more ways to cope than information can provide for.

However, there is also indication that HIS and ESS translate into different requirements for users. For example, some patients reported online communities were useful for emotional support and empowerment, but they missed reliable information from experts (Kummervold et al., 2002). Members of a cancer support community sought less information the longer they were part of the community while ESS became a more dominant strategy (Wang et al., 2012). This community might have ‘run out of’ useful answers for health information seekers, or such answers might have been difficult to find between comments of other patients that mainly had the purpose to support others emotionally. The mere presence of lay contributions, independent of their information quality, might decrease the perceived credibility of a health site for some information seekers (Hu & Sundar, 2010).

If social health site designers do not provide means to filter through static information and support communities, this is bound to happen: emotionally supportive content clutters the site for health information seekers and vice versa. This is problematic, as users are not prepared to dig deep into the information provided and often stay on a health site only for a short time

(Eysenbach & Köhler, 2002). Moreover, users motivated to help others might not have an incentive to search for care seekers that would benefit most from their help. Overwhelming content (too much text, too detailed content lists) is likely to put users off (Williams, Nicholas, Huntington, & McClean, 2002).

On an ideal social health website, care seekers need only a few clicks to find the right type of support, while support givers get recommendations on how to help and whom to help. To limit the background information about users that is necessary for social health site designers to guide the user, it is my goal to analyze one factor that can account for both HIS and ESS differentially: negative emotions.

The Role of Negative Emotions in Prior HIS and ESS Literature

Most of the HIS literature has conceptualized some notion of negative emotions or their elicitors as HIS predictors, but mostly without directly referring to emotion coping theory (see Afifi, 2009; Afifi & Morse, 2009; Fowler & Afifi, 2011, for notable exceptions). Holistic HIS models have superficially conceptualized emotions and affect without accounting for potential differences of distinct emotions (e.g., Griffin, Dunwoody, & Neuwirth, 1999; Kahlor, 2007, 2010), while other models have only focused on a single emotion (Afifi & Weiner, 2004; Miller, Diefenbach, Krantz, & Baum, 1998; Turner, Rimal, Morrison, & Kim, 2006; Witte, 1992, 1994). Overall, prior HIS research has tried to account for emotions to some extent, but also emphasized multiple other factors (see Lambert & Loiselle, 2007; Kahlor, 2010, for reviews).

ESS has been more directly associated with coping (e.g., Carver, Scheier, & Weintraub, 1989; Coyne & Downey, 1991; Greenglass, Schwarzer, Jakubiec, Fiksenbaum, & Taubert, 1999; Haley, Browne, Levine, & Bartolucci, 1987; Schwarzer & Leppin, 1991), and positive effects of ESS on well-being could be shown in several contexts (e.g., Collins & Feeney, 2000, 2004;

Haley et al., 1987; Rudnick & Kravetz, 2001). Most researchers focused on ESS as a coping response to stress (e.g., Coyne & Downey, 1991; Cramer, 1999; DeLongis & Holtzman, 2005; Haley et al., 1987; Li, 2008; Roth & Cohen, 1986; Rüscher et al. 2009). Some have regarded ESS as coping with more specific emotions (e.g., Barbee, Rowatt, Cunningham, Andersen, & Guerrero, 1998; Herrald & Tomaka, 2002; Mortenson, 2006; Saarni, 1997), but a direct comparison to HIS has mostly not been drawn.

Moreover, several contributions both in the HIS and ESS literature lack explicit conceptualizations of emotions or affect. For example, Griffin et al. (1999) and Kahlor (2007, 2010) rely on broad concepts of affect such as worry, derived from (environmental) risk research (see Slovic, Peters, Finucane, & MacGregor, 2005, for a review). This approach might be less useful if a person is faced with the possibility of contracting a medical condition or if they are diagnosed with it, as a person in these situations is likely to experience more nuanced emotional reactions (e.g., because the risk to contract a disease has already materialized and involvement is higher). Other studies consider distinct emotions but assess them through simple, one-item self-reports that suffer from differences between the conceptions of an emotion that a lay has and that exist in the emotion literature (Herrald & Tomaka, 2002; Westen, 1994).

In sum, both HIS and ESS have been linked to negative emotions. However, this linkage has largely been implicit or it was considered incidental. Research has often emphasized factors other than emotions and affect, analyzed a single emotion, focused on different concepts such as stress, or superficially conceptualized emotions. Next I will explain why these are limitations of current approaches and why consideration of several distinct emotions in parallel might offer a more powerful predictive framework in the context of coping with medical conditions.

HIS and ESS as Strategies to Cope with Negative Emotions

Prior research suggests that HIS and ESS are both coping strategies (e.g., Afifi & Morse, 2009; Broadstock & Borland, 1998; Carver et al., 1989; Coyne & Downey, 1991; Greenglass et al., 1999; Haley et al., 1987; Lambert & Loisel, 2007; Rees & Bath, 2000, 2001; van der Molen, 1999). While other coping strategies like planning, acceptance, or mental disengagement exist (Carver et al., 1989; Folkman & Lazarus, 1980; Folkman, Lazarus, Dunkel-Schetter, DeLongis, & Gruen, 1986), I focus on HIS and ESS, as they are the most relevant ones online. Coping is multi-dimensional; that is, different coping strategies do not exclude each other even if they fulfill diverging purposes (e.g., Greenglass et al., 1999; Lazarus, 2006; Sideridis, 2006).

Coping is a response to some type of negative affect (or stress). The question is which notion of affect is most useful to determine specific coping strategies like HIS and ESS. Watson and colleagues (e.g., Watson & Clark, 1997; Watson, Clark, & Tellegen, 1988) argue in favor of mood and negative affect as useful representations of feelings. Moods are associated with less specificity, longer duration, less intensity, and greater ubiquity than emotions (Gray & Watson, 2007). Negative affect emphasizes the negative valence, intercorrelations, and overlaps of negative emotions, leading to a view of affect as non-specific with regard to sub-constructs such as emotions (e.g., Gray & Watson, 2007; Watson & Clark, 1997). For example, Sideridis (2006) and Johnson, Gooding, Wood, Taylor, and Tarrier (2011) focus on negative affect when examining appraisal and coping.

However, another opinion holds that valence-based and non-specific approaches, such as negative affect and moods, are too unidimensional to account for the complexity of affect and that, therefore, they are less useful to explain and analyze causal relations between affect and specific coping strategies (Lazarus & Folkman, 1984; Lerner & Keltner, 2000; Smith & Lazarus,

1990, 1993). Lazarus (2006) criticized methods applied to broad notions of affect and coping (e.g., factor analysis), in that they only seemingly deliver useful results. He argued that, rather, they yield oversimplistic interpretations of complex underlying psychosocial mechanisms. For example, potentially conflicting effects of distinct negative emotions might cancel each other out if only broad negative affect is analyzed.

The advantage of relying on distinct emotions is that they can more precisely and differentially predict HIS and ESS. This can be done through integration of the discrete emotions paradigm (e.g., Lazarus, 1993; Lerner & Keltner, 2000, 2001; Nabi, 1999, 2003) into appraisal and coping theory (Lazarus & Folkman, 1984). In this view, negative emotions are short-lived, elaborated affective states, representing an individual's appraisal of their person-environment relationship in an adaptational response to some harm (Clore & Ortony, 2008; Lazarus, 2006; Nabi, 1999; Ortony, Clore, & Collins, 1988; Smith & Lazarus, 1990). Appraisal theory establishes action tendencies that are specific to a distinct emotion and depend on the emotion's adaptive function (e.g., Afifi & Morse, 2009; Lerner & Keltner, 2000, 2001; Nabi, 1999; Smith & Lazarus, 1993). For example, when a person is angry, he or she tends to feel an impulse to take revenge (Lazarus, 2006). Differentiated appraisals and coping behaviors for discrete negative emotions could be confirmed in several studies (e.g., Herrald & Tomaka, 2002; Lerner & Keltner, 2000, 2001; Mortenson, 2006; Nabi, 2003; Saarni, 1997; Westen, 1994).

With this framework, it is possible to predict a coping strategy (i.e., HIS or ESS) through an emotion if this emotion's action tendency can be related to the strategy. To further narrow down potential action tendencies of an emotion, it is useful to consider the context of the appraisal-coping process. When appraising an external stimulus, the individual assesses their person-environment relationship; that is, the mismatch between perceived "is" and "should be"

as a result of the stimulus (Lazarus & Folkman, 1984). If the mismatch is large enough, the individual perceives a threat to achieving their goals (e.g., well-being), leading to negative emotions. For the context of this thesis, the external stimulus that is appraised and that finally evokes negative emotions is the diagnosis of a medical condition. Accordingly, I use a working definition of threat as the danger to a person's physical or psychological well-being that they perceive due to the diagnosis of a medical condition.

HIS consists of acquisition of knowledge about a specific problem or of obtaining confirmation and clarification (Baker & Connor, 1994; Barsevick & Johnson, 1990; Conley, 1998; Johnson, 1997). Thus, an emotion needs to have an action tendency that is geared towards fighting the medical condition (i.e., averting the threat) through finding treatment information (*instrumental information seeking*), or towards clarifying and finding out about the threat as a goal in and of itself (*exploration*).

ESS is seeking expression and transaction of empathy, care, concern, affection, or interest from others (Burleson, 2003; Mickelson, 1997). Although ESS is a proactive and interactive strategy, it does not directly tackle the threat but rather the negative emotion itself (Barbee et al., 1998; Greenglass et al., 1999). This is based on the assertion that “the strategy of seeking [emotional] support seems to tap a primal need for human contact for reasons beyond whatever material aid, advice, or distraction that contact might provide” (Amirkhan, 1990, p. 1073). Hence, in order for an emotion to predict ESS, its action tendency has to drive the individual to approach others for the purpose of emotional relief from the negative emotion by means of social interaction (*solace*, Barbee et al., 1998). The solace provided is meant to evoke positive emotions that counter negative ones, for example, by expressing closeness and telling the support seeker that he or she is a good person (Barbee et al., 1998). Thus ESS is a proactive strategy that implies

approaching others, but it also relates to emotion-focused coping: it does not help to avert the threat but rather addresses the negative emotion itself. Implicitly, a person might also seek for protection or distraction from the threat.

Fear, Anxiety, and Shame as Predictors of HIS and ESS

If differentiated effects of distinct negative emotions on HIS and ESS can be established, social health website designers will receive some insight on how to cater to different user needs more directly by drawing on the emotions that users typically experience. In this thesis, I will focus on three emotions that are relevant in the context of coping with the diagnosis of medical conditions through HIS and ESS: fear, anxiety, and shame. In the following, I discuss their adaptive functions and core relational themes; that is, the relational meanings that individuals attribute to the emotion, providing for an underlying constancy in coping reactions (Clore & Ortony, 2008; Lazarus, 2006; Smith & Lazarus, 1990, 1993). A negative emotion should trigger a need for instrumental information seeking or exploration in order to lead to HIS, and a need for solace to result in ESS.

Fear

In general, fear appraisals and coping behaviors could be shown to be predictors of precautionary measures (Ruiter, Abraham, & Kok, 2001; Sime, 1976). The core relational theme of fear is the confrontation of an immediate, concrete, overwhelming threat (Lazarus, 2006; Öhman, 2008). This means that action tendencies of fear either lead an individual to try to avert the threat or to get away from it. The sense of high effort and high situational control that fear can induce (Smith & Ellsworth, 1985) can imply that several strategies are pursued in parallel. HIS can be one means to regulate fear as an effort to avert the threat through finding information

about cure and treatment (instrumental information seeking). For example, Borgers et al. (1993) find that cancer patients' self-guided HIS increased with fear.

H1: Fear has a positive effect on HIS.

