Caring about care : investigating the effects of different communication styles in medical and educational credence services

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Cover design: Kai Pielhop

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PROEFSCHRIFT

ter verkrijging van de graad van doctor aan de Universiteit Maastricht,
op gezag van de Rector Magnificus, Prof. Mr. G.P.M.F. Mols
volgens het besluit van het College van Decanen,
in het openbaar te verdedigen
op woensdag 21 december 2011 om 10.00 uur

door

Raziye Iraz Kilic

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Özlemler için

ACKNOWLEDGEMENTS

Being here and holding the printed and published version of this dissertation feels like a sweet dream. Even though writing this dissertation was a long and winding road with several emotional loops, it enriched me in several ways: not only did it enhance my academic knowledge and skills but it also provided me with various valuable experiences that contributed to my personal growth. But this great achievement would never have become reality without the support of several individuals whom I would like to thank:

Dear Gaby, my DOKTORMUTTER, you are by far the most impressive person whom I have ever met. Your never ending energy, enthusiasm, creativity, and support is just overwhelming. Our relationship began with a very spontaneous phone call in summer 2007, while I was still writing my master thesis in Aachen. Already on the phone the chemistry between us was right. Two days later we met in person for a job interview. Shortly after, the contract was settled. And of course you were right when you warned me during the job interview that I will need lots of perseverance during my PhD and that this journey will be an emotional roller coaster. But with you on my side, this journey was a pleasure. All our meetings and all your comments were extremely constructive and motivating for me. I sincerely and deeply want to express my gratitude for your trust in me, for your endless support and for your supervision. Dank je wel (with one “l”).

Furthermore, I would also like to express my thanks to my second promoter Hetty van Emmerik. Hetty, we unfortunately only met in my third year, but the research progress and collaboration was, therefore, much more intense. I highly appreciated your pragmatic and very responsive approach during the data collection period. I was extremely happy to have your guidance. Also afterwards you increased the quality of our papers with your very patient and critical comments. Moreover, I thank you for broadening my knowledge about different methodologies and analyses.

Herewith, I also want to thank the graduation committee Prof. Dr. Jos Lemmink, Prof. Dr. Rob de Bie, and Prof. Dr. Wim Gijselaers for their

willingness to evaluate this dissertation and their valuable comments which helped me to refine this manuscript.

Special thanks go to my co-author Bert Schreurs. I had the great opportunity to collaborate with you and learn from you. Your in depth and sound knowledge about different analytical techniques enabled me to augment the quality of my study. I also would like to express my pleasure about the cooperation that I had with Rob Ruiter and Saar Mollen from the department of work and social psychology of our university. It was my honor to have the in-depth and hours lasting discussions with you.

Roomies, homies, buddies: Niek, Anne, Katja, and Mirjam. I was always looking forward to meeting you guys on Monday morning. Our office did not only feel like a working place for me, but also a nice place to meet great people and get inspired by them. Even though I was again searching for literature or writing the 42nd version of an introduction, having you around made these tasks more enjoyable. You were the source of energy for me. I sincerely want to thank each single one of you for your tremendous – technical and emotional – support. No matter what type of challenge I faced; I could always count on you guys. MUCHAS GRACIAS.

Moreover, I would like to thank my colleagues from the Marketing and Supply Chain Management and Service Science Factory – particularly Anja, Miriam, Linda, Karol, Robert and Alex – for creating such a supportive and inspiring working environment. Thanks for all the talks, feedbacks and coffee breaks.

Also thank you Femke and Roel for giving me the great opportunity to collect my data. Thanks to Mona, Hans, Jan and in particular to Ann-Kristin for sharing interesting conversations in the car while commuting between Aachen and Maastricht. Furthermore, I would like to thank AIA – PhDs from RWTH Aachen for providing a nice atmosphere and a “second” office.

A big thank you also goes to Prof. Dr. Pfann and Prof. Dr. Palm for their time, endeavors, support and trust in the continuation of my PhD. Without the support of you I could not have finished my PhD at the School of Business and Economics. MILLE GRAZIE.

“Friendship doubles your joy, and divides your sorrows”. In addition to the great friendships that I discovered in my working environment, I also enjoyed having some in-depth friendships in my private life. Herewith, I’d like to thank Judith & Christoph, Alex & Julia, Alex & Silvia, Andrea & Sebastian, Simone, Ursula, Jessica, Ute, Heinz & Brigitte. Thank you for being there and cheering me up.

I also want to thank my parents and family. Above all, a special thank you goes to my brother Firat Kilic and my mother Zekiye Kilic. Mom, thank you for raising me, thank you for always emphasizing the importance of education and independence, thank you for always trusting in me and protecting me, thank you for enabling me to live the life that I have right now. Considering that you were raised in a completely different environment, I appreciate your endless support even more.

My last sentences of this preface I’d like to dedicate to my king: Kaim you are the source of my life. You are not just a fiancé for me. No, you are my best friend. Joy, snugness, blind trust, feeling of security, infinitive honesty, respect and fairness provide the basis for our great relationship. I consider myself the luckiest woman on earth since I have you on my side.

Iraz Kilic

December 2011

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CHAPTER 1

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Introduction

Research Background

How does the communication style of service providers, e.g., doctors or teachers, influence desired attitudes and behaviors of the service recipients, e.g., respectively patients or students? Which kind of information do service recipients use in order to form consequent attitudes and behaviors? What about the role of individuals' personality traits (e.g. shyness) in these processes? Last but not least, what is the impact of time? How do desired behaviors of service recipients change over time and which role does the communication styles, personality traits (e.g. shyness), and feelings play? The series of studies of this dissertation provide some tentative and some more definite answers to these very interesting and socially and economically relevant questions.

The focus of this dissertation is on high credence services which require high involvement of the service recipient. High credence services are characterized as services that customers might not be able to evaluate even after the service is performed due to customers' lack of knowledge and education (Berry & Bendapudi, 2007; Darby & Karni, 1973; Mattila & Wirtz, 2002; Shemwell, Yavas, & Bilgin, 1998). Due to its social and economical importance, we focused on two different types of high credence services: health care and education.

A service is largely determined by perceptions of the service recipients and their level of satisfaction with the service encounter (Edvardsson, Gustafsson, & Roos, 2005; Hausman, 2004; Lemmink & Mattsson, 2002; Leong, et al., 2011; Sundaram & Webster, 2000; Wu, Liu, & Hsu, 2008). The services encounter between service provider and service recipient is considered as the moment of truth. The service encounter offers an opportunity to customize the service in order to increase the evaluation of the service experience (Bettencourt & Gwinner, 1996; Bitner, Booms, & Tetreault, 1990; Gabbott & Hogg, 2001; Normann, 1984; Payne, Storbacka, & Frow, 2008; Sundaram & Webster, 2000; Wu, et al., 2008). Commonly, services are thought to be characterized as interactive, process-based, experiential and relational processes (Edvardsson, et al., 2005) that involve two or more parties. This dyadic interpersonal exchange requires involvement from the service provider as well as from the customer (Payne, et al., 2008). From the

service dominant logic, this exchange implies a certain degree of reciprocity and assumes that the customer is always a co-creator of value (Vargo & Lusch, 2008). Especially in the health care and educational setting, it is preferred that the service recipient and service provider interact satisfactorily in order to achieve a desired outcome (Gabbott & Hogg, 2001). Thereby, different degrees of reciprocal action can be observed (McColl-Kennedy, Vargo, Dagger, & Sweeney, 2009). Particularly in service encounters that seek a change of patients' behavior or attitude, the reciprocal cooperation of the patient is essential (McColl-Kennedy, et al., 2009; Whitaker, 1980).

Therefore, the endeavors of the service providers only, such as good communication styles, are not enough. In the end, it is up to the service recipients what to do with the providers' suggestions, guidance and information (Gabbott & Hogg, 2001; McColl-Kennedy, et al., 2009; Vargo & Lusch, 2008; Whitaker, 1980). Nevertheless, most researchers emphasize that the behavior of service providers is one of the crucial determinants of service success (Mattila & Enz, 2002). This dissertation emphasizes that the service provider's communication style can influence ultimate outcomes for patients and students (Kearney & McCroskey, 1980; Keller & Lehmann, 2008; Ong, de Haes, Hoos, & Lammes, 1995; Richmond, 1990).

In the remaining of this chapter, we will elaborate on the context of the research, define all our constructs and explain how we used the theories and concepts. As can be seen in table 1.1, all the chapters of this dissertation focus on a high credence service and focus on the role of the service provider's communication style on certain desirable outcomes.

Chapter 2 focuses on the health care sector. The health care service sector, which is a costly, complex but globally used service that people need but not always want (Berry & Bendapudi, 2007), is undergoing tremendous changes: increased competition, cost pressure and changing structure (Dagger, Sweeney, & Johnson, 2007). A higher level of patient satisfaction and compliance might help to overcome the negative trend of high costs. Our second chapter examines possible ways of reaching satisfaction and compliance through using an appropriate communication style that triggers certain types of patients' feelings.

Table 1.1: Overview of Chapters

Chapter	Research Context	Independent Variable	Outcome Variable	Theories & Concepts used
2	Health (high credence service)	Care and cure communication	Satisfaction and compliance	Reciprocity (direct) (Gouldner, 1960) Feelings-as-information (Schwarz, 1990)
3	Education (high credence service)	- Care communication while controlling for cure - Shyness as a personality trait	Helping behavior	Reciprocity (indirect) (Blau, 1964; Gouldner, 1960)
4	Education (high credence service)	Care communication	Helping behavior	Reciprocity (indirect) (Blau, 1964; Gouldner, 1960) Feelings-as-information (Schwarz, 1990)

The next two chapters – chapter 3 and 4 – examine the role of communication styles in the educational setting. The educational system is also undergoing major changes. Nowadays, besides modern high schools, also universities make a strong demand on their students by not only challenging them academically but also socially (Eggens, Van der Werf, & Bosker, 2008; Paulsen, Bru, & Murberg, 2006). The curriculum increasingly focuses on enhancing generic attributes and capabilities. For instance, some of the key transferable skills required by future employers of students are communication skills and teamwork capabilities (Andrews & Higson, 2008; Burton & Dowling, 2005). Students are expected to be socially and academically active. Passivity challenges students, teachers and the schools in general (Paulsen, et al., 2006). Therefore we focus on voluntarily helping behavior as one very specific and beneficial outcome, since voluntary helping behavior enhances students' academic and social skills (Packham & Miller, 2000; Topping, 1996; Webb & Farivar, 1994).

However, this educational trend with high social demand and this desired outcome is especially difficult for shy students, due to their lack of social skills

(Miller, 1995), inhibition and discomfort in social encounters (Cheek & Buss, 1981), and avoidance of social contact and interaction (Pilkonis, 1977). Given that the majority of individuals has experienced the feeling of shyness (Karakashian, Walter, Christopher, & Lucas, 2006) and that shyness[1] is a common personality trait among university students (Pilkonis, 1977) the third chapter of this dissertation focuses on the association between the personality trait shyness and the student's helping behavior while simultaneously investigating the moderating role of the teacher's care communication.

Chapter 4 will also focus on the educational setting and on the communication style of the teacher as in chapter 3. However, this time the feelings of students will be taken into account. Since the feelings are a source of information that individuals use and since it impacts the attitude and behavior of individuals (Schwarz, 1990), we investigate their mediating role. Moreover, in chapter 4 we take a longitudinal perspective by investigating to what extent helping behavior shows a carryover effect across time.

[1] Within this study, shyness is considered and measured as a trait that has an enduring tendency and propensity to respond with heightened discomfort and inhibition in social environments. It is not just a reaction to a specific situation that everyone once in a while experiences (Briggs, 1988; Jones, Briggs, & Smith, 1986).