What is more, fear typically leads to seeking of protection and caution, but also to an attitude of action away from the environment and low self-responsibility (Frijda, 1986; Nabi, 2003; Öhman, 2008; Smith & Ellsworth, 1985; Sylvers et al., 2011). Fear leads to care seeking, in particular, if the person thinks he or she cannot overcome the threat by themselves (Mayne, 1999). I assert that these action tendencies lead patients to seek emotional support from others: seeking solace does not force the individual to mentally deal with the threat immediately, but rather provides self-regulation through positive emotions that counter the negative ones (Barbee et al., 1998). Thus, solace can provide direct relief from fear, as it gives the seeker a sense of getting away from the threat towards protection, and of 'someone being there for them' (Brashers et al., 2002), which also ties into the patient's perception of low self-responsibility.

H2: Fear has a positive effect on ESS.

In sum, the action tendencies of fear can be related both to HIS and to ESS; a person is likely to engage in multi-dimensional coping. Yet, in order to derive the emotion's differential effect on these two coping strategies, I also examine which strategy more strongly corresponds to fear's action tendencies.

The particularity of fear is the immediacy and specificity of the threat (Öhman, 2008; Sylvers, Lilienfeld, & LaPrairie, 2011). Thus, the exploration function of HIS should not play an important role, as the threat is already seen as concrete. Also the instrumental information seeking aspect of HIS might be relatively weaker as information might only help to find potentially helpful and indirect ways to do away with the threat, instead of providing relief from

an immediate threat. The high effort that the individual is willing to make in order to avert the threat (Smith & Ellsworth, 1985) might lead to HIS being one among several strategies, but not the key one, as it is not a perfect match for fear's action tendencies.

In contrast, the urge for protection and caution, as well as the directionality of action away from the threat and low self-responsibility in the case of fear (Frijda, 1986; Nabi, 2003; Öhman, 2008; Smith & Ellsworth, 1985; Sylvers et al., 2011) let ESS seem a more obvious approach. For ESS, the threat does not have to be addressed directly and yet ESS ties into the readiness to invest a high effort, and it can also evoke a feeling of protection from the threat – others can function as an emotional resort that is perceived as readily available.

H3: Fear has a stronger positive effect on ESS than on HIS.

Anxiety

When individuals apprehend or anticipate an uncertain, existential danger, they feel anxiety (Lazarus, 2006; Öhman, 2008). Anxiety and fear overlap but, unlike fear, anxiety refers to a more vague and diffuse threat, future focus, and an approaching defensive direction (Öhman, 2008; Sylvers et al., 2011). 'Approaching' means that anxiety generally directs attention towards the threatening stimulus, to the extent that a person might not be able to disengage from it (Öhman, 2008). This leads people that feel anxiety to deal with their medical condition: Mayne (1999) summarizes that anxiety could often be related to preventive health behaviors and care seeking.

This ties into findings from the HIS literature. Anxiety has been shown to have a positive effect on HIS, often in relation to uncertainty (Afifi, 2009; Afifi & Weiner, 2004, 2006; Diefenbach et al., 2008; Miller et al., 1998; Turner et al., 2006). To name one recent example, Fowler and Afifi (2011) find a direct effect on HIS for a context-specific anxiety measure. They

applied a revised version of the theory of motivated information management (Afifi & Weiner, 2004) that explicitly incorporated appraisal and coping theory (Afifi & Morse, 2009). These findings hint at a strong effect of anxiety on HIS.

H4: Anxiety has a positive effect on HIS.

Few studies examined the direct effect of anxiety on ESS, so that I refer to findings for which it was implied that subjects felt this emotion. For example, looming death in case of terminal diseases is likely to evoke both high fear (specific threat) and high anxiety (future focus and uncertainty). In these scenarios, patients were reported to seek emotional support (Dunkel-Schetter et al., 1992; Leserman et al., 1992).

H5: Anxiety has a positive effect on ESS.

When comparing anxiety's potential effects on HIS and ESS, again, I examine which strategy better corresponds to the action tendencies of anxiety. Overall, anxiety seems to relate most strongly to an urge to approach and find out about a vaguely apprehended threat. HIS directly addresses perceived uncertainty and the diffuse character of the threat (exploration), making the threat more specific and manageable. Moreover, the vagueness of the threat in the case of anxiety might imply that it is not perceived as immediate so that a patient does not expect a swift remedy but is prepared to pursue indirect ways to avert the threat some time in the future. Thus, HIS seems to correspond well with anxiety's action tendencies: Taking time and investing effort to find out about the threat in order to then tackle it with the help of the attained knowledge should be behavior that anxiety triggers, while HIS also fits into its approaching defensive reaction.

ESS is not excluded and might be a secondary coping strategy: It might provide immediate emotional relief through solace from others, complementary to what HIS can achieve.

ESS can help to induce positive emotions that counter the negative emotion anxiety (Barbee et al., 1998). Yet, ESS is also limited insofar as it cannot satisfy the urge to approach the threat that is inherent to anxiety. Anxiety primarily makes a person want to figure out what will happen to them and what to do about a threat; for this, HIS is a better fit than ESS.

H6: Anxiety has a stronger positive effect on HIS than on ESS.

Shame

Shame is evoked by an individual's perception of their self as defective and of a personal failure to live up to an 'Ego-ideal' (Lazarus, 2006; Tangney, Stuewig, & Mashek, 2007). Martens (2005) describes shame as "a fearful and chaotic sense of an irresistible and eerie revelation to self, of vulnerability in one's nature that, by indicating one's moral incompetence, isolates and humbles one in the face of what one regards as a sacred community" (p. 400).

The same author (Martens, 2005) specifies shame's action tendencies as efforts to diminish the negative effects of the individual's self-blame. Several others (e.g., Dearing, Stuewig, & Tangney, 2005; Silfver, 2007; Verbeke & Bagozzi, 2002) point to the difficulty of turning this into proactive coping; shame is inherently past-oriented and offers little hope for redemption – "It is a daunting challenge to transform a self that is defective at its core" (Tangney et al., 2007, p. 353). As a result, shame leads to attempts to deny, hide, or escape its cause (Tangney et al., 2007).

Given these strong tendencies of denial, HIS might not be the primary choice to deal with shame: Both exploration and instrumental information seeking would force the individual to actively deal with their defective self. Shame might rather be a negative emotion that leads to 'blunting,' that is, avoiding and distancing oneself from information about the threat (e.g., Miller, 1979; Rees & Bath, 2001).

H7: Shame has a negative effect on HIS.

Other than denial, withdrawal from others and self-blame were established as immediately shame-related coping strategies (Reid, Harper, & Anderson, 2009; Tangney et al., 2007; Westen, 1994; Yelsma, Brown, & Elison, 2002). Withdrawal from others, by definition, has a negative relation to ESS, and self-blame was confirmed to negatively correlate with ESS by Greenglass et al. (1999). Accordingly, the effect of shame on ESS was negative for people suffering from medical conditions that are associated with shame (Mickelson, 1997; Thomas et al., 2010) and for caregivers of stigmatized persons (Kittikorn, Street, & Blackford, 2006).

H8: Shame has a negative effect on ESS.

Prior work explicitly linked shame to withdrawal from others and self-blame (e.g., Tangney et al., 2007), which are both negatively related to ESS. Shame is an emotion that has an inherent social meaning; it would not exist without the anticipated rejection by others when they find out about the shameful event. Shame relates to a pronounced perception of one's self as defective and as humbled in the eyes of others, so that facing them and talking to them about the cause of one's shame is directly opposite to the action tendencies that the emotion evokes. Therefore, shame is likely to have a strong negative effect on ESS.

For HIS, the negative effect might be smaller. HIS can have a fairly low social and emotional involvement; for HIS, an individual can but does not have to directly address others. HIS is easier to do anonymously or even without addressing a person at all (e.g., through only consulting archived information and editorial content online). Thus, withdrawal from others does not exclude HIS, and also feelings of self-blame might be weaker for HIS than for ESS.

H9: Shame has a stronger negative effect on ESS than on HIS.

CHAPTER 2: METHOD

Procedure

I collected my data through an online survey on Amazon's Mechanical Turk (www.mechanicalturk.com). Mechanical Turk is a micro-task marketplace on which users can complete evaluative tasks for pay. Data from Mechanical Turk surveys has been shown to be just as reliable as data obtained through common methods (Buhrmester, Kwang, & Gosling, 2011).

A major goal was to yield results that are broadly sustainable, independent of context and a specific medical condition. Therefore, I administered a pre-survey ($N_p = 151$) on Mechanical Turk, asking subjects about their negative emotions for 15 common medical conditions. I identified 6 conditions (Alzheimer's disease, arthritis, bone fracture, common warts, dandruff, and genital herpes) that would yield sufficient variance of fear, anxiety, and shame. By asking a broad sample of subjects about several specific medical conditions, I hope to reconcile the need of context-specificity and person-centered approaches (Lazarus, 2006) and calls for more generalizability and transcendence of context limitations in health research (Kahlor, 2010).

In order to measure state emotions and associated coping strategies, I needed to simulate a patient's mental process after diagnosis. I estimated that asking subjects about past experiences would not work, as they would have already dealt with the respective medical condition or might have never had it. Therefore, I assigned participants randomly to one of the 6 medical conditions and then asked them to imagine the hypothetical situation of being diagnosed with this condition. To increase salience, participants also had to write a short essay on how it would be for them to be diagnosed and live with the condition. For all items, I asked participants to envision the moment in which they have just found out that they have the medical condition.

Participants

659 participants started the main survey, out of which 609 completed it. The average completion time was about 19 minutes. Loosely based on Huang, Curran, Keeney, Poposki, and DeShon (2011, in press), I erased 91 cases from the sample, as these subjects had clearly not read the instructions (reversed test items were answered very inconsistently), they had rushed through the survey (completion time below 9 minutes), or they coincidentally had the medical condition at the time of the survey. Included in the erased cases are 24 workers whose payment I rejected (they took less than 5 minutes for the survey or completed the survey multiple times), leading to an approval rate of 96 % (only 600 workers had submitted the task for approval). In the end, the sample size was $N = 518$.

Through an IP verification function on Mechanical Turk, it was assured that all participants were physically located in the US. As is typical for Mechanical Turk users in the US, the sample was fairly diverse (see Table 1 for selected demographics).

Table 1
Selected Demographic Variables of Survey Participants

<u>Demographic variable</u>	<u>Percentages</u>	
Gender	61.4 female, 38.6 male	
Race / ethnic group ^a	85 % White, 8 % African American, 8 % Latino / Hispanic, 3 % Asian-Indian, 2 % Chinese	
<u>Demographic Variable</u>	<u>Mean / Median</u>	<u>Minimum / Maximum</u>
Age (years)	36.79 / 35	18 / 82
Annual income (US\$) ^b	-- / \$30,000-\$39,999	Less than \$10,000 / More than \$90,000
Education ^b	-- / College Graduate	Some high school / Graduated from graduate school

^a Indicating multiple races/ethnic groups was possible. Latino/Hispanic was not counted as race.

^b Assessed through ordinal measures, no means available.

Measurement

All items were measured on 7-point Likert-type scales from “strongly disagree” to “strongly agree.” Fear was measured through 4 items from Pauls and Stemmler (2003) and Watson (1994), Cronbach’s alpha (α) = .927. Anxiety was assessed through the state form of the State-Trait Anxiety Index (Spielberger, Gorsuch, Lushene, Vagg, & Jacobs, 1983), α = .964. Shame was adapted from the Compass of Shame Scale (Elison, Lennon, & Pulos, 2006; Elison, Pulos, & Lennon, 2006), α = .938. HIS was assessed through a 3-item scale adapted from Kahlor (2010), α = .889. ESS was based on a 5-item scale from Amirkhan (1990), α = .914. Descriptive statistics for HIS, ESS, and the emotion variables in total and grouped by the 6 medical conditions can be found in Table 2. The survey instrument (also including other variables used for post-hoc analyses) can be found in Appendix A.

Table 2

Descriptive Statistics for HIS, ESS, and Negative Emotions Organized by Medical Conditions

<u>Total (N=518)</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Mean Difference to Total</u>	<u>SD</u>
Fear	1.00	7.00	4.22	0	1.85
Anxiety	1.00	7.00	4.95	0	1.41
Shame	1.00	7.00	3.72	0	1.70
HIS	1.00	7.00	6.31	0	1.00
ESS	1.00	7.00	4.42	0	1.64
<u>Alzheimer's disease (n=88)</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Mean Difference to Total</u>	<u>SD</u>
Fear	2.75	7.00	5.86	1.64	.87
Anxiety	3.00	7.00	5.92	.97	.87
Shame	1.43	7.00	4.07	.35	1.35
HIS	4.00	7.00	6.64	.33	.60
ESS	1.00	7.00	5.49	1.07	1.26
<u>Arthritis (n=88)</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Mean Difference to Total</u>	<u>SD</u>
Fear	1.00	6.50	3.95	-.27	1.51
Anxiety	1.36	6.93	4.64	-.31	1.08
Shame	1.00	5.86	2.56	-1.16	1.26
HIS	4.33	7.00	6.59	.28	.61

Table 2 (cont'd)

ESS	1.00	7.00	5.01	.59	1.40
<u>Bone fracture (n=85)</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Mean Differ- ence to Total</u>	<u>SD</u>
Fear	1.00	7.00	4.02	-.2	1.59
Anxiety	1.86	7.00	4.92	-.03	1.20
Shame	1.00	6.57	2.57	-1.15	1.17
HIS	2.33	7.00	6.04	-.27	1.09
ESS	2.00	7.00	5.13	0.71	1.23
<u>Common warts (n=90)</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Mean Differ- ence to Total</u>	<u>SD</u>
Fear	1.00	7.00	3.03	-1.19	1.63
Anxiety	1.00	6.71	4.03	-.92	1.38
Shame	1.00	7.00	3.54	-.18	1.61
HIS	1.00	7.00	5.99	-.32	1.20
ESS	1.00	7.00	3.90	-.52	1.46
<u>Dandruff (n=73)</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Mean Differ- ence to Total</u>	<u>SD</u>
Fear	1.00	6.00	2.49	-1.73	1.36
Anxiety	1.21	6.79	3.81	-1.14	1.28
Shame	1.00	6.86	3.81	.09	1.49
HIS	1.33	7.00	5.68	-.63	1.30
ESS	1.00	7.00	3.34	-1.08	1.47
<u>Genital herpes (n=94)</u>	<u>Minimum</u>	<u>Maximum</u>	<u>Mean</u>	<u>Mean Differ- ence to Total</u>	<u>SD</u>
Fear	2.00	7.00	5.58	1.36	1.27
Anxiety	3.29	7.00	6.15	1.20	.80
Shame	2.00	7.00	5.62	1.90	1.09
HIS	4.00	7.00	6.77	.46	.52
ESS	1.00	6.80	3.57	-.85	1.66

Note. All values standardized to 7-point scale. HIS = health information seeking, ESS = emotional support seeking.

CHAPTER 3: RESULTS

First, I assessed Pearson product-moment correlations. Table 3 shows the results for the correlations of all dependent and independent variables, as well as their correlations with the three variables used for post-hoc analysis. The negative emotions are strongly intercorrelated. Also the dependent variables, that is, the coping strategies, all had positive, significant intercorrelations. ESS efficacy was positively related to all variables except for shame.

Table 3
Pearson Product-Moment Correlations

	Fear	Anxiety	Shame	HIS	ESS
Fear	1				
Anxiety	.836**	1			
Shame	.545**	.625**	1		
HIS	.411**	.456**	.224**	1	
ESS	.280**	.244**	-.121**	.282**	1
Problem-solving	.301**	.311**	.165**	.653**	.220**
Escape-avoidance	.544**	.594**	.566**	.273**	.156**
ESS efficacy	.219**	.193**	-.123**	.258**	.678**

Note. HIS = health information seeking, ESS = emotional support seeking.

** $p < .01$ (two-tailed).

I then applied structural equation modeling to analyze effects on two dependent variables. I used the statistical software AMOS to run latent-variable structure modeling. Maximum likelihood estimation was used to estimate parameters. The model (see Figure 1) includes all paths from fear, anxiety, and shame to HIS and ESS. Thus, for each effect that an emotion has on HIS or ESS, the other two emotions are controlled for. A covariance path for each emotion pair was included to account for their interrelatedness. This setup represents situations where fear, anxiety, and shame occur concurrently. I report satisfactory fit of the model for my data

(RMSEA = .073, CI 90 % [.069, .077], p -close = .000; CFI = .923; NFI = .898). Fear, anxiety, and shame explained 21.8 % of the variance in HIS and 20.7 % of the variance in ESS. Appendix B shows detailed regression results organized by medical conditions.

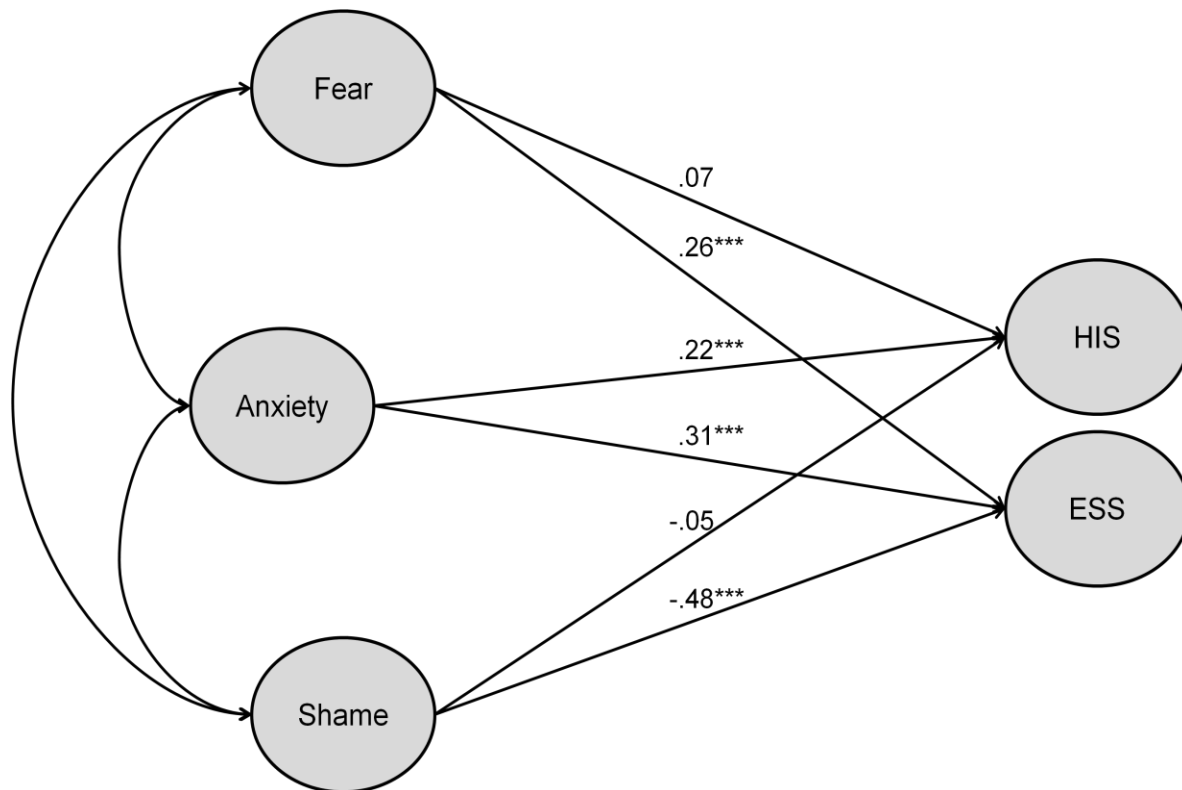


Figure 1. Structural equation model for fear, anxiety, and shame with direct paths to HIS and ESS (regression weights): $N = 518$; RMSEA = .073, CI 90 % [.069, .077], p -close = .000; CFI = .923; NFI = .898. *** $p < .001$. HIS = health information seeking, ESS = emotional support seeking.

Direct Effects of Emotions

The results for the direct effects of fear, anxiety, and shame and effect sizes are displayed in Figure 1. In detail, the effect of fear on HIS was in the predicted direction but not significant ($.05 < p < .1$, H1 not supported), while this emotion's effect on ESS was positive and significant ($p < .001$, H2 supported). Anxiety had significant positive effects both on HIS and ESS (both $p < .001$, H4 and H5 supported). Finally, shame had a negative but non-significant effect on HIS (.05

$< p < .1$, H7 not supported), but it did have the predicted significant negative effect on ESS ($p < .001$, H8 supported).

Comparing Each Emotion's Effects on HIS and ESS

To test the remaining hypotheses, I carried out pairwise comparisons of χ^2 model fit by constraining the regression weights for the two paths from a given emotion to HIS or ESS to the same weight. This constraint decreases model fit while degrees of freedom (df) increase by 1. Although χ^2 goodness of fit is not an appropriate measure of absolute model fit for my sample size (e.g., Kenny, 2011), it is the most useful measure to assess significance of the difference in fit between two models. The difference between the constrained and the unconstrained models' χ^2 values can be tested for significance at $df = 1$. Table 4 displays the χ^2 fit values for the baseline and constrained models, and also the χ^2 differences. These values do not indicate the valence of χ^2 differences, so that, in order to test the hypotheses, the regression weights in Figure 1 need to be taken into consideration as well.

Table 4

χ^2 Model Fit Comparisons of Baseline and Constrained Models

<u>Hypothesis</u>	<u>Emotion for which regression weights were constrained</u>	<u>χ^2 model fit</u>	<u>χ^2 difference to baseline model</u>	<u>χ^2 difference p-value (df = 1)</u>
	None (baseline)	1825.276	0	
H3 (Supported)	Fear	1829.468	4.192	.041*
H6 (Not Supported)	Anxiety	1825.516	.24	.624
H9 (Supported)	Shame	1875.627	50.351	<.001***

* $p < .05$. *** $p < .001$.

Table 3 in combination with Figure 1 shows that fear had a stronger positive effect on ESS than on HIS ($p < .05$, H3 supported). The difference between the effects of anxiety on HIS and ESS points in the opposite than hypothesized direction and is not significant ($p > .1$, H6 not supported). The negative effect of shame on ESS is significantly larger than for HIS ($p < .001$, H9 supported).

CHAPTER 4: DISCUSSION

Out of the six hypothesized direct effects of the examined emotions, four were significant and in the predicted direction. Namely, fear had a positive effect on ESS, anxiety had a positive effect on both HIS and ESS, and shame had a negative effect on ESS. Only the effects of fear and shame on HIS were not significant, and those still pointed in the predicted direction (positive for fear and negative for shame). By and large, this confirms the applicability of appraisal and emotion theory in the context of coping with medical conditions. The findings also support that fundamental action tendencies inherent to an emotion can be related to specific coping strategies, so that emotions can serve as reliable and relatively context-independent predictors of these strategies. Hence, when future research wants to analyze the elicitors of health-related behavior that might consist of coping strategies, examining the emotions at the heart of the coping process is advisable.

What is more, I was able to illustrate differential influences that emotions can have: An emotion can have different effects on HIS and ESS. In two of the three cases (for fear and shame), the difference between the emotion's effects on these strategies was significant and pointed in the predicted direction (larger positive effect of fear on ESS than on HIS, larger negative effect of shame on ESS than on HIS). This means that, based on emotion theory, action tendencies of an emotion can correspond to some coping strategies more than to others. This finding is encouraging insofar as the multi-dimensionality of coping (e.g., Greenglass et al., 1999; Lazarus, 2006; Sideridis, 2006) was confirmed, but also further specified. In other words, while a single emotion might have effects on several coping strategies in parallel, there might be a systematic hierarchy of the effect sizes if certain strategies better map onto the dominant action

tendencies of the emotion than others . In the following, I explore these two broad confirmations of theory in more detail, and also derive more specific implications for social health websites.