Research Questions

> The main research question of this dissertation is:
> *How does communication style of the service provider influence attitudes and behaviors of service recipients in high credence services?*

As can be seen in figure 1.1, we will concentrate on the effect of the service provider's communication style on the service recipient's outcome variables. Within the spectrum of communication styles (e.g. dominance vs. submission; opposition vs. cooperation (Den Brok, Levy, Rodriguez, & Wubbels, 2002); authoritative style (Ertesvåg, 2011), we focus and distinguish between two communication styles used by the service provider, which accentuate different aspects of communication: Cure communication – also known as instrumental or task oriented – vs. care communication – also known as socio-emotional or affective –(Ben-Sira, 1980; Bensing, 1991; Buller & Buller, 1987; Donabedian, 1996; Hall, Roter, & Katz, 1987; Ong, et al., 1995; Roberts & Aruguete, 2000; Roter & Hall, 1991; Roter, Hall, & Katz, 1987; Sheng, Brown, Nicholson, & Poppo, 2006; Webster & Sundaram, 2009). Care communication is defined as all verbal and non-verbal behavioral cues that contain socio-emotional aspects and anything else said or done by the service provider to establish, maintain, and enhance a relationship with the service recipient. A nice smile or friendly greeting are exemplifying care communication. Cure communication is defined as all verbal and non-verbal behavioral cues of the service provider that signal his technical skills and expertise to the service recipient. Giving detailed information and explaining complicated issues are examples of cure communication (see Ong, et al., 1995, for an overview). For all our studies we emphasize the service recipient's perspective, meaning that communication is any cue that the service recipient perceives consciously or subconsciously during an interaction with the service provider (Kreps & Thornton, 1984; Rosengren, 2000).

Scholars acknowledged the important role that communication plays at a service encounter (Dagger, et al., 2007; Donabedian, 1996; Haring & Mattsson,

1999; Johlke & Duhan, 2000; Lievens, de Ruyter, & Lemmink, 1999; Mattsson & den Haring, 1998; Sommers, Greeno, & Boag, 1989; Webster & Sundaram, 2009) and its crucial impact on service recipients behaviors, such as increased purchase, and attitudes such as trust (Auh, Bell, McLeod, & Shih, 2007; De Wulf & Odekerken-Schröder, 2003; Dion & Notarantonio, 1992; Sundaram & Webster, 2000).

To justify the role of service providers' communication styles (1) on patients' satisfaction and compliance in the medical setting; and (2) on helping behavior in the educational setting, we apply the theory of reciprocity (Gouldner, 1960).

Satisfaction is an example of an attitudinal outcome and it is a well-established concept (Anderson, Fornell, & Lehmann, 1994; Crosby & Stephens, 1987; Geyskens, Steenkamp, & Kumar, 1999; Leong, et al., 2011).

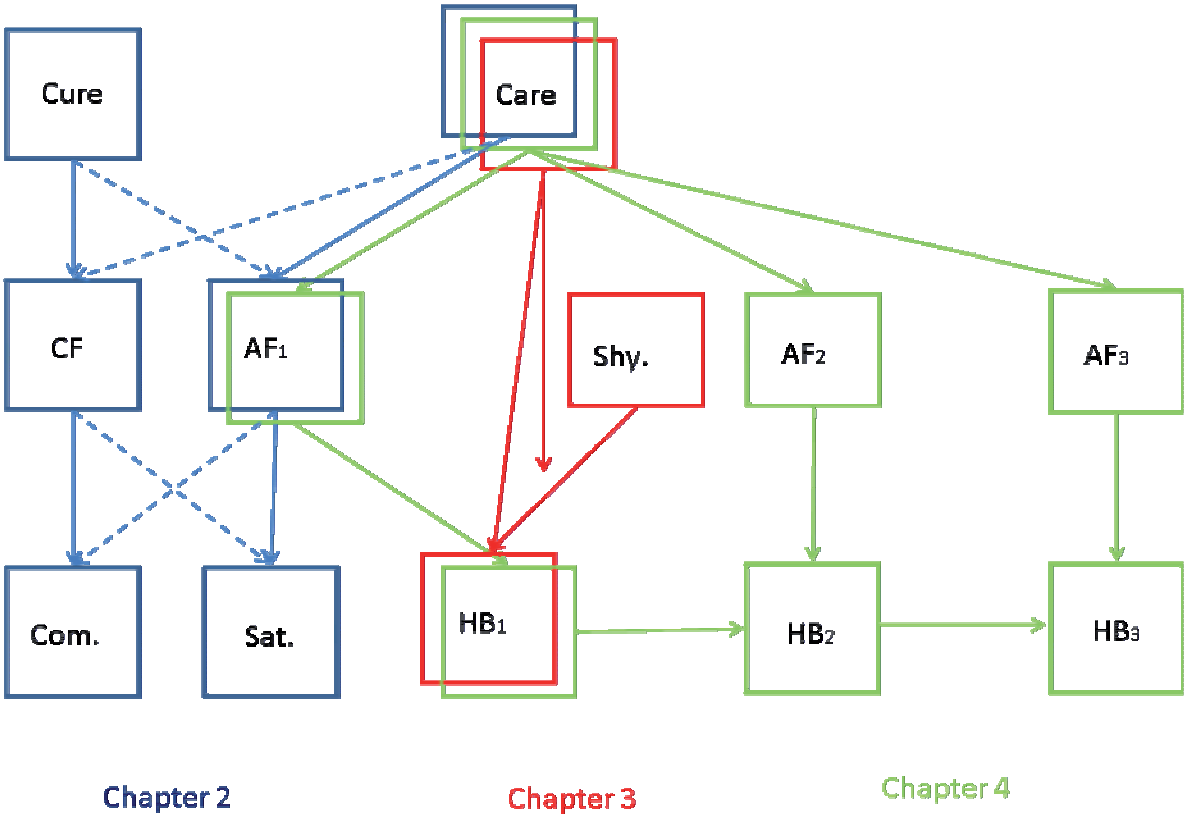
Compliance, on the other hand, is a behavioral outcome. It is defined as the adherence of the patient to the advices, recommendations and suggestions of the physician such as taking medication, coming to follow-up appointments, keeping diet, etc. (McColl-Kennedy, et al., 2009; Ong, et al., 1995). Compliance is seen as the co-creation part of the patient. Paraphrasing, compliance refers to the actions carried out by patients to fulfill their share of the bargain (Dellande, Gilly, & Graham, 2004). Even though compliance is a behavior that the patient has to do and therefore belongs to the co-creating part of the patient (Bitner, Faranda, Hubbert, & Zeithaml, 1997; Dellande, et al., 2004) we expect that communication styles of the physician will influence outcomes, such as compliance (Dellande, et al., 2004; Ong, Visser, Lammes, & de Haes, 2000).

For our educational studies we focused on helping behavior of students, since this behavior benefits various parties (Griffiths, Houston, Lazenbatt, Baume, & Ulster, 1995; Slavin, 1995). Helping behaviors are prosocial behaviors (Bar-Tal, 1982; Solomon, Watson, Delucchi, Schaps, & Battistich, 1988; Stanhope, Bell, & Parker-Cohen, 1987) and can be understood as behaviors which are voluntarily performed for the benefit of others without anticipating external rewards (Bar-Tal, 1982; Eisenberg & Mussen, 1989). This voluntarily behavior of students goes beyond formal requirements of the course (Organ, 1988). Helping behaviors are essential for the functioning of society, organizations and classrooms since they

promote cooperation and ethical responsiveness (Organ, 1988; Solomon, et al., 1988; Stanhope, et al., 1987).

So far the independent variables (care and cure communication) and dependent variables (satisfaction, compliance and helping behavior) of the overall research model have been introduced. However, there are two more constructs within the overall research model: (1) shyness as a personality trait and (2) feelings as a source of information. Whereas shyness is treated as an exogenous variable that cannot be immediately influenced by others, feelings are considered as a reaction to a stimulus. Below, while addressing the sub-research questions, we will elaborate on these two constructs.

Figure 1.1: Research Overview of Chapters



Note: Care and cure are the communication styles; affective feelings (AF) and cognitive feelings (CF) are the mediators, shyness (Shy.) depicts interaction effect, the desired outcome variables are: compliance (Com.), satisfaction (Sat.), and helping behavior (HB). The lower case number indicates the time period.

The sub-research question central to chapter two is:
What is the mediator between service providers' communication styles and service recipients' outcome variables?

In order to unfold the complex nature of the service provider – recipient interactions (service encounters), we investigate how the communication styles of service providers influence satisfaction and compliance of the service recipients as desired outcomes in chapter 2. The association between doctors' communication styles and patients' attitudinal and behavioral outcomes already received some research attention (De Valck, Bensing, Bruynooghe, & Batenburg, 2001; Ong, et al., 1995; Roberts & Aruguete, 2000). However, this stream of literature is mainly descriptive and rarely provides a theoretical explanation. Furthermore, a mediator explaining why a certain communication style influences certain outcomes needs more attention. Since identifying and clarifying the chain of reactions (communications' influence on feelings, and feelings' influence on desired outcomes) helps us to better understand the phenomenon. Incorporating the mediating role of feelings will enable us to understand the attitudinal and behavioral reactions of customers.

In order to provide a meaningful mediator for our studies, we based our research on the theory of feelings-as-information which claims that under certain circumstances – such as lack of knowledge, time pressure, complexity and affective nature – people may use their feelings as a direct source of information and thereby either complement or substitute more traditional sources of information (Schwarz, 1990, 2004; Schwarz & Clore, 2007). In credence services these conditions to use ones feelings as an information source applies, since individuals cannot judge the service even after the consumption due to lack of knowledge. Within the feelings-as-information research, scholars distinguish between two types of feelings: affective and cognitive feelings. Affective feelings are immediate evaluations of our environment with a fixed valence. Feeling happy, sad or angry are typical affective feelings. Cognitive feelings are feelings which are based on our state of knowledge. Feelings of confusion, doubt, or surprise are typical cognitive feelings (Clore &

Parrott, 1994; Schwarz & Clore, 1996; Unkelbach, 2004). Even though there is the acknowledgement for considering these feelings simultaneously in order to get the bigger picture (Greifeneder, Bless, & Pham, 2011), this is a largely an unexplored field. Our study is among the first to consider both types of feelings simultaneously in order to disentangle their antecedents and consequences and therewith identifies different chain of reactions.

> Our third chapter will provide answers to the following research question: How does shyness as a personality trait of the recipient influence voluntary helping behavior and how does care communication of the service provider strengthen or weaken this relationship?

In chapter 3, we focus on the educational setting, instead of on health care, which is again a high credence service. Just as doctors are significant others for patients in a health care setting, in the educational field, teachers are considered to be significant others who have an important impact on students. This impact is executed by different behaviors and communication styles applied by the significant others (Paulsen, et al., 2006; Potter & Emanuel, 1990; Richmond, 1990; Trigwell, Prosser, & Waterhouse, 1999). As in the previous chapter, in chapter 3 we investigate the role of service providers' communication styles. But this time, we focus on one specific type of peer activity as a desired outcome variable within a classroom: voluntary helping behaviors. The various benefits of peer activities and helping behaviors, such as collaboration, communication and responsibility taking skills (Griffiths, et al., 1995; Slavin, 1995) are well acknowledged to stimulate students' performance. Since helping behaviors require certain degree of social interactions, due to their social and interpersonal nature (Bar-Tal, 1982; Hampson, 1984; Van Gennip, Segers, & Tillema, 2010), this might be more challenging for shy students.

Therefore, in this chapter, we also explicitly consider the personality trait shyness of the service recipient, examining to what extent shyness is associated with helping behaviors (Asendorpf & Wilpers, 1998; Ilies, Scott, & Judge, 2006; Stanhope, et al., 1987). Shyness is defined as "discomfort and inhibition in the

presence of others" (Jones, et al., 1986, p. 629). We have chosen to examine the role of shyness as personality dimension, because shyness is a widespread phenomenon among university students (Pilkonis, 1977) and may have detrimental effects on performance and well-being, such as study anxiety (Vitasari, Abdul Wahab, Othman, & Awang, 2010), lowered academic self-esteem, and self- and peer depreciation regarding intelligence (Paulhus & Morgan, 1997). Thus the focus in this chapter is on this specific personality trait in order to study how care communication might help or hinder these students' helping behaviors.

Even though different forms of peer activities have been investigated already, there has been less attention for the role of voluntarily helping others in the classroom. It is crucial to emphasize that we will focus on voluntary helping behaviors as opposed to forced helping behaviors – as it is the case with some forms of peer activities induced in the classroom – since this can backfire especially for shy students. This danger of backfiring can take place due to e.g., more tension and inhibition (Lacina-Gifford, Kher, & Besant, 2002; Paulhus & Morgan, 1997) or fear of negative evaluation (Karakashian, et al., 2006).

However, even if shy students might have difficulties in exhibiting helping behavior, a care communicating teacher might enhance this desired behavior. Since teachers can support shy students instrumentally and emotionally (Paulsen, et al., 2006), they can promote a caring and friendly environment for the shy student (Lacina-Gifford, 2001). Considering that the educational service is a service with interpersonal exchange processes, it requires the involvement from the service provider as well as from the service recipient (Payne, et al., 2008). Therefore, besides focusing on the communication of teachers, we explicitly consider the personality of the students.