Differential Effects of Fear, Anxiety, and Shame on HIS and ESS

Fear

In detail, I find that when people feel fear, ESS is the strategy that they are more likely to engage in when compared to HIS. This is in line with findings on the needs of people with terminal diseases (e.g., Brashers et al., 2002; Han et al., 2011; Yeh & Chou, 2007); these people might have preferred ESS over HIS because of the fear they felt. When fear is high, information and knowledge about future solutions (i.e., instrumental information seeking and exploration) are probably not as helpful because the threat is perceived as overwhelming, specific, and immediate. Seeking emotional support and solace, directly addressing the emotion instead of the threat, offers the more swift response to fear.

Anxiety

For anxiety, uncertainty seems to play a role. Next to the instrumental information seeking purpose of HIS (e.g., finding treatment), its exploration aspect comes into play. In turn, ESS may provide complementary, immediate relief of anxiety through solace. There is no reason for the individual not to pursue several strategies in parallel, and for an uncertain and diffuse but also intense threat, both HIS and ESS are strategies that the user might consider. This confirms that anxiety overall leads to adaptive and preventive behavior (Mayne, 1999). The findings also confirm the multi-dimensionality of coping (e.g., Greenglass et al., 1999; Lazarus, 2006; Sideridis, 2006); different coping strategies do not exclude each other even if they have different purposes at the outset.

Shame

Shame is a particular case in many ways. In the case of shame, self-blame and withdrawal from others are so strong that ESS strongly decreases. The absolute negative effect of shame on ESS is the strongest effect I find for all emotions, and also its difference towards shame's non-significant negative effect on HIS is the largest in my results.

I conclude from my results that shame because of a medical condition relates to the patient's perception of their defective self and that it primarily leads to action tendencies of self-blame and withdrawal from others (e.g., Tangney et al., 2007). The individual might see their situation as hopeless and seeking behavior as futile. The particular social aspect of shame leads to ESS not being an option for patients.

This also means that ESS, in the case of shame, does not seem to have the potential to serve the purpose of solace. In fact, the action tendency of shame is mainly towards averting the threat to a person's psychological well-being that is due to potential rejection by others. In other words, the nature of the threat changes: While threat is the danger to a person's physical and psychological well-being that arises immediately from the medical condition in the cases of fear and anxiety, for shame, the threat appears to be the danger to one's psychological well-being through *rejection by others because of* the medical condition. ESS is just the opposite of helpful to avert this kind of threat, as the individual explicitly does not want others to be aware and empathetic about their problem. Talking about the shameful disease might only confirm the defective self in the eyes "of what one regards as a sacred community" (Martens, 2005, p. 400). The goal becomes denial and emotional distancing from the defective self, and ESS would reach the contrary.

Discrete Emotions as Predictors of Specific Coping Strategies

Finally, my results show that not every discrete negative emotion leads to active and adaptive coping behavior, and that different emotions might have conflicting effects on certain coping strategies. In particular, I found shame to be a clear outlier with regard to ESS: the stronger shame is, the less likely ESS becomes; and this effect might counter the positive relation of fear and anxiety to ESS.

Problematically, the two emotions fear and anxiety were strongly intercorrelated (see Table 3). This might mean that, in my data, they actually represent the same construct. This could be due to the imprecision of a self-report survey on Mechanical Turk: the items for fear and anxiety that I used might have been indistinguishable to participants or they might not have taken the time to intricately evaluate which precise feeling they would have and to what extent. Prior research identifies both overlaps and differences of fear and anxiety (Öhman, 2008; Sylvers et al., 2011). While fear relates to an immediate, specific, and often physical threat, anxiety implies a greater level of uncertainty and unrest, due to the threat's vagueness.

Accordingly, I was able to carve out some differences between fear and anxiety, contrary to prior work (e.g., Westen, 1994) but broadly consistent with emotion theory: The finding that anxiety is positively related to HIS while fear is not is in line with my predictions that HIS would be a better-suitable match for anxiety's action tendencies and a worse match for fear (although I did not hypothesize about the comparison between the two emotions explicitly). At the least, my findings suggest that future work identify medical conditions and treatment stages for which there is a pronounced difference between these two emotions and also that it use more refined survey items which only refer to one of the two emotions. Shame, however, remains as a strong outlier with regard to ESS, despite its high correlations with both fear and anxiety (see Table 3).

Despite these caveats, fundamentally, the differences for the negative emotions' effects on HIS and ESS reveal that generalizing negative affect in the context of health conditions can be problematic. Prior research that is based on broad notions of affective responses to a threat (e.g., Kahlor, 2007, 2010) cannot account for the differentiated and conflicting effects of emotions such as fear, anxiety, and shame. My results also call for reexamination of findings that analyze coping as a response to general negative affect, like Johnson et al. (2011) and Sideridis (2006). For example, Sideridis found that negative affect had a stronger relation to emotion-focused coping (i.e., addressing negative affect / emotions without tackling the threat) than to problem-focused coping (i.e., addressing the threat and thereby attenuating negative affect / emotions). According to this reasoning, negative affect should generally increase ESS more than HIS, as the former is commonly associated with emotion-focused coping and the latter with problem-focused coping (Amirkhan, 1990; Barbee et al., 1998; Carver, Scheier, & Weintraub, 1989; Folkman & Lazarus, 1980; Greenglass et al., 1999).

However, my results suggest that differential effects should rather be mapped through the relations of discrete emotions to specific coping strategies than through the relations of negative affect to broad coping types. To further examine this assertion, in a post-hoc analysis, I built a model with problem-solving (a core coping strategy of problem-focused coping, e.g., Amirkhan, 1990, scale also based on Amirkhan, 1990) and escape-avoidance (a core coping strategy of emotion-focused coping, e.g., Folkman & Lazarus, 1980, scale based on Folkman et al., 1986) as additional dependent variables (see Appendix C). Indeed, in this model all negative emotions had a positive effect on escape-avoidance, which lends support to Sideridis' (2006) finding. Also the emotions' effects on problem-solving were similar to those on HIS, hinting towards problem-focused coping as a coherent overarching concept of these two coping strategies. However, in the

model, the negative effect of shame on ESS remained significant and the absolute effect size was larger than for shame's positive effect on escape-avoidance.

This can be explained through mapping shame's action tendencies more precisely onto these two coping strategies: Escape-avoidance means that the individual tries to disengage from the threat by (sometimes actively) ignoring it; so, 'avoiding' relates to finding emotional relief through not thinking about the threat, for example, through simply denying its existence or through distraction. However, note that I suggested that the notion of threat might change for shame compared to fear and anxiety: the threat for shame is rather the anticipated rejection by others because of the medical condition than harm immediately arising from the medical condition (e.g., physical pain).

While ESS just like escape-avoidance provides a person with emotional relief without tackling the medical condition itself, ESS does this by means of social interaction. So, while ESS can help a person find solace for their situation as a relief from fear and anxiety, it cannot do so for shame, as the action tendency of withdrawal from others dominates. Moreover, ESS would in fact force the social aspect of the threat to materialize (in the case of a shameful medical condition: harm to one's psychological well-being through rejection from others). Shame is inherently a social emotion and it is defined through the anticipated rejection by others once they find out about the cause of one's shame. Thus, while a negative emotion (e.g., shame) might positively predict one strategy related to emotion-focused coping (e.g., escape-avoidance), it can, at the same time, decrease another emotion-focused coping strategy (e.g., ESS) if this emotion's action tendencies have differing implications with regard to these strategies.

Admittedly, findings for escape-avoidance have limited practical implications for website design that caters towards self-guided online behavior, as users might not go to a social health

website in the first place. Yet, my findings for shame as an outlier compared to fear and anxiety at least imply that broad concepts such as generalized negative affect and problem- / emotion-focused coping lack predictive power when pronounced emotions are present, as they cannot represent distinct emotions' potentially conflicting effects on certain coping strategies. Findings like the one from Sideridis (2006), thus, should be applied to social health websites with care. Future research as well as social health website designers might be better advised to base their analyses on distinct emotions and specific coping strategies than on broad notions of affect and coping types.

Practical Implications

Encouraging Social Health Website Usage for Users Experiencing Shame

In this work, I have found that some emotions, such as shame, lead patients to engage in neither HIS nor ESS. This is problematic as both are seen to be beneficial for a patient (e.g., Goldsmith, 2004; Lambert & Loiselle, 2007). In this case, there is little that website design can do: HIS and ESS are the key seeking behaviors that social health websites can provide for so that users are likely not to turn to them in the first place. If patients should still be encouraged to engage in HIS and ESS through social health websites, they first need to find some other encouragement to do so, countering the emotions' adverse effects. This can be done through limiting these emotions or through enhancing other positive factors that can overturn the emotions' negative effects on seeking.

One way to counter these problematic effects could lie in efficacy. First, there might be an interaction effect with shame: For instance, in the context of obesity, for which people might perceive that they can proactively change their situation, shame led to engagement with the problem and decreasing shame to avoiding it (Conradt et al., 2008). While my results do not

show an interaction, for example, ESS efficacy's effect on ESS was larger than the one of shame: When I regressed ESS on the three emotions and controlled for ESS efficacy (i.e., addition of ESS response and ESS self efficacy, measures based on Kahlor, 2010, $F(4,513) = 129.927$, $p < .001$, $R^2 = .503$), the negative effect of shame was still significant ($p < .001$), but the standardized beta coefficient of ESS efficacy, in absolute terms, was more than twice as high ($\beta = .590$) as the one of shame ($\beta = -.219$).

This calls for research examining for which medical conditions people experience shame but at the same time believe that they can do something about the threat (efficacy), and also on how to infuse this belief. For example, doctors could tell patients with diseases that typically are shameful that health information and emotional support is easily available online, and they could also recommend certain social health sites.

Moreover, future studies should analyze the social burden of different types of support seeking for shameful diseases, and to what extent it is lower in the online world, e.g., because of greater anonymity. My result of no significant negative effect of shame on HIS suggests that a patient experiencing this emotion might not engage in coping strategies with lower socio-emotional involvement proactively, but that it might at least be easier to promote them, especially when other factors (including other negative emotions) are favorable. This can also be related to findings showing that shame decreases direct social support seeking but that it can increase indirect social support seeking (Williams & Mickelson, 2008).

User Guidance Based on Users' Seeking Disposition for Fear and Anxiety

For the scenario in which a user accesses a social health website trying to seek health information and / or emotional support, design needs to decide whether to cater towards the type of seeking behavior that users actively engage in anyway or whether to entice them to pursue a

different strategy. Certainly, there are situations where only health information or emotional support is beneficial and where the patient seeks for the wrong one (e.g., a person experiencing fear seeks emotional support although unequivocal treatment information is available and necessary to avert their medical condition). In these scenarios, it can be argued that social health websites should not enable what users proactively engage in.

However, these seem to be very particular cases. By and large, HIS and ESS have both been shown to be beneficial for patients (e.g., Goldsmith, 2004; Lambert & Loiselle, 2007) and both are self-guided. This means that it will often be hard for social health websites to objectively determine which type of support is more beneficial and, even if this is possible, it is questionable if social health websites have the capacity to stipulate behaviors that are not sought for at the outset. Several studies show that users do not invest a lot of effort when examining health websites and that they are sensitive to unwanted content cluttering the site, to the extent that they might abandon the site as a response (Eysenbach & Köhler, 2002; Hu & Sundar, 2010; Kummervold et al., 2002; Wang et al., 2012). Design needs to take this into account if social health websites are supposed to attract users beyond the first click and some quick browsing.