Finally, in chapter 4, we address the following sub-research question:
To what extent does voluntary helping behavior carryover time and how does the intensity of the mediating role of feelings change over time?

In chapter 4, we again study the relationships between the communication styles of teachers and the voluntarily helping behavior of students, but now we focus on a longitudinal perspective. That is we focus on dynamic effects of helping behaviors over time (Ilies, et al., 2006; Spence, Ferris, Brown, & Heller, 2011), because this desired outcome is thought to be not only essential for the functioning in the classroom benefiting all parties involved (Boud, Cohen, & Sampson, 1999; Packham & Miller, 2000; Podsakoff, Ahearne, & MacKenzie, 1997), but also for functioning in organizations in general (Organ, 1988; Solomon, et al., 1988; Stanhope, et al., 1987). Taking time into account and investigating how the helping behaviors of students in one time period impact the same behavior in the next time period signifies how helping behaviors may unfold based on care communication of the teachers. As such, this focus connects with recent work on helping behaviors as episodic, dynamic and affect-driven behaviors that change over time (Ilies, et al., 2006; Spence, et al., 2011). Moreover, we investigate the mediating role of feelings and demonstrate how the intensity of feelings as mediator changes over time.

Objectives

The overall goal of this dissertation is to investigate to what extent service providers' communication styles impact desired outcomes of service recipients in different high credence service contexts. We consider mediators (chapter 2), a specific aspect of the personality of the service recipient – shyness (chapter 3), and the effect of time on unfolding helping behaviors (chapter 4) to gain a better understanding of the effects of interactions of service providers employees and service recipients. We will build on different literature streams such as psychology, organizational behavior, health care, education, and marketing to analyze the phenomenon at hand. We also considered (1) different ways of data gathering (experiments, interviews, and surveys), (2) cross-sectional and longitudinal approaches, and (3) used different analysis strategies (ANOVA, SEM, Multilevel). Below we elaborate on the objectives of each chapter which illustrates the specific contributions of the overall dissertation.

Objectives Study 1

The ambition of the first study, which is reported in the second chapter, is fivefold. First, with feelings-as-information theory (Schwarz, 1990, 2002a; Schwarz & Clore, 1996, 2007) we want to add value to the existing literature by testing mediators which may explain how communication styles impact on ultimate patients' satisfaction and compliance. Based on this theory, it was hypothesized that people, under certain circumstances (lack of knowledge, time pressure, complexity and affective nature), use their feelings as a direct source of information to judge and evaluate their situation. This adds to the health care and services literature by specifically examining the role of feelings as mediator between communication styles and ultimate outcomes (Dagger, et al., 2007; Edvardsson, 2005; Mattila & Enz, 2002; Price, Arnould, & Deibler, 1995).

The second contribution can be found in the simultaneous consideration of affective and cognitive feelings in one study. Most of the research within this area focused on either affective feelings or exclusively considered cognitive feelings (see Greifeneder, et al., 2011 for an overview). Considering both types of feelings simultaneously creates a comprehensive picture because antecedents and consequences can be disentangled (Greifeneder, et al., 2011). The simultaneous consideration will thereby aid to disentangle affective and cognitive feelings based on their antecedents and consequences.

Third, in an experimental design the feelings are directly measured as a reaction to the manipulated communication styles. The common methodology in existing research is the manipulation of feelings in an experimental design and then the assessment of individuals' responses (Avnet & Pham, 2004; Schwarz & Clore, 2007). However, measuring the feelings of individuals as an outcome of manipulated communication style, rather than manipulating feelings as a predictor variable, enables us to demonstrate which feelings are evoked by the different communication styles.

Fourth, with the usage of reciprocity theory, we intend to explain an affective and a cognitive chain of reciprocity between physicians' communication, feelings evoked in the patient and patients' attitudinal and behavior consequences

(Gouldner, 1960; Hall, Roter, & Katz, 1988; Roberts & Aruguete, 2000). These two domains of reciprocity (affective and cognitive) enable the physicians to apply a certain type of communication style to evoke certain patient feelings, ultimately leading to either satisfaction (affective) or compliance (cognitive).

Last but not least, we used 1) experimental designs to guarantee internal validity, while we also conducted complementary 2) in-depth interviews to pay attention to external validity of our study. Therefore, chapter 2 consists of three quantitative studies (experimental designs) and one qualitative study (in-depth interviews). The in-depth interviews with internal physicians were conducted to provide qualitative validations of our findings. We investigate (1) to what extent physicians recognize the conceptual model, (2) in which situations they use care or cure communication, (3) how they use care and cure communication, and (4) what patient outcomes they assign to their own communication styles.

Objectives Study 2

The study reported in chapter 3 is also conducted in a high credence services, but this time in an educational setting, rather than a health care. In this chapter we introduce voluntary helping behavior as an outcome variable and also consider the impact of students' shyness on their helping behavior. Like in chapter 2, we investigate the impact of the service provider's communication style on service recipients' outcome. We are encouraged to focus on voluntary helping behavior as an outcome variable as it has various benefits for all involved parties (Boud, et al., 1999; Griffiths, et al., 1995; Slavin, 1995). Furthermore, within this chapter we explicitly consider a personality trait – shyness – of the service recipient. For this purpose, we immerse into educational, psychological, and organizational literature.

This chapter will provide three major contributions. First, we demonstrate how to enhance helping behavior within the classroom. Even though different behaviors of teachers were studied, we are not aware of a study that investigates to what extent teachers communication can foster or inhibit this behavior, nor has it been investigated how shyness influences helping behavior. Demonstrating a relationship between these constructs would be valuable, since a better

understanding of how to enhance students' helping behavior would enable teachers to increase this desired behavior in their classrooms.

Second, we use a refined definition of common peer-activities, where we stress the "voluntarily" helping behavior as a special dimension of extra-role behavior from the organization literature. Within the peer literature stream in an educational context, peer-activities are explicitly designed by universities (Boud, et al., 1999; Topping, 1996; Van Gennip, et al., 2010). However, we are interested in the effect of communication style on voluntarily helping behavior of students that go beyond formal course requirements (Organ, 1988).

Last but not least, while most of the research on helping behavior uses a traditional between person approach, we decided to use a within-person design as a complementary approach. Weekly diary data was gathered over the first three weeks of a math-preparation course. With this intra-individual model, it is better possible to control for interpretations based on differences between individuals and gather a deeper understanding about individuals' helping behavior changing during the different weeks of the course.

Objectives Study 3

Within this chapter we keep our main focus of the dissertation and again consider the impact of communication styles of service providers on service recipients' behavior. Since we already demonstrate the impact of communication style on different outcome variables, we focus on the carryover effects of helping behavior in chapter 4. That means we investigate to what extent this behavior persists from one time period to the next. Moreover, in chapter 2, we found support for the mediating effect of feelings, and in chapter 4, we investigate to what extent the intensity of the mediating role changes over time. In chapter 4 we focus exclusively on care communication, after arguing in chapter 3 that care communication can make a difference in the classroom beyond the content expertise of the teacher. In this chapter we will examine (1) how the helping behaviors of students unfold over time; (2) how helping behavior can be encourage by teachers; (3) how students' helping behavior can be explained by the feelings-as-information theory.

While examining how students' helping behaviors unfold over time (beginning, middle and end of a course), our aim is to contribute to the existing literature by investigating how helping behavior of the current period influences future helping behaviors. Some scholars identified helping behavior as an episodic, dynamic, and variable construct (Ilies, et al., 2006; Spence, et al., 2011).

Our next contribution is to uncover what role teachers can play in encouraging helping behavior. Therefore, we consider teachers' care communication and investigate how it is associated with helping behaviors of the students. A broad range of literature has already pointed at how teachers generally influence many different behaviors of their students (Rotgans & Schmidt, 2011; Skinner & Belmont, 1993; Trigwell, et al., 1999). Especially a teacher's communication style is expected to influence students' behaviors. A caring communication style by teachers is considered as an important element of teaching (Goldstein, 1997; Isenbarger & Zembylas, 2006) which enhances e.g. trust, teacher-students relationship, and self-esteem of students (Charney, 1992; Ertesvåg, 2011; Isenbarger & Zembylas, 2006; McDermott, 1977). Using the norm of reciprocity (Gouldner, 1960) and social exchange theory (Blau, 1964), we assume that using a communication style that can be characterized as caring will evoke positive feelings of the students, ultimately resulting in more helping behavior.

In addition, with feelings-as-information theory (Schwarz, 1990, 2002a; Schwarz & Clore, 1996, 2007) we want to add value to the existing literature by providing a mediator which explains why care communication style has an impact on helping behavior, especially in the context of credence services. This theory hypothesizes that people, under certain circumstances, use their feelings as a direct source of information to judge and evaluate their situation (Clore & Parrott, 1994; Schwarz, 2002a, 2004; Schwarz & Clore, 2007). In services literature there is a call for papers which investigate the role of feelings in services (Dagger, et al., 2007; Edvardsson, 2005; Mattila & Enz, 2002; Price, et al., 1995). Also in education the feelings of students play a crucial role (Tempelaar, Gijselaers, Schim van der Loeff, & Nijhuis, 2007).

Summarizing, much research attention has been dedicated to the separate topics of a caring communication style, feelings, and helping behavior. We are not aware of any research that has considered these three constructs simultaneously to unfold their interrelationships. However, doing so would be very beneficial since it would help teachers understand how they can foster the desired outcome by adapting their communication style and this way triggering positive feelings of students. After acknowledging the benefits of helping behavior (Boud, et al., 1999; Podsakoff, et al., 1997; Spence, et al., 2011; Webb & Farivar, 1994), we also investigate the role of students' feelings, since their feelings are used as direct source of information (Schwarz, 1990) and therefore influence behavior.

Outline of the Dissertation

As described before, this dissertation applies knowledge from many different literature streams (e.g. psychology, education, marketing, and health) and uses a variety of methodologies, theories, and research contexts. Table 1.2 provides a summary of each chapter and its objective, methodology and context.

Table 1.2: Outline of Dissertation

Chapter	Title	Study Design	Objective	Analysis Methodology
1	Introduction			
2	Study 1: How Communication Impacts Satisfaction and Compliance: the Mediating Role of Feelings in a Medical Services Setting	Experiments, Between-subject design, Interviews	Identifying mediator, disentangling affective and cognitive feelings, theoretical support for patient-physician communication	ANOVA, SEM
3	Study 2: How Shy Students Engage in Voluntary Helping in the Classroom: The Encouraging Role of a Care Communication Style in an Educational Services Setting	Surveys, Within-subject design	Care communications effect on helping behavior, while controlling for cure communication. Considering a personality trait: shyness. Assessing the interaction effect.	Multilevel-Analysis
4	Study 3: Antecedents and Carryover Effects of Helping Behavior: The Role of Care Communication in an Educational Setting	Surveys, Longitudinal design	Mediating role of feelings and its intensity over time. Investigating the carry-over effect of helping behavior.	SEM
5	Conclusion			

CHAPTER 2

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How Communication Impacts Satisfaction and Compliance

How Communication Impacts Satisfaction and Compliance:

the Mediating Role of Feelings in a Medical Services Setting[2]

Abstract

Tremendous changes in medical services and increasing costs of noncompliance have aroused research interest in these credence services. Therefore, this study emphasizes the physician-patient interaction as a central part of medical services. Drawing from marketing, healthcare, and psychological literature, this study explores physician–patient communication and its effects on patient outcome variables. The study consists of four stages: (1) a pilot study with 84 respondents to test the manipulation, realism, and scale reliabilities; (2) a 2x2 between-subjects experimental design with 127 respondents to demonstrate main effects of communication on outcome variables; (3) a second 2x2 between-subjects experimental design with 143 respondents (using both analyses of variance and structural equation modeling by means of SmartPLS) in which we incorporate feelings as mediators; and (4) in depth interviews with 16 internal physicians, to validate our findings. The findings reveal a chain of reciprocity from the physician's communication style – care and cure – to patient evoked affective and cognitive feelings ultimately resulting in satisfaction and compliance. These findings specify the effects that different communication styles of the physician have on patients' satisfaction and compliance, enabling the physician to tune the communication style towards desirable outcomes.

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[2] Kilic, R.I., Odekerken-Schröder, G., Van Emmerik, IJ.H. (2011). How Communication Impacts Satisfaction and Compliance: the Mediating Role of Feelings in a Medical Services Setting, submitted to Journal of Service Research.