While it might be possible to carefully suggest behaviors that the user does not consider themselves as soon as a certain level of involvement and trust in a website has been established, I focus on the scenario where a person has just been diagnosed with a medical condition and turns to a social health website without prior seeking experience. In this setting and during the first steps of the seeking process, I hold that it makes more sense for the website to feed into the protective behavior that the user is ready to engage in anyway due to their emotional disposition. In my findings, this applies to fear and anxiety, as these two emotions elicited at least some sort of protective, beneficial behavior (HIS and / or ESS).

Facilitating Emotional Support for Users Experiencing Fear

In more detail, individuals that experience fear should not be overwhelmed with information about their condition. In a first step, they need to find comfort and solace to attenuate the negative emotion caused by the immediate threat they perceive. Hence, it might be prudent to guide patients that typically experience fear to emotionally supportive comments in a community. This could be based on scores yielded through simple rating systems: users could be asked to indicate both the informational and emotional value of comments and editorial content. This would be in line with Kim et al. (2008), who found that users of the health section of Yahoo! Answers estimated the utility and socio-emotional values of answers the highest.

The finding also opens up an opportunity to improve the experience of users of social health websites who want to help others. If site designers can guide these users to the people and questions that require their help, seekers are likely to appreciate the support they receive more, which, in turn, will make the support giver's experience more rewarding as well. Empirical evidence confirms that the combination of receiving and giving empathetic behavior is most beneficial to cope with some severe diseases (Han et al., 2011), so that emotional support givers might directly benefit as well. For instance, those who have proven to be empathetic and to show understanding and interest for other community members (e.g., based on the ratings of emotional value of their comments through the user community) can be linked to patients that have indicated that they have just been diagnosed with a disease that evokes fear. An exemplary medical condition for these findings might be Alzheimer's disease, as my sample indicates that its diagnosis triggers fear in particular while shame is moderate, so that ESS is far above average compared to the other 5 examined medical conditions (see Table 2).

Guiding Users Experiencing Anxiety Based on Support Availability

If people feel anxiety as a result of their medical condition, they are willing to seek both information and emotional support. As a result, guidance for these users is more flexible and can focus, for instance, on relevancy rather than on the type of support provided. For design, this means that patients experiencing anxiety should receive means to specify their needs and then be given the choice between different kinds of content. These users have a tendency to explore, so recommendations and guidance should not be overly intrusive.

This might be different, however, if one type of support is unavailable or too costly: My findings for anxiety also implicate that social health websites can make use of their flexibility to intervene in the seeking process. For example, if quick treatment is beneficial (e.g., for a virus infection), the site can link a person feeling anxiety to precise treatment information (or suchlike posts in communities) as the user is willing to accept this. On the other hand, if good information is not available (e.g., in case of a new or complex disease), patients could be presented with emotionally supportive messages in response to their questions, as they will also seek this kind of support, and it is likely to at least provide solace for them.

Establishing a Catalog of Negative Emotions for Specific User Groups

Based on the finding of differential and sometimes conflicting effects of negative emotions on HIS and ESS, I assert that, at any time, social health website design needs to assess several emotions in parallel. For example, anxiety might require less careful design, as people might consider several coping strategies, but should a person experience high fear and low anxiety, they might refrain from sites that do not provide emotional support promptly. This could become a problem in a scenario where quick information and treatment would be helpful to the user but their fear keeps them from finding it because they overly rely on ESS. In these cases, the

individual could be guided to emotional support first (e.g., to other empathetic users or encouraging comments), and in a second step specific information on treatment could be promoted visually next to these exchanges.

With regard to examples within the set of medical conditions I examined (see Table 2 and Appendix B), e.g., the case of arthritis is relatively straightforward, as anxiety is high and significantly increases HIS and ESS, while fear and shame have more moderate effects, so that arthritis patients are likely to engage in both HIS and ESS (see Table 2 and Appendix B). Similarly, in the case of Alzheimer's disease, the weak effect strength of shame on HIS is overwhelmed by the significant effect of anxiety, so that HIS is more prevalent than for other diseases (see Table 2 and Appendix B).

More problematic, for instance, is genital herpes, for which all three emotions are high. Patients might feel an inner conflict; the disease might make them want to seek support, but 'fear of rejection' from others evoked by shame can dominate and lead to isolation and lacking HIS and / or ESS. My results suggest this insofar as the emotions' effects seem to cancel each other out for ESS and anxiety's positive effect on HIS dominates (see Table 2 and Appendix B). Thus, people diagnosed with genital herpes are more likely to seek health information but other factors seem to limit ESS compared to other medical conditions. User guidance on social health sites needs to account for suchlike conflicts.

Additionally, the predictive value and effect sizes of emotions might differ across medical conditions. My results (see Appendix B), for example, suggest that the most variance in HIS can be explained through fear, anxiety, and shame in the case of bone fractures ($R^2 = .214$) and common warts ($R^2 = .162$), and that the most variance in ESS is due to these emotions for arthritis ($R^2 = .199$) and bone fractures ($R^2 = .492$). Medical conditions like these, for which

emotions play a stronger role in affecting HIS and ESS, in particular, can be subject to user group- and emotion-specific social health site design.

In sum, these results of substantial differences between medical conditions suggest that social health website designers should establish user-group specific evaluations of emotions, both in terms of identifying which emotions users are likely to experience and how strong their effects, typically, are for a given coping strategy. The appraisal and coping framework applied in this thesis implies that patients suffering from a certain disease and finding themselves at the same treatment stage are likely to feel similar emotions, as they will have a similar adaptive reaction to the same environmental stimulus. Thus, a social health website designer could rely on a catalog of user profiles that are associated with certain emotions. The more fine-grained this information about typical emotions of certain user-groups, the more should design be able to cater towards specific needs of these groups. For example, my results suggest that patients that are diagnosed with genital herpes should be provided with means for HIS and patients that have a bone fracture should receive means for both HIS and ESS, as indicated by the respective high means for HIS and ESS and fairly large explained variance (see Table 2 and Appendix B).

CHAPTER 5: LIMITATIONS

There are some limitations to this work. One of the challenges that I did not address is how to assess emotions on a social health website. As surveys might be too much of a nuisance for users, I suggest that social health website design make use of the appraisal and coping framework again: Negative emotions are interwoven with threat perception, that is, with the medical condition and its salience in the patient's mind. As I illustrated above, establishing a catalog on the typical emotions of user groups (e.g., for specific diseases or certain treatment stages) and testing if the linkage between emotions and these groups is stable is thus a valuable goal for social health website designers and future studies.

I am also aware that roughly 20 % of variance explained through fear, anxiety, and shame implies the existence of important other factors, like efficacy, that might overturn (or enhance) the effects of emotions on HIS and ESS. Future research might find it worthwhile to integrate my conceptualization of negative emotions based on coping theory into larger models.

This study also suffers from the fact that participants only imagined hypothetical situations. Future work should also test my results with patients that were actually diagnosed with a medical condition. Things might be different in a situation in which decisions about actual coping strategies have to be made, e.g., including consideration of the cost of every strategy.

Finally, I should note the persisting limitations of online surveys in general and Mechanical Turk samples in particular (e.g., no certainty about causation, professional survey takers, uncertainty about the truthfulness of answers, low attention and effort, etc.).

CHAPTER 6: CONCLUSION

Negative emotions have differentiated effects on coping strategies such as HIS and ESS. Therefore, they imply a huge potential for the design of social health websites as efficient indicators of user needs. This thesis analyzed fear, anxiety, and shame and found meaningful differences between a given emotion's effects on HIS and ESS. More research is required, for instance, on the interrelation of the examined with other negative emotions and with other predictors of HIS and ESS such as efficacy, as well as on the intertwining of (threat perceptions of) medical conditions with negative emotions. I am confident that my study was successful in making the case for negative emotions as insightful concepts, and I encourage health technology and health communication researchers and designers to consider them in their analyses.

APPENDICES

APPENDIX A

Survey Instrument

Table 5
Survey Instrument

Variable	Item	Mean	SD
HIS	I would seek information on the medical condition.	6.28	1.12
	I would intend to seek information on the medical condition soon.	6.23	1.12
	I would not plan to look for information on the medical condition. ^a	6.41	1.08
ESS	I would confide my fear or worries about the medical condition to others.	4.05	1.91
	I would be would be willing to seek understanding or reassurance from others about the medical condition.	4.56	1.88
	I would talk to others about the medical condition because talking about it would help me feel better.	4.14	1.97
	I would accept sympathy and understanding from others who also have it.	4.68	1.73
	I would not go to others for advice how to get better from the medical condition. ^a	4.68	1.99
Fear	I would be frightened because of the medical condition.	4.38	2.10
	I would be timid because of the medical condition.	3.69	1.85
	I would be afraid because of the medical condition.	4.39	2.09
	I would be scared because of the medical condition.	4.41	2.11
Anxiety	I would be calm about the medical condition. ^a	4.33	1.86
	I would be secure about the medical condition. ^a	5.08	1.65
	I would be tense about the medical condition.	5.04	1.77
	I would be regretful about the medical condition.	4.49	1.91
	I would be at ease about the medical condition. ^a	5.18	1.66
	I would be upset about the medical condition.	5.37	1.60
	I would be worrying over possible misfortunes from the medical condition.	4.96	1.83
	I would be rested about the medical condition. ^a	4.98	1.57
	I would be anxious about the medical condition.	5.07	1.72
	I would be comfortable about the medical condition. ^a	5.33	1.50
	I would be self-confident about the medical condition. ^a	4.99	1.68
	I would be nervous about the medical condition.	4.95	1.78
	I would be jittery about the medical condition.	4.41	1.82
	I would be relaxed about the medical condition. ^a	5.19	1.60

Table 5 (cont'd)			
Shame	I would feel insecure.	4.34	2.06
	I would not doubt myself. ^a	4.03	1.91
	I would feel embarrassed.	4.15	2.13
	I would feel left out.	3.39	1.85
	People would think poorly of me.	3.36	1.98
	I would feel rejected by others.	3.15	1.89
	I would feel humiliated.	3.59	2.10
ESS Efficacy (Response Efficacy) ^b	Seeking emotional support about the medical condition would be...		
	valuable (1) / worthless (7). ^a	6.41	1.99
	bad (1) / good (7).	5.39	1.39
	harmful (1) / beneficial (7).	5.38	1.43
	unhelpful (1) / helpful (7)	5.16	1.70
	unproductive (1) / productive (7)	4.86	1.78
	foolish (1) / wise (7).	5.09	1.65
ESS Efficacy (Self Efficacy)	useful (1) / not useful (7). ^a	5.03	1.78
	I would know where to get emotional support for the medical condition.	4.64	1.76
	I would not know how to find emotional support for the medical condition. ^a	4.75	1.91
	When it comes to emotional support for the medical condition, I would know how to separate people that help me from those who don't.	4.96	1.55
	Someone who could give me all the emotional support for the medical condition that I would need would be readily available to me.	4.61	1.78
	When it comes to getting emotional support for the medical condition, I would know where to go.	4.58	1.76
Problem solving	I would try to solve my problem with having the medical condition.	6.14	1.12
	I would carefully plan a course of action rather than acting on impulse about having the medical condition.	5.66	1.36
	I would brainstorm all possible solutions before deciding what to do about having the medical condition.	5.45	1.58
	I would try different ways to solve the problem I have with the medical condition, until I find one that works.	5.90	1.31
	I would set specific goals for myself to deal with having the medical condition.	5.51	1.56
Escape- avoidance	I would wish that the medical condition would go away or somehow be over with.	5.88	1.40
	I would have fantasies or wishes about how the medical condition might affect me.	3.54	1.88
	Because of the medical condition, I would try to make myself feel better by eating, drinking, smoking, using	2.63	1.80

Table 5 (cont'd)

	drugs or medication, etc.		
	Because of the medical condition, I would avoid being with people in general.	2.62	1.58
Escape-avoidance	I would refuse to believe that I have the medical condition.	2.00	1.33
	I would not take it out on other people that I have the medical condition. ^a	2.33	1.51

Note. All items measured on a 7-point Likert-type scale from “Strongly disagree” to “Strongly agree,” if not indicated otherwise. Survey adaptations and procedure: The words “the medical condition” in the items were replaced with one of these medical conditions: Alzheimer’s, arthritis, bone fracture, common warts, dandruff, and genital herpes. Participants were randomly assigned to one of the medical conditions, once they clicked on the survey link. Every question was introduced with “Imagine you have just found out that you have the medical condition.” Emotional support was explained to participants as love, care, reassurance, and understanding. HIS = health information seeking, ESS = emotional support seeking.