Introduction

The health care services sector is one of the world's largest (Kenagy, Berwick, & Shore, 1999) and fastest growing (Andaleeb, 2001). Its costly, complex, and globally used offerings, which people need but often do not want (Berry & Bendapudi, 2007), are undergoing tremendous changes. Increased competition, cost pressures, and the shifting structure of the sector (Dagger, et al., 2007) coincide with new roles for patients as knowledgeable and demanding consumers who participate in the service delivery (Miller, Luce, Kahn, & Conant, 2009) and co-create value. Thus the traditional, asymmetric power relationship between a health care service provider and patient is shifting (McColl-Kennedy, et al., 2009). Moreover, high credence medical services have a huge impact on economies, people's quality of life (Berry & Bendapudi, 2007), patient loyalty, providers' competitive advantage, and the providers' long-term profitability (Brown, 1997; Dagger, et al., 2007; Headley & Miller, 1993). For instance, the consequences of noncompliance are enormous. Beyond the physiological, psychological, and social costs, in the United States alone, noncompliance leads to health care expenditures of $100 billion annually (Pearson, 2011), making it one of the five most important causes of societal and financial problems (Petty & Cacioppo, 1996). Practitioners of health care also explore different interventions to reduce costs (Van der Wees, et al., 2008). Therefore, both practitioners and scholars are interested in understanding this service sector better to achieve economic, physiological, and societal improvements (Gittell, 2002; Mattila & Wirtz, 2002; Petty & Cacioppo, 1996; Shemwell, et al., 1998; Steinke, 2008).

Within the complex health care service system, we focus on the central interaction between physicians and patients, because the success of health care services systems largely depends on patients' satisfaction with the service encounter (Edvardsson, et al., 2005; Hausman, 2004; Leong, et al., 2011; Sundaram & Webster, 2000; Wu, et al., 2008). The service encounter is the moment of truth in which the offered service can be customized to increase customer evaluations and service experience (Bettencourt & Gwinner, 1996; Bitner, et al., 1990; Gabbott & Hogg, 2001; Normann, 1984; Payne, et al., 2008; Sundaram

& Webster, 2000; Wu, et al., 2008). The service itself is interactive, process-based, experiential, and relational (Edvardsson, et al., 2005), involving at least two parties. Such a dyadic and interpersonal exchange requires involvement by the service provider as well as the service recipient (Payne, et al., 2008). According to the service-dominant logic, this exchange implies reciprocity, such that the customer is always a co-creator of value (Vargo & Lusch, 2008). In health care especially, the service recipient and service provider should satisfactorily interact in order to achieve a desired outcome (Gabbott & Hogg, 2001). Thereby, different degrees of co-creation and varying levels of reciprocal action are needed (McColl-Kennedy, et al., 2009). If the service encounter entails the need for a change in patients' behaviors or attitudes, the reciprocal cooperation of the patient becomes critical (McColl-Kennedy, et al., 2009; Whitaker, 1980).

Although it remains up to the patient to perform the actions suggested by the physician (Gabbott & Hogg, 2001; McColl-Kennedy, et al., 2009; Vargo & Lusch, 2008; Whitaker, 1980), the behavior of the physician, as a frontline service employee, is another crucial determinant of service success (Mattila & Enz, 2002). In particular, the physician's communication style and behavior can influence patients (Dellande, et al., 2004; Whitaker, 1980). We focus specifically on care and cure communication and their effect on satisfaction and compliance. Extant literature offers empirical support for the influence of doctors' communication styles on patients' attitudinal and behavioral outcomes (De Valck, et al., 2001; Ong, et al., 1995; Roberts & Aruguete, 2000). Satisfaction is one example of an attitudinal outcome and it is a well established concept (Anderson, et al., 1994; Crosby & Stephens, 1987; Geyskens, et al., 1999). Also in the medical setting, satisfaction of patients receives continued research attention (Leong, et al., 2011). Compliance, on the other hand, is a behavioral outcome. It is defined as the adherence of the patient to the advices, recommendations and suggestions of the physician such as taking medication, coming to follow up appointment, changing diet behavior etc. (McColl-Kennedy, et al., 2009; Ong, et al., 1995). Compliance thus represents a form of co-creation or help by the patient who reciprocates the physician's efforts to fulfill his or her part of the bargain (Dellande, et al., 2004).

The current study offers five main contributions to the existing literature. First, using feelings-as-information theory (Schwarz, 1990, 2002a; Schwarz & Clore, 1996, 2007), we identify feelings as a mediator explaining why communication style influences satisfaction and compliance, especially in the context of credence services. In certain circumstances, people use their feelings as a source of information to judge and evaluate the situation. Prior research has distinguished two types of feelings: affective and cognitive (Clore & Parrott, 1994; Schwarz, 2002b, 2004; Schwarz & Clore, 2007). Affective feelings are immediate indicators with positive or negative interpretations, such as feeling sad or happy. Cognitive feelings instead represent people's state of knowledge, such as feeling confused or skeptical. We respond to calls in service literature for further investigations of the role of feelings (Dagger, et al., 2007; Edvardsson, 2005; Mattila & Enz, 2002; Price, et al., 1995).

Second, we consider affective and cognitive feelings simultaneously, unlike most research in this area, which has focused solely on affective feelings or exclusively considered cognitive feelings (see Greifeneder, et al., 2011 for an overview). Our simultaneous consideration helps disentangle affective and cognitive feelings according to their antecedents and consequences.

Third, in our experimental design, we measure feelings directly as a reaction to the manipulated communication styles. In contrast, the common existing methodology manipulates feelings in an experimental design and then assesses participants' responses (Avnet & Pham, 2004; Schwarz & Clore, 2007). By measuring feelings as an outcome of manipulated communication styles, rather than manipulating those feelings as a predictor variable, we can demonstrate which feelings the different communication styles evoke.

Fourth, using reciprocity theory, we aim to explain the chain of reciprocity between physicians' communication, feelings evoked in the patient, and satisfaction and compliance (Gouldner, 1960; Hall, et al., 1988; Roberts & Aruguete, 2000).

Fifth and finally, our usage of complementary approaches, including both qualitative and quantitative studies, reflects our ambition to ensure the internal and external validity of our research. We conduct three experimental studies emphasizing internal validity and one qualitative study to provide external validity to

our findings. In qualitative interviews with a group of physicians, we investigate (1) to what extent physicians recognize the conceptual model, (2) in which situations they use care or cure communication, (3) how they use care and cure communication, and (4) what patient effects they assign to their own communication style. These additional qualitative findings offer further support for our empirical findings.

These contributions also have practical implications for service industry practitioners, such as managers, health professionals, and policy makers, in that we (1) reveal the consequences of communication styles on patient satisfaction and compliance, (2) suggest ways to tune physicians' communication styles to a specific intention, and (3) outline the powerful role of feelings triggered by service providers' communication style.

The Role of Communication in Services

Many authors acknowledge the vital role of communication in a service encounter (Dagger, et al., 2007; Donabedian, 1996; Haring & Mattsson, 1999; Johlke & Duhan, 2000; Lievens, et al., 1999; Mattsson & den Haring, 1998; Sommers, et al., 1989; Webster & Sundaram, 2009), such that a service provider's communication behavior has an essential influence on evaluations of the service experience (Webster & Sundaram, 2009). Communication in a services setting determines successful selling (Williams & Spiro, 1985), perceived service quality (Sundaram & Webster, 2000), service recovery success (Boshoff, 1999), performance effectiveness (Dion & Notarantonio, 1992), and strong relationships and trust (Auh, et al., 2007). These effects are particularly pertinent for services with considerable interpersonal exchange and credence characteristics (Webster & Sundaram, 2009), such as health care, whose performance depends on far more than the technical competence of service providers (Fottler, Ford, & Heaton, 2002).

Services marketing literature has identified several communication style dialectics, such as technical cure–interpersonal care (Donabedian, 1996), social–instrumental (Sheng, et al., 2006), affiliation–dominance (Webster & Sundaram, 2009), task–socially oriented (Dabholkar, van Dolen, & de Ruyter, 2009), and task–interaction oriented (Williams & Spiro, 1985). Medical and social sciences also have

identified different communication behaviors by physicians (Ben-Sira, 1980; Bensing, 1991; Buller & Buller, 1987; Hall, et al., 1987; Ong, et al., 1995; Roberts & Aruguete, 2000; Roter & Hall, 1991; Roter, et al., 1987), highlighting two main groups: cure (i.e., task oriented, instrumental) and care (i.e., socio-emotional or affective). For this study, we define a cure communication style as the verbal and nonverbal behavioral cues the physician uses to signal technical skills and expertise to the patient. A care communication style refers to verbal and nonverbal behavioral cues that contain a socio-emotional aspect and anything else the physician says or does to establish, maintain, and enhance a relationship with the patient (for an overview see Ong, et al., 1995). We emphasize the patient's perspective, such that communication is any cue that the patient perceives consciously or subconsciously during face-to-face interactions with the physician (Kreps & Thornton, 1984; Rosengren, 2000).

Communication

A recent services marketing study has determined that the communication behavior of the service provider influences customer satisfaction (Webster & Sundaram, 2009), and Sundaram and Webster (2000) have posited that verbal and nonverbal communication influence service evaluations through affect. Sheng et al. (2006) demonstrate that supplier communication influences retailers' perception of relational governance and thus their satisfaction (Dellande, et al., 2004). In medical services literature specifically, several studies have assessed the influence of a physician's communication behavior on important outcome variables, such as patients' satisfaction with the physician or compliance with suggestions (Arora, 2003; Buller & Buller, 1987; Hausman, 2004; Roter, et al., 1987). Patients use physicians' communication as an informational cue to evaluate and judge the interaction, which leads them to establish their attitudes (satisfaction) and select certain behaviors (compliance) (Ben-Sira, 1980; Hall, et al., 1987; Ong, et al., 1995).

Furthermore, customers who are satisfied with a service provider's communication style are satisfied with the service (Webster & Sundaram, 2009). If they perceive the service as critical, care communication has a stronger effect on

satisfaction. In their conceptual work, Sundaram and Webster (2000) focus on nonverbal, care-related communication, such as smiling and making eye contact, on evaluations of the service provider. Such communication is notably influential for credence-based services. Scholars also find a positive relationship between care communication and satisfaction (Bensing, 1991; Buller & Buller, 1987; Larsen & Smith, 1981; Roter & Hall, 1991). Thus we hypothesize:

H_1: Care communication has a positive influence on satisfaction.

Webster and Sundaram (2009) argue that the communication style of the service provider also affects customer compliance. Touching a customer, as a nonverbal, care-oriented communication cue, exerts a strong influence (Sundaram & Webster, 2000). In turn, we predict:

H_2: Care communication has a positive influence on compliance.

Several studies investigating the antecedents of satisfaction also confirm an impact of cure-oriented communication cues (e.g., Sheng et al. 2006), especially providing the patient with information (Roter, et al., 1987; Sheng, et al., 2006). Hence,

H_3: Cure communication has a positive influence on satisfaction.

Studies describing cure-oriented communication show that it also affects compliance (Ong, et al., 1995; Willson & McNamara, 1982) as well as providing greater clarity about customers' task requirements (Dong, Evans, & Zou, 2008). The most powerful cues are instructions from the service provider (Dellande, et al., 2004). Because clarity, task requirements, and instructions are common attributes of cure communication, we hypothesize that

H_4: Cure communication has a positive influence on compliance.

Feelings as Mediator

A medical consultation represents a service high in credence properties (Alford & Sherrel, 1996; Berry & Bendapudi, 2007; Garry, 2007; Mattila & Wirtz, 2002; Shemwell, et al., 1998), such that customers often cannot evaluate them even after the service has been performed because they lack sufficient knowledge (Berry & Bendapudi, 2007; Darby & Karni, 1973; Mattila & Wirtz, 2002; Shemwell, et al., 1998). Berry and Bendapudi (2007) also describe health care services as unwanted, in that consumers perceive hospitals as frightening places to be and approach the services with reluctance or even dread. In this setting, customers are ill, emotional, highly dependent, and without specialized knowledge.