^a Reversed item. ^b 7-point Likert-type scale from ‘Attribute (1)’ to ‘Attribute (7)’.

APPENDIX B

Regression Results for HIS and ESS Organized By Medical Conditions

Table 6

Regression Results for HIS and ESS Organized by Medical Conditions

<u>HIS / Total</u> ($R^2=.218$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>	<u>ESS / Total</u> ($R^2=.207$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>
HIS <-- Fear	.107	.134	ESS <-- Fear	.285	.000***
HIS <-- Anxiety	.432	.000***	ESS <-- Anxiety	.294	.000***
HIS <-- Shame	-.104	.037*	ESS <-- Shame	-.460	.000***
<u>HIS / Alzheimer's</u> ($R^2=.145$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>	<u>ESS / Alzheimer's</u> ($R^2=.045$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>
HIS <-- Fear	.107	.423	ESS <-- Fear	.024	.866
HIS <-- Anxiety	.361	.009**	ESS <-- Anxiety	.182	.208
HIS <-- Shame	-.222	.059	ESS <-- Shame	.028	.819
<u>HIS / Arthritis</u> ($R^2=.092$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>	<u>ESS / Arthritis</u> ($R^2=.199$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>
HIS <-- Fear	-.198	.228	ESS <-- Fear	-.072	.638
HIS <-- Anxiety	.436	.009**	ESS <-- Anxiety	.558	.000***
HIS <-- Shame	-.196	.117	ESS <-- Shame	-.280	.018*
<u>HIS / Bone fracture</u> ($R^2=.214$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>	<u>ESS / Bone</u> <u>fracture</u> ($R^2=.492$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>
HIS <-- Fear	.405	.006**	ESS <-- Fear	.588	.000***
HIS <-- Anxiety	.136	.389	ESS <-- Anxiety	.152	.231
HIS <-- Shame	-.153	.193	ESS <-- Shame	-.011	.904
<u>HIS / Common</u> <u>warts</u> ($R^2=.162$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>	<u>ESS / Common</u> <u>warts</u> ($R^2=.052$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>
HIS <-- Fear	.013	.943	ESS <-- Fear	.089	.649
HIS <-- Anxiety	.460	.031*	ESS <-- Anxiety	.229	.307
HIS <-- Shame	-.085	.649	ESS <-- Shame	-.102	.608
<u>HIS / Dandruff</u> ($R^2=.147$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>	<u>ESS / Dandruff</u> ($R^2=.047$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>
HIS <-- Fear	-.072	.641	ESS <-- Fear	.191	.241

Table 6 (cont'd)

HIS <-- Anxiety	.411	.026*	ESS <-- Anxiety	.059	.756
HIS <-- Shame	.026	.865	ESS <-- Shame	-.036	.822
<u>HIS / Genital herpes</u> ($R^2=.126$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>	<u>ESS / Genital</u> <u>herpes</u> ($R^2=.032$)	<u>Standardized</u> <u>Beta</u> <u>Coefficients</u>	<u>p-value</u>
HIS <-- Fear	-.081	.586	ESS <-- Fear	.121	.440
HIS <-- Anxiety	.451	.008**	ESS <-- Anxiety	-.110	.530
HIS <-- Shame	-.064	.707	ESS <-- Shame	-.156	.383

Note. HIS = health information seeking, ESS = emotional support seeking.

* $p < .05$. ** $p < .01$. *** $p < .001$.

APPENDIX C

Structural Equation Model for Fear, Anxiety, and Shame with Direct Paths to HIS, ESS, Problem solving, and Escape-Avoidance

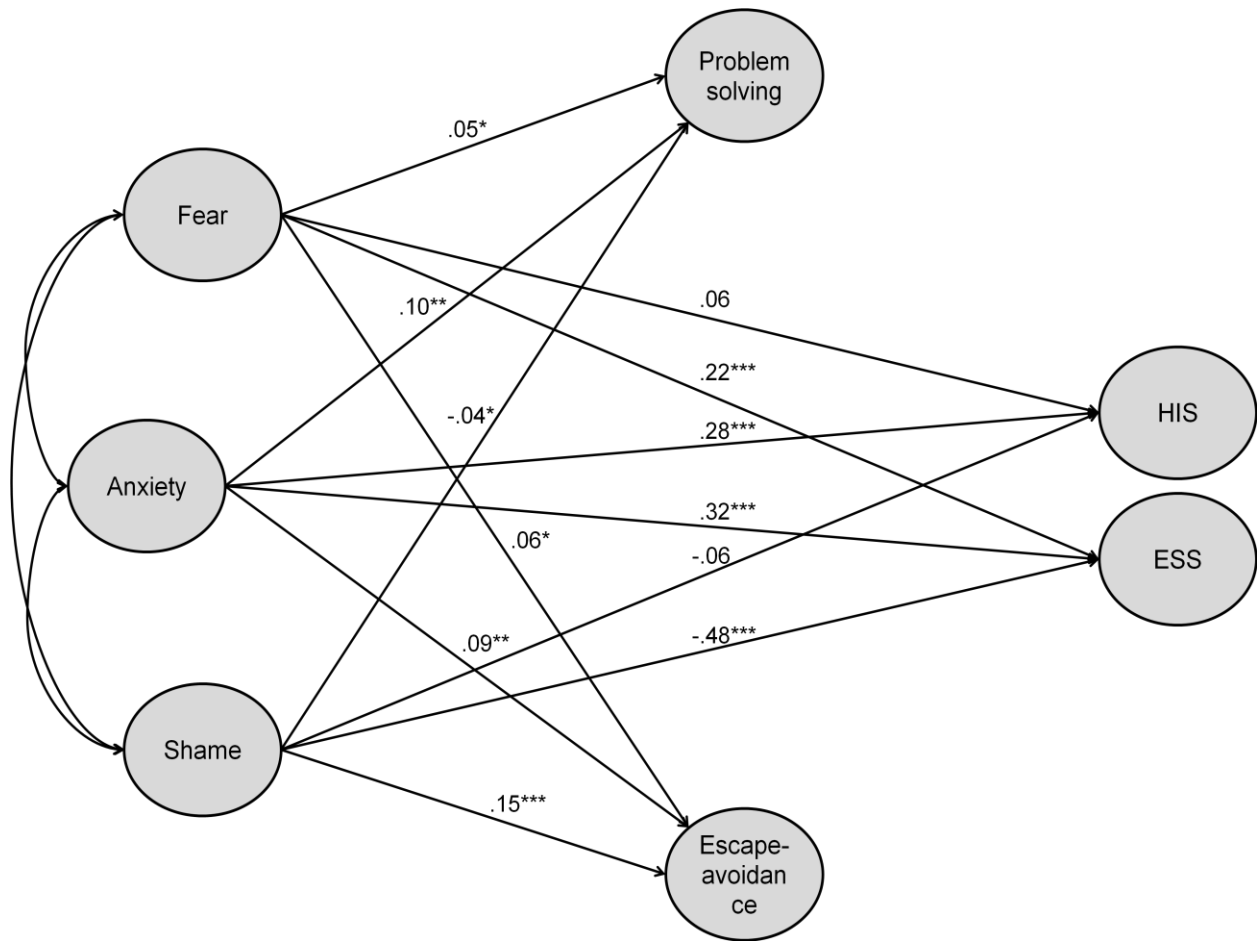


Figure 2. Structural equation model for fear, anxiety, and shame with direct paths to HIS, ESS, problem solving, and escape-avoidance (regression weights): $N = 518$; RMSEA = .068, CI 90 % [.066, .071], p -close = .000; CFI = .891; NFI = .853. * $p < .05$. ** $p < .01$. *** $p < .001$. HIS = health information seeking, ESS = emotional support seeking.

BIBLIOGRAPHY

BIBLIOGRAPHY

- Afifi, W. A. (2009). Uncertainty and information management in interpersonal contexts. In S. W. Smith & S. R. Wilson (Eds.), *New directions in interpersonal communication* (pp. 94-114). Thousand Oaks, CA: Sage Publications.
- Afifi, W. A., & Morse, C. R. (2009). Expanding the role of emotion in the Theory of Motivated Information Management. In T. D. Afifi & W. A. Afifi (Eds.), *Uncertainty, information management, and disclosure decisions: Theories and applications* (pp. 87-105). New York: Routledge.
- Afifi, W. A., & Weiner, J. L. (2004). Toward a Theory of Motivated Information Management. *Communication Theory*, 14(2), 167-190.
- Afifi, W. A., & Weiner, J. L. (2006). Seeking Information About Sexual Health: Applying the Theory of Motivated Information Management. *Human Communication Research*, 32(1), 35-57.
- Amirkhan, J. H. (1990). A Factor Analytically Derived Measure of Coping: The Coping Strategy Indicator. *Journal of Personality and Social Psychology*, 59(5), 1066-1074. doi:10.1037/0022-3514.59.5.1066
- Baker, L. M., & Connor, J. J. (1994). Physician-Patient Communication from the Perspective of Library and Information Science. *Bulletin Medical Library Association*, 82(1), 36-42.
- Barak, A., Boniel-Nissim, M., & Suler, J. (2008). Fostering Empowerment in Online Support Groups. *Computers in Human Behavior*, 24(5), 1867-1883. doi:10.1016/j.chb.2008.02.004
- Barbee, A. P., Rowatt, T. L., & Cunningham, M. R. (1998). When a friend is in need: Feelings about seeking, giving, and receiving social support. In P. A. Andersen & L. K. Guerrero (Eds.), *Handbook of communication and emotion: Research, theory, applications, and contexts*. (pp. 281-301). San Diego, CA: Academic Press.
- Barsevick, A. M., & Johnson, J. E. (1990). Preference for information and involvement, information seeking and emotional responses of women undergoing colposcopy. *Research in Nursing & Health*, 13(1), 1-7. doi:10.1002/nur.4770130103
- Bernhardt, J. M., & Felter, E. M. (2004). Online Pediatric Information Seeking Among Mothers of Young Children: Results From a Qualitative Study Using Focus Groups. *Journal of Medical Internet Research*, 6(10), e7.
- Borgers, R., Mullen, P. D., Meertens, R., Rijken, M., Eussen, G., Plagge, I., Visser, A. P., et al. (1993). The Information-Seeking Behavior of Cancer Outpatients: A Description of the