Their emotions thus may have strong effects (Mattila & Enz, 2002; Miller, et al., 2009; Schoefer, 2010; Spake, Beatty, Brockman, & Crutchfield, 2003). Various feelings can be evoked during a dyadic service interaction (Edvardsson, 2005; Lemmink & Mattsson, 2002; Mattila & Enz, 2002; Odekerken-Schröder, Hennig-Thurau, & Berit Knaevelsrud, 2010; Price, et al., 1995; Van Dolen, Lemmink, Mattsson, & Rhoen, 2001), and for credence services, emotions provide a central means to understand the consumption experience (Mattila & Enz, 2002). Dagger, Sweeney, and Johnson (2007) call for more subjective assessments of medical care quality, beyond objective criteria. Extensive research in social psychology, consumer behavior, and services also reveals that people's feelings serve as direct sources of information (Dubé & Menon, 2000; Edvardsson, 2005; Essén & Wikström, 2008; Lemmink & Mattsson, 2002; Mattila & Enz, 2002; Pham, 2004; Schwarz, 1990; Schwarz & Clore, 2007; Van Dolen, et al., 2001; Wirtz, Mattila, & Tan, 2007) that complement or substitute for traditional sources (e.g., attributes, features, declarative knowledge) in service encounter evaluations (Schwarz, 2004).

Research in the feelings-as-information domain (Clore & Parrott, 1994; Schwarz, 1990, 2002b, 2004; Schwarz & Clore, 2007) further distinguishes between affective and cognitive feelings. Affective feelings have a fixed valence and indicate immediate evaluations of the environment (e.g., joy, anger, sadness, happiness). Cognitive feelings instead have no fixed valence and more importantly they reflect an individual's state of knowledge (e.g., feelings of surprise, confusion,

uncertainty, skepticism, familiarity) (Clore & Parrott, 1994; Jacobson, Weary, & Lin, 2008; Ortony & Turner, 1990; Pham, 2004; Schwarz, 2002b; Schwarz & Clore, 1996; Stepper & Strack, 1993; Unkelbach, 2004). Greifeneder, Bless, and Pham (2011) therefore suggest considering moderators of affective and cognitive feelings simultaneously to determine their separate antecedents and consequences.

Schwarz (1990) cites some general conditions that encourage the use of feelings as input for decision making. The affective nature of a judgment, a lack of other information, the complexity of the given situation, and time constraints all foster reliance on feelings and increase the likelihood that a person uses feelings to judge the service. The high credence characteristics of a medical interaction suggest that the feelings-as-information model may offer a logical mediator (Schwarz, 1990). That is, feelings provide information, a claim supported by prior marketing and services literature (Dubé & Menon, 2000; Edvardsson, 2005; Essén & Wikström, 2008; Mattila & Enz, 2002; Wirtz, et al., 2007). Furthermore, Edvardsson (2005) and Lemmink and Mattsson (2002) argue that the service experience elicits feelings that influence perceived quality and general assessments. Considering that communication can influence feelings (Spake, et al., 2003; Webster & Sundaram, 2009) and feelings can influence judgments and evaluations (Pham, 2004; Schwarz, 1990), we hypothesize:

H_5: Care communication increases patient satisfaction through increased (a) affective and (b) cognitive feelings.

H_6: Care communication increases patient compliance through increased (a) affective and (b) cognitive feelings.

H_7: Cure communication increases patient satisfaction through increased (a) affective and (b) cognitive feelings.

H_8: Cure communication increases patient compliance through increased (a) affective and (b) cognitive feelings.

The antecedents and consequences might differ for affective and cognitive feelings, but we include both mediators within each hypothesis because we lack a

foundation in existing research, which has never examined affective and cognitive feelings simultaneously.

Reciprocity Theory

Reciprocity theory from services and relationship marketing (De Wulf, Odekerken-Schröder, & Iacobucci, 2001; Palmatier, Jarvis, Bechkoff, & Kardes, 2009; Rao, Perry, & Frazer, 2003) suggests that people generally return goods and services in ways thematically similar to how they received them (Bagozzi, 1995; Gouldner, 1960). A service encounter implies some reciprocity (Vargo & Lusch, 2008); the physician-patient interaction necessitates reciprocal action to achieve the desired goal (McColl-Kennedy, et al., 2009; Whitaker, 1980). Thus scholars (Roberts & Aruguete, 2000; Roter & Hall, 1991) argue that physicians' communication style (care versus cure) inspires analogous patient outcomes (satisfaction versus compliance). According to reciprocity theory, cure communication should be reciprocated by patient compliance, and care communication should prompt patient satisfaction (Roberts & Aruguete, 2000).

Furthermore, care communication appears to belong to the affective domain, whereas cure communication reflects a cognitive domain (De Valck, et al., 2001; Ong, et al., 1995). Roter and Hall (1991) illustrate reciprocity in these two domains with an example: A physician with strong cure communication provides information that the patient understands and remembers, so the patient reciprocates with compliance with the doctor's advice. A physician who uses strong care communication seems friendly and warm to the patient, which prompts the patient to reciprocate with higher levels of satisfaction.

We thus posit that care communication, from the affective domain, prompts reciprocation with satisfaction and that in credence services, satisfaction depends more on affective considerations than on cognitive ones (Shemwell, et al., 1998). In parallel, we argue that cure communication belongs to the cognitive domain and is reciprocated by compliance (De Valck, et al., 2001; Ong, et al., 1995; Roberts & Aruguete, 2000; Roter & Hall, 1991). That is, satisfaction represents an affective outcome, and compliance is a cognitive outcome. However, these domains do not exist separately or in a vacuum; they are obviously interlink, and no physician is

likely to strictly divide the two types of communication, which are typically complementary (De Valck, et al., 2001; Ong, et al., 1995). Accordingly, to describe the chain of reciprocity, we hypothesize:

H_9: Care communication triggers relatively more affective feelings than cognitive feelings.

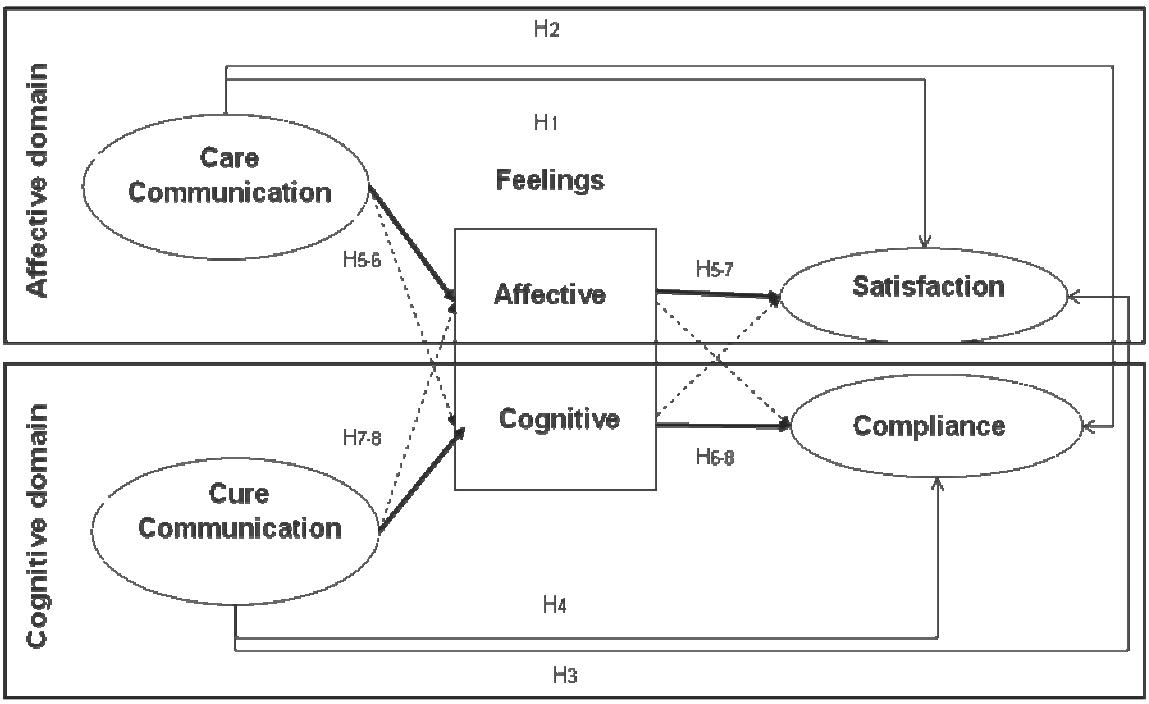
H_{10}: Cure communication triggers relatively more cognitive feelings than affective feelings.

H_{11}: Affective feelings influence satisfaction more than they do compliance.

H_{12}: Cognitive feelings influence compliance more than they do satisfaction.

In figure 2.1 we depict our proposed conceptual model, highlighting the chain of reciprocity with solid thick arrows that indicate stronger relationships and dashed arrows to indicate weaker relationships.

Figure 2.1: Conceptual Model



Methodology

Data Collection and Sample

The data collection took place in a laboratory, located in a medium-sized, international university, over the course of a typical academic week and throughout the day. Students were recruited from an undergraduate course, and their participation was voluntary, though they received course credits in exchange for participating. By using a student sample, we minimize confounding factors, such as various educational levels, age and current emotional involvement in an illness.

Experimental Design, Manipulation, and Context

We developed a 2×2 between-subjects experiment using a scenario-based factorial design, with totally random assignments of respondents to different treatment groups. We manipulated the care and cure communication dimensions as high or low. Following Roberts and Aruguete (2000), our cure communication manipulation focused on the number of questions the doctor asked the patient, the extent of explanation and information provided, and the medical jargon used by the physician. The care communication manipulation featured a kind greeting, smiling, a friendly tone of voice, continuous eye contact, attentiveness and concern, and a display of interest and understanding to the patient.

The experimental scenario described the participant sitting at a bar with a good friend who shares her or his experience with a medical consultation, undertaken because the friend is concerned that following a vacation to South America, s/he has contracted swine flu. This projective technique helps avoid the potential unwillingness of participants to share their true reactions to the scenarios (Donoghue, 2000; Webb, 1992).

The scenario then focused on the diagnosis of swine flu. At the time of the study, swine flue was a pertinent, new disease about which respondents likely had relatively little knowledge, such that they lacked a reference point for judging the doctor's communication. However, reports in the popular press suggested the very serious health consequences of the disease, such that the respondents should be

emotionally involved with and attentive to the scenarios. We used information from the World Health Organization (WHO) to construct realistic scenarios (WHO, 2009).

An exemplifying scenario can be found in the appendix of this dissertation.

Procedure

After entering the lab, participants received general procedure instructions. First, they sat in a cubicle equipped with a computer and read the scenario about the physician-patient interaction on the computer screen (the communication style of the physician was manipulated). Second, they completed an online questionnaire with measures of their emotional reactions, satisfaction with the service interaction, intentions to comply, and general information. Third, they were debriefed and thanked for their participation.

Measures[3]

In contrast with most prior feelings-as-information research (Pham, 2004; Schwarz, 1990; Schwarz & Clore, 2007), we did not manipulate feelings but measured them with self-reported scales, which means we can assess feelings as a reaction to the communication style. Furthermore, for this study, a subjective measure is appropriate, because we are interested in the subjective feelings a person experiences (Desmet, 2005; Larsen & Fredrickson, 1999). As Barrett (2006, p.24) suggests, "if we want to know whether a person is experiencing an emotion, we have to ask them." Furthermore, in line with prior discussions about measuring feelings (Bagozzi, Gopinath, & Nyer, 1999; Larsen & Fredrickson, 1999), we use unipolar scales to ensure we can discern subtle differences between feelings, each of which includes at least three items and seven scale steps.

To determine which feelings to include in the questionnaire, we conducted two focus groups (n = 12 and 13) before we designed the questionnaire. For our item generation purposes, we aimed to uncover the most common feelings that people experience during a medical visit. After identifying feelings most commonly mentioned by the focus group participants, we asked independent coders to assign

[3] All measures of the dissertation can be found in the appendix.

them to affective or cognitive categories; their interrater reliability reached Kappa = .745 ($p < .0001$), which indicates good agreement. We also considered how these feelings had been categorized in prior literature. With these procedures, we identified happy, angry, worry, and afraid as affective feelings and skeptical, uncertain, and confused as cognitive feelings. We adopted a 12-item Likert scale to measure the affective feelings (Richins, 1997) and an 11-item Likert scale to measure cognitive feelings (Holbrook & Batra, 1987; Lastovicka, 1983; Mishel, 1981).

Then to measure patients' attitude and behavior, we employed a four-item Likert scale of satisfaction (Oliver & Swan, 1989; Spake & Bishop, 2009) and a four-item Likert scale of compliance (Friedman & Churchill, 1987). Finally, additional items gathered background information and individual characteristics, such as need for cognition and need for affect, which might influence the hypothesized relationships. Respondents also completed a three-item scale measuring the credibility, trustworthiness, and realism of the scenarios.