- Situation. *Patient Education and Counseling*, 22(1), 35-46. doi:10.1016/0738-3991(93)90087-D
- Brashers, D. E., Goldsmith, D. J., & Hsieh, E. (2002). Information Seeking and Avoiding in Health Contexts. *Human Communication Research*, 28(2), 258-271.
- Broadstock, M., & Borland, R. (1998). Using information for emotion-focused coping: Cancer patients' use of a cancer helpline. *British Journal of Health Psychology*, 3(Part 4), 319-332. United Kingdom: British Psychological Society.
- Brownstein, C. A., Brownstein, J. S., Williams, D. S., Wicks, P., & Heywood, J. A. (2009). The Power of Social Networking in Medicine. *Nature Biotechnology*, 27(10), 888-890. doi:10.1038/nbt1009-888
- Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A New Source of Inexpensive, Yet High-Quality, Data? *Perspectives on Psychological Science*, 6(1), 3-5. doi:10.1177/1745691610393980
- Burleson, B. R. (2003). Emotional support skills. In B. R. Burleson & J. O. Greene (Eds.), *Handbook of communication and social interaction skills*. (pp. 551-594). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing Coping Strategies: A Theoretically Based Approach. *Journal of Personality and Social Psychology*, 56(2), 267-283. doi:10.1037/0022-3514.56.2.267
- Cline, R. J. W., & Haynes, K. M. (2001). Consumer Health Information Seeking on the Internet: The State of the Art. *Health Education Research*, 16(6), 671-692. doi:10.1093/her/16.6.671
- Clore, G. L., & Ortony, A. (2008). Appraisal theories: How cognition shapes affect into emotion. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 628-642). New York, NY: Guilford Press.
- Collins, N. L., & Feeney, B. C. (2000). A Safe Haven: An Attachment Theory Perspective on Support Seeking and Caregiving in Intimate Relationships. *Journal of Personality and Social Psychology*, 78(6), 1053-1073. doi:10.1037/0022-3514.78.6.1053
- Collins, N. L., & Feeney, B. C. (2004). Working Models of Attachment Shape Perceptions of Social Support: Evidence From Experimental and Observational Studies. *Journal of Personality and Social Psychology*, 87(3), 363-383.
- Conley, V. M. (1998). Beyond Knowledge Deficit to a Proposal for Information-Seeking Behaviors. *International Journal of Nursing Terminologies and Classifications*, 9(4), 129-135. doi:10.1111/j.1744-618X.1998.tb00182.x

- Conradt, M., Dierk, J.-M., Schlumberger, P., Rauh, E., Hebebrand, J., & Rief, W. (2008). Who Copes Well? Obesity-Related Coping and Its Associations with Shame, Guilt, and Weight Loss. *Journal of Clinical Psychology*, 64(10), 1129-1144. doi:10.1002/jclp.20501
- Coursaris, C. K., & Liu, M. (2009). An Analysis of Social Support Exchanges in Online HIV/AIDS Self-Help Groups. *Computers in Human Behavior*, 25(4), 911-918. doi:10.1016/j.chb.2009.03.006
- Coyne, J. C., & Downey, G. (1991). Social Factors and Psychopathology: Stress, Social Support, and Coping Processes. *Annual Review of Psychology*, 42(1), 401.
- Cramer, K. M. (1999). Psychological Antecedents to Help-Seeking Behavior: A Reanalysis Using Path Modeling Structures. *Journal of Counseling Psychology*, 46(3), 381-387. doi:10.1037/0022-0167.46.3.381
- Dearing, R., Stuewig, J., & Tangney, J. (2005). On the Importance of Distinguishing Shame from Guilt: Relations to Problematic Alcohol and Drug Use. *Addictive Behaviors*, 30(7), 1392-1404. doi:10.1016/j.addbeh.2005.02.002
- DeLongis, A., & Holtzman, S. (2005). Coping in Context: The Role of Stress, Social Support, and Personality in Coping. *Journal of Personality*, 73(6), 1633-1656.
- Diefenbach, M. A., Miller, S. M., Porter, M., Peters, E., Stefanek, M., & Leventhal, H. (2008). Emotions and health behavior: A self-regulation perspective. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of emotions* (3rd ed., pp. 645-660). New York, NY: Guilford Press.
- Dunkel-Schetter, C., Feinstein, L. G., Taylor, S. E., & Falke, R. L. (1992). Patterns of Coping with Cancer. *Health Psychology*, 11(2), 79-87. doi:10.1037/0278-6133.11.2.79
- Elison, J., Lennon, R., & Pulos, S. (2006). Investigating the Compass of Shame: The Development of the Compass of Shame Scale. *Social Behavior and Personality: an international journal*, 34(3), 221-238. doi:10.2224/sbp.2006.34.3.221
- Elison, J., Pulos, S., & Lennon, R. (2006). Shame-Focused Coping: An Empirical Study of the Compass of Shame. *Social Behavior and Personality: an international journal*, 34(2), 161-168. doi:10.2224/sbp.2006.34.2.161
- Eysenbach, G., & Köhler, C. (2002). How Do Consumers Search for and Appraise Health Information on the World Wide Web? Qualitative Study Using Focus Groups, Usability Tests, and In-Depth Interviews. *BMJ*, 324(7337), 573-577. doi:10.1136/bmj.324.7337.573
- Folkman, S., & Lazarus, R. S. (1980). An Analysis of Coping in a Middle-Aged Community Sample. *Journal of Health and Social Behavior*, 21(3), 219-239.

- Folkman, S., Lazarus, R. S., Dunkel-Schetter, C., DeLongis, A., & Gruen, R. J. (1986). Dynamics of a Stressful Encounter: Cognitive Appraisal, Coping, and Encounter Outcomes. *Journal of Personality and Social Psychology*, 50, 992-1003. doi:10.1037/0022-3514.50.5.992
- Fowler, C., & Afifi, W. A. (2011). Applying the Theory of Motivated Information Management to Adult Children's Discussions of Caregiving with Aging Parents. *Journal of Social and Personal Relationships*, 28(4), 507-535. doi:10.1177/0265407510384896
- Fox, S. (2011a). *Health topics*. Pew Research Center. Retrieved October 25, 2011, from <http://pewinternet.org/Reports/2011/HealthTopics.aspx>
- Fox, S. (2011b). *Peer-to-peer healthcare*. Pew Research Center. Retrieved October 25, 2011, from <http://pewinternet.org/Reports/2011/P2PHealthcare.aspx>
- Frijda, N. H. (1986). *The emotions*. New York, NY: Cambridge University Press; Editions de la Maison des Sciences de l'Homme.
- Frost, J. H., & Massagli, M. P. (2008). Social Uses of Personal Health Information Within PatientsLikeMe, an Online Patient Community: What Can Happen When Patients Have Access to One Another's Data. *Journal of Medical Internet Research*, 10(3), e15. doi:10.2196/jmir.1053
- Goldsmith, D. J. (2004). *Communicating social support*. New York: Cambridge.
- Gray, E. K., & Watson, D. (2007). Assessing positive and negative affect via self-report. In J. A. Coan & J. J. B. Allen (Eds.), *Handbook of emotion elicitation and assessment* (pp. 171-183). New York, NY: Oxford University Press.
- Greene, J., Choudhry, N., Kilabuk, E., & Shrank, W. (2010). Online Social Networking by Patients with Diabetes: A Qualitative Evaluation of Communication with Facebook. *Journal of General Internal Medicine*, 26(3), 287-292. Springer New York. doi:10.1007/s11606-010-1526-3
- Greenglass, E., Schwarzer, R., Jakubiec, D., Fiksenbaum, L., & Taubert, S. (1999). The Proactive Coping Inventory. *International Conference of the Stress and Anxiety Research Society (STAR)*. Cracow, Poland.
- Griffin, R. J., Dunwoody, S., & Neuwirth, K. (1999). Proposed Model of the Relationship of Risk Information Seeking and Processing to the Development of Preventive Behaviors. *Environmental Research*, 80(2), S230--S245. doi:10.1006/enrs.1998.3940
- Haley, W. E., Levine, E. G., Brown, S. L., & Bartolucci, A. A. (1987). Stress, Appraisal, Coping, and Social Support as Predictors of Adaptational Outcome Among Dementia Caregivers. *Psychology and Aging*, 2(4), 323-330. doi:10.1037/0882-7974.2.4.323

- Han, J. Y., Shah, D. V., Kim, E., Namkoong, K., Lee, S.-Y., Moon, T. J., Cleland, R., et al. (2011). Empathic Exchanges in Online Cancer Support Groups: Distinguishing Message Expression and Reception Effects. *Health Communication*, 26(2), 185-197. doi:10.1080/10410236.2010.544283
- Herrald, M. M., & Tomaka, J. (2002). Patterns of Emotion-Specific Appraisal, Coping, and Cardiovascular Reactivity during an Ongoing Emotional Episode. *Journal of Personality and Social Psychology*, 83(2), 434-450. doi:10.1037/0022-3514.83.2.434
- Hu, Y., & Sundar, S. S. (2010). Effects of Online Health Sources on Credibility and Behavioral Intentions. *Communication Research*, 37(1), 105-132.
- Huang, J. L., Curran, P. G., Keeney, J., Poposki, E. M., & DeShon, R. P. (in press). Detecting and Deterring Insufficient Effort Responding to Surveys. *Journal of Business and Psychology*. doi:10.1007/s10869-011-9231-8
- Johnson, J. (1997). *Cancer-related information seeking*. Cresskill, NJ: Hampton Press.
- Johnson, J. D., & Meischke, H. (1993). A Comprehensive Model of Cancer-Related Information Seeking Applied to Magazines. *Human Communication Research*, 19(3), 343-367.
- Johnson, J., Gooding, P. A., Wood, A. M., Taylor, P. J., & Tarrier, N. (2011). Trait Reappraisal Amplifies Subjective Defeat, Sadness, and Negative Affect in Response to Failure Versus Success in Nonclinical and Psychosis Populations. *Journal of Abnormal Psychology*, 120(4), 922-934. doi:10.1037/a0023737
- Kahlor, L. (2010). PRISM: A Planned Risk Information Seeking Model. *Health Communication*, 25(4), 345-356.
- Kahlor, L. A. (2007). An Augmented Risk Information Seeking Model: The Case of Global Warming. *Media Psychology*, 10(3), 414-435.
- Kenny, D. A. (2011). Measuring model fit. Retrieved October 25, 2011, from <http://www.davidakenny.net/cm/fit.htm>
- Kim, S., Oh, S., & Oh, J. S. (2008). Evaluating Health Answers in a Social Q&A Site. *Proceedings of the American Society for Information Science and Technology*, 45(1), 1-6. Wiley Subscription Services. doi:10.1002/meet.2008.14504503134
- Kittikorn, N., Street, A. F., & Blackford, J. (2006). Managing Shame and Stigma: Case Studies of Female Carers of People with AIDS in Southern Thailand. *Qualitative Health Research*, 16(9), 1286-1301. doi:10.1177/1049732306293992
- Kummervold, P. E., Gammon, D., Bergvik, S., Johnsen, J. K., Hasvold, T., & Rosenvinge, J. H. (2002). Social Support in a Wired World: Use of Online Mental Health Forums in Norway. *Nordic Journal of Psychiatry*, 56(1), 59-65.