Results

Pilot Study

The purpose of the pilot study was to serve as a (1) manipulation check, (2) realism check, and (3) test of the reliability of the scales. Eighty-four university students participated (45 female, 39 male).

For the manipulation check, to assess whether participants recognized that the physician was displaying high versus low cure or care communication, participants completed a 10-item, seven-point Likert scale (1 = "strongly disagree" to 7 = "strongly agree"): 4 items for the cure component (α =.836), including the number of questions asked by the doctor, and 6 items to measure care communication such as friendly greeting or politeness (α = .954) (adopted from Roberts & Aruguete, 2000). These participants rated the physician in the high care scenarios as having significantly more care attributes (mean = 4.06, SD = 1.94) than the physician in the low care scenarios (mean = 3.41, SD = 1.98; $F(1,82) = 294.27$, $p = .00$). They also rated the cure attributes significantly higher in the high

cure scenarios (mean = 4.81, SD = 1.09) than in the low cure scenarios (mean = 2.13, SD = .92; F(1,82) = 128.62, p = .00). Thus, the participants perceived the manipulation as intended.

A one-sample t-test served as a check of whether the pilot study participants rated the interaction in the scenarios as realistic, according to a seven-point Likert scale (1 = “not realistic” to 7 = “very realistic”). The t-test supports its realism (n = 66, mean = 5.04, t(66) = 7.15, p = .00).

The alpha values for the 12-item affective feelings scale (α = .816) and the 11-item cognitive feelings scale (α = .923) exceed Nunnally and Bernstein’s (1994) recommended cut-off value of .7. Similarly, patients’ satisfaction (α = .951) and patients’ compliance (α = .855) exhibited sufficient reliability.

However, in line with the results of the pilot study and participant feedback, we also refined the wording of a few items and some elements of our scenario description for the main studies.

Study 1: Testing for Main Effects with ANOVA

With Study 1, we attempt to assess the main effects; therefore, we do not measure the feelings of the respondents (all other procedures are the same as those from the pilot test). That is, we test the hypothesized relationship between communication and patient outcome variables, without any mediating influence of feelings. In total, 127 students (55 female, 72 male) participated in this experiment.

In line with our intended manipulation, participants rated the physician in the high care scenarios as having significantly more care attributes (mean = 5.73, SD = .96) than the physician in the low care scenarios (mean = 2.03, SD = .89; F(1,125) = 511.76, p = .00). They also rated the cure attributes significantly higher in the high cure scenarios (mean = 4.52, SD = 1.20) than in the low cure scenarios (mean = 2.61, SD = .93; F(1,125) = 90.48 p = .00). Furthermore, Study 1 participants considered the scenarios realistic (mean = 4.86, t(127) = 8.46, p = .00), and the alpha values of all scales exceeded the recommended cut-off point of .7 (Nunnally & Bernstein, 1994).

We used an analysis of variance (ANOVA) to test H_1–H_4 and find that care communication significantly influences compliance (F(1,123) = 64.74, p = .00) and

satisfaction (F(1,123) = 244.66, p = .00). Cure communication also significantly influences compliance (F(1,123) = 53.72, p = .00) and satisfaction (F(1,123) = 131.77, p = .00). With several analyses of covariance, we also assessed the effect of control variables, such as gender, need for cognition, and need for affect, but we find no significant impacts on the relationship between communication and patient outcome variables.

Study 2: Testing for Reciprocity and Mediation with SEM

In Study 2 we measure feelings as a potential mediator. We collected data from 143 students (65 males, 73 females). With an ANOVA, we determine that care communication significantly influences compliance (F(1,140) = 39.18, p = .00) and satisfaction (F(1,140) = 85.13, p = .00), as does cure communication (compliance F(1,140) = 21.10, p = .00; satisfaction F(1,140) = 113.72, p = .00). With this confirmation of our results from Study 1, we next undertook structural equation modeling (SEM) using SmartPLS. The SEM approach is richer than simple regressions or ANOVA, especially for mediation testing (Cote & Bagozzi, 2001; Iacobucci, 2009) and in experimental settings (Iacobucci, Saldanha, & Deng, 2007). First, SEM takes measurement error explicitly into account, which is critical for experiments with more than one dependent variable (Bagozzi & Yi, 1989; Cote & Bagozzi, 2001; Netemeyer, et al., 2001). Second, SEM does not inflate Type-I errors (Feltham & Arnold, 1994). Third, it can capture constructs with several items (Brown, 1997; Iacobucci, et al., 2007). Fourth, SEM relaxes several assumptions about homogeneity in the variance and covariance of the dependent variables across groups and allows for unequal cell sizes (Feltham & Arnold, 1994).

We tested all the constructs and hypotheses simultaneously using Smart PLS (Ringle, Wende, & Will, 2005). As a component-based method, partial least square (PLS) supports the use of nominal data, which we need to assess the effects of care and cure communication (Fornell & Bookstein, 1982; Hennig-Thurau, Groth, Paul, & Gremler, 2006). In addition, PLS has fewer limitations and statistical specifications than covariance-based techniques, for instance LISREL (Hennig-Thurau, et al., 2006). SmartPLS can use single- and multiple-item measurements for simultaneous hypotheses testing (Fornell & Bookstein, 1982; Hennig-Thurau,

Henning, & Sattler, 2007), and PLS makes minimal sample size demands (Chin, 1998; Hennig-Thurau, et al., 2006; Yi & Gong, 2009).

Measurement Model

We estimate the measurement model with SmartPLS by evaluating the reliability of each item, the discriminant validity among constructs, and the convergent validity of the measures (Fornell & Cha, 1994; Hulland, 1999; Mathwick, Wiertz, & De Ruyter, 2008; White, Varadarajan, & Dacin, 2003). As we show in table 2.1, the loadings of each measure on its respective construct exceed the cut-off point of .5, with one exception (worry = .46) (Hulland, 1999).

Table 2.1: Item Reliability

	Affective Feelings	Cognitive Feelings	Compliance	Satisfaction
Affective feeling_angry	0.88			
Affective feeling _fear	0.62			
Affective feeling _happy	0.77			
Affective feeling _worry	0.46			
Cognitive feeling _confusion		0.76		
Cognitive feeling _skepticism		0.81		
Cognitive feeling _uncertainty		0.89		
Probably seek an advice of another physician before doing anything.			0.79	
Follow the preventive health measure the physician suggested.			0.89	
Report back to the physician as he requested.			0.81	
Follow through with the treatment advice the physician gave.			0.88	
Very dissatisfied–very satisfied				0.92
Very displeased–very pleased				0.91
Very unfavorable–very favorable				0.91
Disgusted with–contented with				0.84

We still retained all the items for our analysis; worry is a common affective feeling during medical consultations and emerged as one of the most frequently mentioned feelings from the focus groups.

The discriminant validity evaluation consisted of two steps (see table 2.2). First, we examined the cross-loadings and found that each item loaded more heavily on its respective construct than on other constructs. Second, we computed the square root of the average variance extracted (AVE = variance shared by the construct and its measures) from each construct and compared these values with the correlations with the other constructs (Hulland, 1999). Almost all the square root AVE values were greater than the other correlations, with the exception of affective feelings.

Table 2.2: Discriminant Validity

	AF	CF	Compliance	Care Com	Cure Com	Sat.
AF	**0.69**					
CF	0.67	**0.82**				
Compliance	0.49	0.61	**0.84**			
Care Com	0.41	0.24	0.28	**1.00**		
Cure Com	0.49	0.67	0.42	-0.10	**1.00**	
Sat.	0.72	0.76	0.67	0.45	0.54	**0.89**

Note: The square root of the average variance extracted is on the diagonal.
Abbreviations: Com=communication, AF=affective feelings, CF=cognitive feelings, Sat=satisfaction.

As we detail in table 2.3, we assessed the convergent validity of the constructs using composite scale reliability and AVE (Chin, 1998; Fornell & Larcker, 1981). The composite scale reliability values ranged from .78 to .94, greater than the proposed cut-off of .70 (Nunnally & Bernstein, 1994). The AVE ranged from .48 to .80, mostly exceeding the cut-off value of .50 suggested by Fornell and Larcker (1981), with one exception, affective feelings, whose AVE equals .48. This value is slightly below the cut of value of .5 which indicates that there is a high amount of variance share between the construct and its measures.

Table 2.3: Convergent Reliability and Further Quality Criteria

	AVE	Squ.Root AVE	Composite Reliability	R^2	Cronbach's Alpha	Comm-unality	Redundancy
AF	0.49	0.69	0.78	0.45	0.68	0.48	0.05
CF	0.67	0.82	0.86	0.53	0.76	0.67	0.03
Com	0.71	0.84	0.91	0.39	0.86	0.71	0.08
Sat	0.80	0.89	0.94	0.66	0.92	0.80	0.32

Note: Abbreviations: AVE=average variance extracted, AF=affective feelings, CF=cognitive feelings, Com=compliance, Sat=satisfaction.

Finally, to assess the fit of the model, we undertook three approaches. First, to determine the Stone Geisser criterion (Q^2), we applied a blindfold approach and estimated the predictive power of the model (Fornell & Bookstein, 1982). The Q^2 values of .16 (affective feelings), .33 (cognitive feelings), .25 (compliance), and .48 (satisfaction) were larger than 0, indicating moderate to large power for the model (Henseler, Ringle, & Sinkovics, 2009). Second, we calculated the R^2 values, which equal .45 (affective feelings), .53 (cognitive feelings), .39 (compliance), and .66 (satisfaction). Third, the goodness-of-fit criterion value was .58, greater than the cut-off point for a large effect size (Wetzels, Odekerken-Schröder, & Van Oppen, 2009). Thus, we find support for model fit.

Path Model for Mediation and Reciprocity

With H_5–H_8, we attempt to investigate whether feelings function as a mediator. Therefore, we first tested if the paths between communication and feelings and between feelings and outcome variables were significant (Iacobucci, et al., 2007). The paths were significant except for the path between affective feelings and compliance. Both types of feeling mediate between communication and satisfaction and compliance, though affective feelings do not mediate the relationship between communication and compliance. Table 2.4 depicts the relationships of the structural model, with corresponding path coefficients and t-values obtained from bootstrapping. These results also support H_9–H_{12}, because

we discern stronger relationships within each specific domain (i.e., care communication, affective feelings, and satisfaction versus cure communication, cognitive feelings, and compliance).

Table 2.4: Relationships Reflecting First Step of Mediation and Reciprocity

Effect of…	**… on**	**Path Coefficient**	**t-Value**
Care Communication	Affective Feelings	.47	6.25
Care Communication	Cognitive Feelings	.30	4.55
Cure Communication	Affective Feelings	.53	8.93
Cure Communication	Cognitive Feelings	.69	15.85
Affective Feelings	Compliance	.15	1.37
Affective Feelings	Satisfaction	.38	4.67
Cognitive Feelings	Compliance	.51	5.73
Cognitive Feelings	Satisfaction	.50	6.62

Secondly, to differentiate between partial vs. full mediation, we estimate a rival model with adding direct paths from communication behavior to satisfaction and compliance (Wagner, Hennig-Thurau, & Rudolph, 2009). Two of these additional paths are insignificant: between care communication and compliance and between cure communication and compliance. That is, these relationships are fully mediated. However, the relationship between affective feelings and compliance is not significant, so cognitive feelings fully mediate between communication (care and cure) and compliance. All other relationships are partially mediated; the additional paths are significant. We provide an overview of these mediated relationships in table 2.5.

Table 2.5: Refined Mediation Result: Partial vs. Full

The Relationship of…	and …	is Mediated by:	Partially or Fully	With a t-Value of
Care communication	satisfaction	affective feelings	partially	4.553
Care communication	satisfaction	cognitive feelings	partially	4.553
Care communication	compliance	cognitive feelings	fully	1.516
Cure communication	satisfaction	affective feelings	partially	2.155
Cure communication	satisfaction	cognitive feelings	partially	2.155
Cure communication	compliance	cognitive feelings	fully	0.777

In support of H_9–H_{12}, the stronger relationships within a domain (care communication, affective feelings, and satisfaction versus cure communication, cognitive feelings, and compliance) again are apparent.

Study 3: Qualitative Validation

Encouraged by the quantitative findings, we conducted a qualitative study to validate our quantitative findings and gain further insights into implications for health practitioners.

Data Collection and Sample

Sixteen physicians in the region surrounding the university took part in structured in-depth interviews, with open-ended questions. Most of these physicians were women (10), and their average age was 36 years. Nine of them were more experienced physicians, and seven were less experienced assistants to doctors.