- Lambert, S. D., & Loiselle, C. G. (2007). Health Information-Seeking Behavior. *Qualitative Health Research*, 17(8), 1006-1019.
- Lazarus, R. S. (2006). Emotions and Interpersonal Relationships: Toward a Person-Centered Conceptualization of Emotions and Coping. *Journal of Personality*, 74(1), 9-46. doi:10.1111/j.1467-6494.2005.00368.x
- Lazarus, R. S., & Folkman, S. (1984). *Stress, appraisal, and coping*. New York, NY: Springer.
- Lerner, J. S., & Keltner, D. (2000). Beyond Valence: Toward a Model of Emotion-Specific Influences on Judgement and Choice. *Cognition & Emotion*, 14(4), 473-493.
- Lerner, J. S., & Keltner, D. (2001). Fear, Anger, and Risk. *Journal of Personality and Social Psychology*, 81(1), 146-159. doi:10.1037/0022-3514.81.1.146
- Leserman, J., Perkins, D. O., & Evans, D. L. (1992). Coping with the Threat of AIDS: The Role of Social Support. *The American Journal of Psychiatry*, 149(11), 1514-1520.
- Li, M.-hui. (2008). Helping College Students Cope: Identifying Predictors of Active Coping in Different Stressful Situations. *Journal of Psychiatry, Psychology and Mental Health*, 2(1), 1-15.
- Martens, W. (2005). A Multicomponential Model of Shame. *Journal for the Theory of Social Behaviour*, 35(4), 399-411. doi:10.1111/j.1468-5914.2005.00283.x
- Mayne, T. (1999). Negative Affect and Health: The Importance of Being Earnest. *Cognition & Emotion*, 13(5), 601-635. doi:10.1080/026999399379203
- Mickelson, K. D. (1997). Seeking Social Support: Parents in Electronic Support Groups. In S. Kiesler (Ed.), *Culture of the Internet* (pp. 157-178). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Miller, S. M. (1979). Coping with Impending Stress: Psychophysiological and Cognitive Correlates of Choice. *Psychophysiology*, 16(6), 572-581. doi:10.1111/j.1469-8986.1979.tb01523.x
- Miller, S. M., Diefenbach, M. A., Krantz, D. S., & Baum, A. (1998). The Cognitive-Social Health Information-Processing (C-SHIP) model: A theoretical framework for research in behavioral oncology. In D. S. Krantz & A. Baum (Eds.), *Technology and methods in behavioral medicine*. (pp. 219-244). Mahwah, NJ: Lawrence Erlbaum Associates Publishers.
- Mortenson, S. T. (2006). Cultural Differences and Similarities in Seeking Social Support as a Response to Academic Failure: A Comparison of American and Chinese College Students. *Communication Education*, 55(2), 127-146. doi:10.1080/03634520600565811

- Nabi, R. L. (1999). A Cognitive-Functional Model for the Effects of Discrete Negative Emotions on Information Processing, Attitude Change, and Recall. *Communication Theory*, 9(3), 292-320.
- Nabi, R. L. (2003). Exploring the Framing Effects of Emotion: Do Discrete Emotions Differentially Influence Information Accessibility, Information Seeking, and Policy Preference? *Communication Research*, 30(2), 224-247. doi:10.1177/0093650202250881
- Öhman, A. (2008). Fear and anxiety: Overlaps and dissociations. In M. Lewis, J. M. Haviland-Jones, & L. F. Barrett (Eds.), *Handbook of Emotions* (3rd ed., pp. 709-729). New York, NY: Guilford Press.
- Ortony, A., Clore, G. L., & Collins, A. (1988). *The cognitive structure of emotions*. New York, NY: Cambridge University Press.
- Pauls, C. A., & Stemmler, G. (2003). Repressive and Defensive Coping During Fear and Anger. *Emotion*, 3(3), 284-302. doi:10.1037/1528-3542.3.3.284
- Pew Internet & American Life Project (2011). Trend data. Retrieved October 26, 2011, from <http://pewinternet.org/Static-Pages/Trend-Data/Usage-Over-Time.aspx>
- Rains, S. A., & Young, V. (2009). A Meta-Analysis of Research on Formal Computer-Mediated Support Groups: Examining Group Characteristics and Health Outcomes. *Human Communication Research*, 35(3), 309-336. doi:10.1111/j.1468-2958.2009.01353.x
- Rees, C. E., & Bath, P. A. (2000). The Psychometric Properties of the Miller Behavioural Style Scale with Adult Daughters of Women with Early Breast Cancer: A Literature Review and Empirical Study. *Journal of Advanced Nursing*, 32(2), 366-374. doi:10.1046/j.1365-2648.2000.01485.x
- Rees, C. E., & Bath, P. A. (2001). Information-Seeking Behaviors of Women with Breast Cancer. *Oncology Nursing Forum*, 28(5), 899-907.
- Reid, R. C., Harper, J. M., & Anderson, E. H. (2009). Coping Strategies Used by Hypersexual Patients to Defend Against the Painful Effects of Shame. *Clinical Psychology & Psychotherapy*, 16(2), 125-138. doi:10.1002/cpp.609
- Roth, S., & Cohen, L. J. (1986). Approach, Avoidance, and Coping with Stress. *American Psychologist*, 41(7), 813-819. doi:10.1037/0003-066X.41.7.813
- Rudnick, A., & Kravetz, S. (2001). The Relation of Social Support-Seeking to Quality of Life in Schizophrenia. *The Journal of Nervous and Mental Disease*, 189(4), 258-262.
- Ruiter, R. A. C., Abraham, C., & Kok, G. (2001). Scary Warnings and Rational Precautions: A Review of the Psychology of Fear Appeals. *Psychology & Health*, 16(6), 613-630.

- Rüsch, N., Corrigan, P. W., Powell, K., Rajah, A., Olschewski, M., Wilkniss, S., & Batia, K. (2009). A Stress-Coping Model of Mental Illness Stigma: II. Emotional Stress Responses, Coping Behavior and Outcome. *Schizophrenia Research*, 110(1-3), 65-71. doi:10.1016/j.schres.2009.01.005
- Saarni, C. (1997). Coping with Aversive Feelings. *Motivation and Emotion*, 21(1), 45-63. Springer Netherlands. doi:10.1023/A:1024474314409
- Schwarzer, R., & Leppin, A. (1991). Social Support and Health: A Theoretical and Empirical Overview. *Journal of Social and Personal Relationships*, 8(1), 99-127.
- Sideridis, G. D. (2006). Coping Is Not an “Either” “Or”: The Interaction of Coping Strategies in Regulating Affect, Arousal and Performance. *Stress and Health*, 22(5), 315-327. doi:10.1002/smi.1114
- Silfver, M. (2007). Coping with Guilt and Shame: A Narrative Approach. *Journal of Moral Education*, 36(2), 169-183. doi:10.1080/03057240701325274
- Sime, A. M. (1976). Relationship of Preoperative Fear, Type of Coping, and Information Received about Surgery to Recovery from Surgery. *Journal of Personality and Social Psychology*, 34(4), 716-724. doi:10.1037/0022-3514.34.4.716
- Simpson, J. A., Rholes, W. S., & Nelligan, J. S. (1992). Support Seeking and Support Giving within Couples in an Anxiety-Provoking Situation: The Role of Attachment Styles. *Journal of Personality and Social Psychology*, 62(3), 434-446. doi:10.1037/0022-3514.62.3.434
- Simpson, J. A., Rholes, W. S., Oriña, M. M., & Grich, J. (2002). Working Models of Attachment, Support Giving, and Support Seeking in a Stressful Situation. *Personality and Social Psychology Bulletin*, 28(5), 598-608.
- Slovic, P., Peters, E., Finucane, M. L., & MacGregor, D. G. (2005). Affect, Risk, and Decision Making. *Health Psychology*, 24(4, Suppl), S35-S40. doi:10.1037/0278-6133.24.4.S35
- Smith, C. A., & Ellsworth, P. C. (1985). Patterns of Cognitive Appraisal in Emotion. *Journal of Personality and Social Psychology*, 48(4), 813-838. doi:10.1037/0022-3514.48.4.813
- Smith, C. A., & Lazarus, R. S. (1990). Emotion and adaptation. In L. A. Pervin (Ed.), *Handbook of personality: Theory and research* (pp. 609-637). New York, NY: Guilford Press.
- Smith, C. A., & Lazarus, R. S. (1993). Appraisal Components, Core Relational Themes, and the Emotions. *Cognition & Emotion*, 7(3), 233-269. doi:10.1080/02699939308409189
- Spielberger, C. D., Gorsuch, R. L., Lushene, R. E., Vagg, P. R., & Jacobs, G. A. (1983). *Manual for the state-trait anxiety inventory*. Palo Alto, CA: Consulting Psychologists Press.

- Sylvers, P., Lilienfeld, S. O., & LaPrairie, J. L. (2011). Differences between Trait Fear and Trait Anxiety: Implications for Psychopathology. *Clinical Psychology Review*, 31(1), 122-137. doi:10.1016/j.cpr.2010.08.004
- Tangney, J. P., Stuewig, J., & Mashek, D. J. (2007). Moral Emotions and Moral Behavior. *Annual Review of Psychology*, 58(1), 345-372. doi:10.1146/annurev.psych.56.091103.070145
- Thomas, S., Karunaratne, A., Lennon, R., Lewis, S., Castle, D., Knoesen, N., Honigman, R., et al. (2010). "Just Bloody Fat!": A Qualitative Study of Body Image, Self-Esteem and Coping in Obese Adults. *The International Journal of Mental Health Promotion*, 12(1), 39-49.
- Turner, M. M., Rimal, R. N., Morrison, D., & Kim, H. (2006). The Role of Anxiety in Seeking and Retaining Risk Information: Testing the Risk Perception Attitude Framework in Two Studies. *Human Communication Research*, 32(2), 130-156.
- van der Molen, B. (1999). Relating Information Needs to the Cancer Experience: 1. Information as a Key Coping Strategy. *European Journal of Cancer Care*, 8(4), 238-244.
- van Uden-Kraan, C. F., Drossaert, C. H. C., Taal, E., Seydel, E. R., & van de Laar, M. A. F. J. (2009). Participation in Online Patient Support Groups Endorses Patients' Empowerment. *Patient Education and Counseling*, 74(1), 61-69. doi:10.1016/j.pec.2008.07.044
- Verbeke, W., & Bagozzi, R. P. (2002). A Situational Analysis on How Salespeople Experience and Cope With Shame and Embarrassment. *Psychology and Marketing*, 19(9), 713-741. doi:10.1002/mar.10032
- Wang, Y.-C., Kraut, R., & Levine, J. M. (2012). To Stay or Leave? The Relationship of Emotional and Informational Support to Commitment in Online Health Support Groups. *CSCW 2012, February 11–15, 2012, Seattle, Washington*. (pp. 1-10). Seattle, WA: ACM.
- Watson, D., & Clark, L. A. (1994). The PANAS-X: manual for the positive and negative affect schedule - Expanded form. Iowa Research Online. Retrieved from <http://www.psychology.uiowa.edu/faculty/Clark/PANAS-X.pdf>
- Watson, D., & Clark, L. A. (1997). Measurement and Mismeasurement of Mood: Recurrent and Emergent issues. *Journal of Personality Assessment*, 68(2), 267-296.
- Watson, D., Clark, Lee A, & Tellegen, A. (1988). Development and Validation of Brief Measures of Positive and Negative Affect: The PANAS Scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070. doi:10.1037/0022-3514.54.6.1063
- Westen, D. (1994). Toward an Integrative Model of Affect Regulation: Applications to Social-Psychological Research. *Journal of Personality*, 62(4), 641-667. doi:10.1111/j.1467-6494.1994.tb00312.x

- Wicks, P., Massagli, M., Frost, J., Brownstein, C., Okun, S., Vaughan, T., Bradley, R., et al. (2010). Sharing Health Data for Better Outcomes on PatientsLikeMe. *Journal of Medical Internet Research*, 12(2), e19. doi:10.2196/jmir.1549
- Williams, P., Nicholas, D., Huntington, P., & McClean, F. (2002). Surfing for Health: User Evaluation of a Health Information Web Site Part 2: Fieldwork. *Health Information and Libraries Journal*, 19(4), 214-225.
- Williams, S. L., & Mickelson, K. D. (2008). A Paradox of Support Seeking and Rejection Among the Stigmatized. *Personal Relationships*, 15(4), 493-509. doi:10.1111/j.1475-6811.2008.00212.x
- Witte, K. (1992). Putting the Fear Back into Fear Appeals: The Extended Parallel Process Model. *Communication Monographs*, 59(4), 329-349. doi:10.1080/03637759209376276
- Witte, K. (1994). Fear Control and Danger Control: A Test of the Extended Parallel Process Model (EPPM). *Communication Monographs*, 61(2), 113-134. doi:10.1080/03637759409376328
- Yeh, S.-C. J., & Chou, H.-C. (2007). Coping Strategies and Stressors in Patients With Hemodialysis. *Psychosomatic Medicine*, 69(2), 182-190. doi:10.1097/PSY.0b013e318031cdcc
- Yelsma, P., Brown, N. M., & Elison, J. (2002). Shame-Focused Coping Styles And Their Associations With Self-Esteem. *Psychological Reports*, 90(4), 1179. doi:10.2466/PRO.90.4.1179-1189