Interview Design

The interview began with an explanation of our research purpose. We also provided definitions of the main concepts, before asking them to recall incidents in which they used care communication and the effect of this communication on the patient. In addition, we asked about a typical incident using cure communication and its effect on patients. Finally, we presented the physicians with our conceptual

model and asked about its perceived applicability and relevance to their daily practices. Considering the busy schedules of physicians, we focused our interviews on these core questions and limited their length to approximately 15 minutes.

Results

Physicians use both types of communication and explicitly recognize the different elements of care and cure communication. For care communication, they noted their tendency to hold eye contact, show empathy, smile, and use a pleasant voice. For cure communication, they mentioned that they explain treatments, procedures, and medications. In table 2.6, we list the most frequently mentioned elements of both care and cure communication.

Physicians also were aware of the consequences of their communication styles, including effects on patients' feelings and other important outcome variables such as compliance and satisfaction. Beyond the variables we measured in our quantitative studies, they noted further interesting variables, such as feeling relieved, relaxed, trust, and relationship building. One doctor even mentioned the purposeful use of emotions to convince patients to comply:

"In some cases it helps to provide examples that patients can relate to. For instance you have some people in the ward and one of them develops complications and starts spitting blood. The others are really impressed by it and I can relate easier to them and convince them to follow the treatment by giving the living example of what might happen if they don't".

In the interviews, the physicians mentioned examples of care and cure elements simultaneously. When the physicians recalled their care behavior, they often used cure characteristics in their descriptions, and vice versa. The consequences described (i.e., feelings and outcome variables from the conceptual model) seemed strongly intermingled. For example, the physicians explained that care communication influences compliance and cure communication influences satisfaction too.

These relationships appeared in our conceptual model with dashed arrows, because we predicted that their relationships would be weaker than the

relationships between the variables that represented the same domain. However, in a real-life setting, we find that the two domains are very strongly interlinked.

Table 2.6: Typical Care and Cure Elements Mentioned by Physicians

CARE	Frequency
Talking/considering emotions explicitly	6
Physical closeness	6
Empathy	5
Eye contact	4
Show interest and understanding	4
Showing respect (equal partners)	4
Slow talking	3
(Being) relaxed	3
Encouraging	3
Calming pat	2
CURE	
Explaining	18
Asking and answering questions	6
Language (using simple language, clear and short sentences)	5
Professional (dosage; coming to the point, doing)	3

Finally, we determined that doctors use care and cure communications in different sequences. For example, one doctor would start with cure communication and observe the patient's reaction; if the patient reacts emotionally, he switched to care communication. Another doctor considered compliance much more important than satisfaction, so he relied heavily on cure communication. In contrast another doctor recommended:

> "the first way of communicating with a patient should be the care one, because that establishes satisfaction. Cognition comes later, so after the

patient is satisfied you can come in with cure communication and ensure treatment compliance"

In her opinion, with an established relationship and a comfortable patient, she can convince the patient to comply more easily. For some doctors, this process is less purposeful, such that one physician admitted,

"I use both unconsciously … start with care and when patients wants to know more I switch to cure."

The data also demonstrate that some physicians perceive patients' feelings as responses to external triggers other than their communication style. Most of these physicians used the feelings of patients as a starting point to determine their communication style. But five doctors also acknowledged that feelings result from communication styles, leading them to cite different situations as appropriate for the use of care or cure communication. For example, they might use care communication for specific patient groups (e.g., elderly people, children) and patients whose illnesses are very severe (e.g., cancer). No specific incident dominated for cure communication though; rather, the physicians used it mainly to inform or explain to patients. Only one doctor explicitly mentioned a focus on cure communication in highly complex situations. Thus we perceive that a doctor's communication style is not inherent but rather is flexible and adaptable to patients' needs. This finding should encourage practitioners to undertake training to improve their ability to tune the communication to the desired outcomes.

Discussion

Through several studies, we have investigated how a physician's communication style influences patients' satisfaction and compliance, mediated by their feelings. In particular, we find support for (1) the role of feelings as a mediator, (2) the separation of affective and cognitive feelings, (3) measuring feelings as a reaction to communication styles, and (4) the chain of reciprocity across constructs. This support stems from a qualitative validation of quantitative findings, which provide deeper, practical insights into this topic.

First, after providing empirical support for the main effects (H_1–H_4), we find support for H_5–H_8 regarding feelings as a mediator of those main effects. By

investigating their mediating role, we help increase understanding of how and why communication affects patient outcomes (Arora, 2003).

Second, we disentangle affective and cognitive feelings, though only to a certain extent, by considering them simultaneously and using the notion of the chain of reciprocity. The results confirm that affective feelings influence satisfaction more than they do compliance and that cognitive feelings influence compliance more than they do satisfaction. Affective feelings did not even influence compliance in our study. Because in our conceptual model, satisfaction belongs to the affective domain and compliance belongs to the cognitive domain, these findings indicate that the affective mediator is less likely to affect a cognitive outcome variable. The mediation results also clarify the difference between affective and cognitive feelings. By going beyond simple mediation tests, we confirm that affective feelings do not mediate between communication (care and cure) and compliance, whereas cognitive feelings fully mediate between communication (care and cure) and compliance.

Third, by measuring rather than manipulating feelings, we show that communication style influences and triggers feelings. These feelings in turn exert impacts on satisfaction and compliance.

Fourth, we find support for reciprocity theory in a high credence service setting. Contrary to previous research (Roberts & Aruguete, 2000), we used SEM by applying SmartPLS and we added feelings as an important construct to the model. On the basis of our SEM findings, we confirm the existence of reciprocity. In line with H_9–H_{12}, care communication influences affective feelings more than cognitive feelings, but cure communication influences cognitive feelings more than affective feelings. Furthermore, affective feelings influence satisfaction more than they do compliance and cognitive feelings influence compliance slightly more than they do satisfaction. We thus uncover the chain of reciprocity across a physician's communication style, the feelings triggered in the patient, and the patient's behavioral and attitudinal reactions to the physician. This chain highlights the two separate domains (affective and cognitive), such that within each domain, the relationships among constructs are stronger. Despite some cross-domain effects, in relative terms, the impact within each domain is slightly greater. The experimental

scenarios for our study included a critical health problem (swine flu), for which patients have a fundamental expectation of being cured (Gabbott & Hogg, 1995). Thus it seems reasonable that the dependent variables in our structural model experience a greater effect of cure communication and cognitive feelings.

Fifth, we find support for our theoretical model among practitioners. These interviews with physicians enable us to (1) identify typical situations in which physicians use one type of communication style more; (2) exemplify the typical elements that physician use in their care and cure communication, which match the elements from our experimental studies; (3) describe the effects of communication styles on patients, compatible with our quantitative findings; and (4) determine that physicians recognize the affective and cognitive domains, even though they consider those domains strongly interrelated. These qualitative findings support the external validity of our conceptual model.

Practical Implications

Our quantitative studies suggest that service providers should adjust their communication styles to the goal of the communication. A service provider whose goal is to achieve patient compliance therefore should focus on cure communication cues, emphasizing the physician's technical skills. If the aim is to increase patient satisfaction, the physician should apply care communication skills. Moreover, the two types of communication represent complementary tactics, such that a physician always uses a mixture of them. But in line with our model, we find that cure communication mainly leads to compliance, more so than to satisfaction, whereas care communication has the opposite effects.

Our qualitative validation study also demonstrates that physicians can tune their communication style to the desired outcomes. Thus specific communication training seems likely to benefit service providers in the health care industry. Such training should help service providers pay attention to their communication styles, be aware of customers' feelings, and understand the crucial role of patients' feelings which have a bridging function between the information the service provider conveys through their communication style and the desired outcomes. But not only health practitioners as such should be trained, also the health educators at

universities can improve their lecturing skills in order to have the right impact on future physicians (Lochner & Gijselaers, 2011). This way the communication style of physicians can be trained right from the beginning.

The qualitative study also indicates that physicians consider patients' feelings, though in our interviews, the physicians mainly attributed these feeling to external factors. The experiments still maintain that communication style is a key antecedent of patients' feelings—even if our interviewees seem unaware of this influence. Training that increases their awareness of the effects of their communication style thus would be very beneficial and help encourage a deeper understanding of patients' feelings. Additional research might investigate this link further, using methods such observation or role playing.

Overall, we suggest that the service encounter between a physician and a patient should be adapted to the aim of that encounter. Just like adaptive selling techniques, adaptive communication techniques could assist these service co-creators in realizing positive patient outcomes.

Limitations and Future Research

As in any study, our findings are restricted to some degree. In particular, we measured feelings by asking respondents directly and gathering their responses on a Likert scale. By giving them phrases to describe their feelings (i.e., items), we might make them aware of those feelings or even create or alter their emotional state. Further research therefore should use more implicit measures to obtain respondents' emotional reactions.

Another important issue for research is the external validation of our model in different contexts that focuses less on curing, which could lead to a weaker effect of cure communication. A study in another context also could investigate if the relative importance of the endogenous variable changes, which might allow for a perfect distinction between affective and cognitive feelings. Furthermore, a service setting with fewer credence qualities would help enrich our understanding.

In our qualitative study, most of our interviewees were women; a more balanced sample would be preferable for further research to gain a comprehensive picture. Since gender differences might affect general communication ability (Hyde

& Linn, 1988), the experience and expression of emotion (Kring & Gordon, 1998), and more specifically a medical communication might differ for male and female physicians (Roter, Hall, & Aoki, 2002).

Although the physicians recognized the two domains, their answers and examples were mingled. More extensive, in-depth interviews might help distinguish these two domains, as in our quantitative studies. Finally, the physicians indicated that patients with varying personal backgrounds perceive their communication styles differently. Thus they consider the educational background of their patients when choosing their communication style. We call for further studies that include several moderators based on personal characteristics to determine how the relationships change.

CHAPTER 3

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How Shy Students Engage in Voluntary Helping in the Classroom

How Shy Students Engage in Voluntary Helping in the Classroom:

The Encouraging Role of a Care Communication Style in an Educational Services Setting[4]

Abstract

This paper explores the relationships between shyness of college students and their helping behaviors in an educational context. Besides, we investigate to what extent the teachers' care communication style encourages shy students to engage in helping behaviors. In order to explore these relationships we collected three weekly data from 46 teachers and resulting in 2288 measurement points. Data from this within-subjects design were analyzed using multilevel analysis. Empirical findings reveal that shy students indeed are less inclined to help their peers. However, if shy students perceive high care communication from their teacher, they engage more in helping behaviors. Furthermore, the empirical analysis demonstrates that helping behavior increases over time. By knowing the effect of care communication and tuning it to the desired effect, the service providers (teachers) will be able to enhance helping behavior within the classroom and benefit from its various consequences.

[4] Kilic, R. I., Odekerken-Schröder, G., Van Emmerik, IJ.H., & Schreurs, B. (2011). How Shy Students Engage in Voluntary Helping in the Classroom: The Encouraging Role of a Care Communication Style in an Educational Services Setting, under review.

Introduction

Many developed countries can be seen as individualistic countries (Hofstede, 1983), which by definition means that individuals put less emphasis on helping each other. This might have severe consequences in a classroom setting. In class, especially shy students might be less inclined to help others (Gill & Oberlander, 2003; Mount, Barrick, & Stewart, 1998). We demonstrate that the teacher might create an appropriate social environment in which shy students feel more secure and comfortable, by using care communication (Lacina-Gifford, 2001). As a result, shy students might feel at ease and more self confident about helping others (Paulsen, et al., 2006).

Teachers are significant others whose behaviors and ways of communicating may have an important impact on classroom behaviors of students (Fredricks, Blumenfeld, & Paris, 2004; Paulsen, et al., 2006; Potter & Emanuel, 1990; Trigwell, et al., 1999). Existing literature suggests that teachers can impact students in various areas: learning achievements and approaches (Trigwell, et al., 1999; Witt, Wheeless, & Allen, 2004), students' motivation (Skinner & Belmont, 1993), students' interests (Rotgans & Schmidt, 2011), and commitment of students (Kearney & McCroskey, 1980). Moreover, students can be influenced through teachers' functional achievements (Wayne & Youngs, 2003), teaching styles (Ertesvåg, 2011), and involvement, structure, and autonomy (Skinner & Belmont, 1993). In the present study, we demonstrate the pivotal role of the teacher's style of communication. Specifically, we investigate how the teacher's style of communication affects students' helping behaviors in the classroom.

The present study will make the following contributions to the existing literature.

First, we demonstrate that shy students, who by definition experience discomfort and inhibition in the company of others (Jones, 1986) are less inclined to engage in helping behaviors in the classroom than other students. Since these students also have to be prepared for the labor market in which helping behavior is indispensable, this finding is intriguing and necessitates educational fine-tuning.

Second, the benefits of helping behavior in general and as a specific form of peer activity are acknowledged in a wide variety of contexts (Boud, et al., 1999; Griffiths, et al., 1995; Mastropieri, et al., 2001; Slavin, 1995; Van Emmerik, Jawahar, & Stone, 2004), and therefore understanding of the role of a teacher's communication style offers new perspectives to cultivate students' helping behavior.

Thirdly, we contribute to the existing literature by showing that a teacher's care communication can attenuate the shy student's tendency not to exhibit helping behavior. This implies that a shy student is more likely to demonstrate helping behavior if s/he interacts with a teacher who applies care communication. This finding widens the scope of the service dominant logic to a classroom setting (Vargo & Lusch, 2008) emphasizing that service provider (teacher's communication) and service recipient (student's shyness) co-create in realizing helping behavior.

Finally, whereas most studies in the area of improving classroom behaviors use a between- subjects research designs, we present a within-person design in which we examine the relationship between a student's shyness and his/her voluntarily helping behavior, while we assess the role of the teacher's care communication style within this relationship. Weekly diary data was gathered over the course of three weeks from a math-preparation course at a mid-sized European university. With this within-subjects model, we can better control for interpretations based on differences between persons.

Helping Behaviors in the Classroom

Social exchange theory (Blau, 1964) and reciprocity theory (Gouldner, 1960) indicate that individuals will respond to each other in kind, meaning e.g. nice behavior will be returned with nice behavior. Interestingly, reciprocity is not necessarily only between two parties. It can also be indirectly across individuals, such that one person helps another person and this person helps someone else in return (Blau, 1964; Deckop, Cirka, & Andersson, 2003).

Departing from social exchange theory (Rhoades & Eisenberger, 2002), we will examine the effects of care communication of the teacher on students'

engagement in helping behaviors towards others in the classroom. By using care communication, teachers build a supportive climate in the classroom and these benefits the students. The reciprocity phenomenon suggests that students experiencing this supportive climate might want to give something in return by also contributing to the supportive climate in the form of helping behaviors targeted at the others in the classroom.

Students are not only expected to be academically active but also socially, since being not social in the classroom is stressful for peers, teachers, and schools in general (Paulsen, et al., 2006). Consequently, given that schools would like to make a strong demand on their students for social behaviors, the curriculum increasingly focuses on enhancing generic skills and capabilities, such as communication skills, teamwork, and peer activities (Burton & Dowling, 2005). In essence, peer activities within the classroom, such as helping each other by commenting on each other's performance or other forms of peer assessment (Van Gennip, et al., 2010), peer mediation (Mastropieri, et al., 2001), peer learning (Boud, et al., 1999), and peer tutoring (Topping, 1996), are *compulsory* activities where students help each other to learn with and from each other. These activities may enhance skills and competences of students such as their collaboration, communication, collective responsibility taking skills (Griffiths, et al., 1995; Slavin, 1995), and academic and social skills. Peer activities may also increase students' self-esteem and improve relationships among students (Mastropieri, et al., 2001).

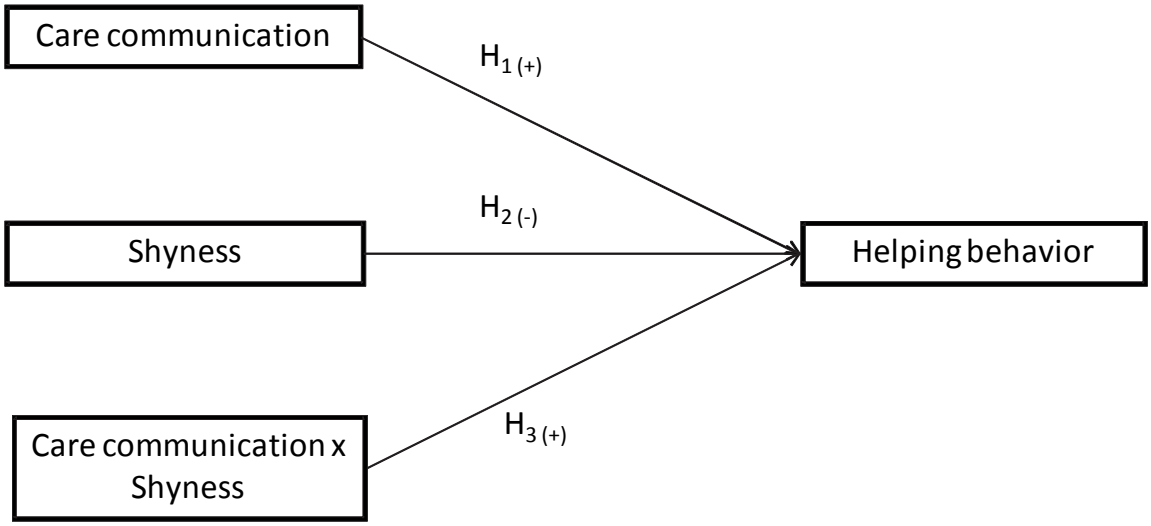
In addition to the above-mentioned peer activities and as a more specific form of peer activity, we will focus on helping behaviors. Helping behaviors refer to pro-social behaviors consisting of *voluntary* actions executed for the benefit of others without expecting a reward (Eisenberg & Mussen, 1989; Siegler, 2006). Thereby, the help provider helps someone else by voluntarily allocating time and effort (Wilson, 2000) without this behavior being a formal course requirement that s/he needs to accomplish (Organ, 1988). Studying helping behaviors in the classroom is getting more and more important, since helping behaviors – as a specific type of peer activity – are crucial in enhancing students' soft skills (Boud, et al., 1999; Griffiths, et al., 1995; Slavin, 1995), which company recruiters consider at least equally important to the knowledge acquired in the classroom (Andrews &

Higson, 2008; Boud, et al., 1999). During their studies, helping behaviors may also enhance social integration of students (Boud, et al., 1999; Slavin, 1996).

Helping behaviors in the classroom by students are not to be considered as static behaviors. Instead, as studies in developmental psychology showed (Bar-Tal, 1982; Bar-Tal, Raviv, & Leiser, 1980; Eisenberg, Miller, Shell, McNalley, & Shea, 1991), the involvement in helping behaviors changes over time, for instance with increasing age. Several organizational studies emphasized the dynamic nature of helping behavior in a shorter time span than ages. Ilies et al. (2006) for example demonstrated the dynamic nature of helping behavior with 66 full-time employees in a study on affect and behaviors at work. Recently, Spence et al. (2011) also conducted an investigation of workplace attitudes and behaviors, with a sample of 99 individuals and present a dynamic model of helping behavior. Therefore, we assume that helping behavior is not static over time.

Figure 3.1 shows the research model underlying this study. We investigate the extent to which shy students engage in helping behavior and demonstrate the encouraging role of a teacher's care communication in an educational services setting. In the next section we introduce the respective constructs and the corresponding hypotheses.

Figure 3.1: Research Model



Care Communication and Helping Behavior

To study how communication styles may affect subsequent classroom behaviors, we distinguish between two communication styles of a service provider such as teachers: cure and care communication. Both accentuate different aspects of interpersonal communication. While cure communication refers to task oriented communicational cues, care communication refers to socio-emotional or affective communicational cues (Ben-Sira, 1980; Bensing, 1991; Buller & Buller, 1987; Dabholkar, et al., 2009; Donabedian, 1996; Hall, et al., 1987; Ong, et al., 1995; Roberts & Aruguete, 2000; Roter & Hall, 1991; Sheng, et al., 2006; Webster & Sundaram, 2009). More specifically, the teacher's cure communication refers to all verbal and non-verbal behavioral cues of the teacher that signal his/her technical skills and expertise to the student (see Ong, et al., 1995 for an overview), which can be seen as the fundaments of the teaching process (Hamachek, 1969; Kearney & McCroskey, 1980). In contrast, the teacher's care communication is defined as all verbal and non-verbal behavioral cues that contain socio-emotional aspects and anything else said or done by the teacher to establish, maintain, and enhance a relationship with the student. We emphasize students' perspective, such that communication is any cue that the student perceives consciously or subconsciously during an interaction with the teacher (Kreps & Thornton, 1984; Rosengren, 2000).

We will concentrate on the teacher's use of care communication, which can be seen as incremental to the teacher's indispensable cure communication and we anticipate that different teachers will demonstrate different amount of care communication in the classroom. Several previous studies indicated that caring is associated with good teaching (Goldstein, 1997; Goldstein & Lake, 2000; Isenbarger & Zembylas, 2006), because a caring ambiance creates trust that allows students to take risks (McDermott, 1977) and it augments students' self-esteem (Charney, 1992). Additionally, care communication will nurture a good teacher-student relationship resulting in a supportive learning environment (Ertesvåg, 2011; Isenbarger & Zembylas, 2006). One of the characteristics of a supportive learning environment is students demonstrating helping behaviors towards their peers (Solomon, et al., 1988).

Moreover, social exchange theory (Blau, 1964) emphasizes the concept of unspecified obligations and reciprocation. When the teacher does express care for the student, there is an implicit expectation of some future return (Gouldner, 1960; Wayne, Shore, & Liden, 1997). As indicated, reciprocity is not necessarily only between two parties. It can also be indirectly across individuals, such that one person helps another person and this person helps someone else in return (Blau, 1964; Deckop, et al., 2003). Therefore, the student might want to reciprocate the nice and friendly behavior of the care communicating teacher, by also being nice and helpful to peers (Gouldner, 1960). Students who feel that they have been well supported by their care communicating teachers, can be expected to reciprocate by showing more helping behaviors than those reporting lower levels of care support by their teachers. This line of reasoning is in analogy with organizational literature (Armeli, Eisenberger, Fasolo, & Lynch, 1998; Eisenberger, Armeli, Rexwinkel, Lynch, & Rhoades, 2001; Eisenberger, Fasolo, & Davis-LaMastro, 1990; Wayne, et al., 1997). Thus, following social exchange theory and the norm of reciprocity, after controlling for cure communication, we hypothesize:

H_1: Care communication is positively associated with voluntarily helping behavior.

Shyness and Helping Behavior

Shyness is defined as “discomfort and inhibition in the presence of others” (Jones, et al., 1986, p. 629). Shy individuals typically demonstrate responses like tension, concern, feeling awkwardness, fear, doubt, discomfort, embarrassment, inhibition, and aversion when being with others (Cheek & Buss, 1981; Crozier & Burnham, 1990; Paulsen, et al., 2006). Additionally, shy individuals are described as people with social anxiety, lack of confidence, (Brophy, 1996; Jones, et al., 1986), low self-efficacy for forming and maintaining social relationships (Caprara, Steca, Cervone, & Artistico, 2003), low in self-esteem (Cheek & Buss, 1981; Jones, et al., 1986; Lawrence & Bennett, 1992), low social-confidence, and weak social skills (Miller, 1995).

Shy students, might not experience school as a pleasant place to be (Burruss & Kaenzig, 1999), which may have detrimental effects on performance and well-being, such as study anxiety (Vitasari, et al., 2010), lowered academic self-esteem, and self- and peer derogation regarding intelligence (Paulhus & Morgan, 1997). Shyness might result in reduced academic success, loss of concentration, speech problems (Ishiyama, 1984), and passivity (Paulsen, et al., 2006). At first glance shy people can even be perceived as less talented and less intelligent (Paulhus & Morgan, 1997). If shy students are forced by the teacher or curriculum design to socially interact, this enforcement might back fire due to higher stress level, embarrassment of the student, and fear of negative evaluation (Brophy, 1995; Crozier, 2003; Karakashian, et al., 2006; Lacina-Gifford, et al., 2002).

Schools typically represent loud and crowded places (Burruss & Kaenzig, 1999) with high social encounter characteristics (Heylen, Vissers, Op Den Akker, & Nijholt, 2004; Weinstein, 1991) in which shy students might be easily overlooked (Lacina-Gifford, 2001) or even might get lost in the crowd.

In an educational setting, helping behavior is a social process (Van Gennip, et al., 2010) and a classroom is considered as a social context that requires certain degrees of communication and interpersonal interaction between students (Van den Bossche, Gijselaers, Segers, & Kirschner, 2006; Weinstein, 1991). Several studies indicated that shyness can negatively affect performance in tasks requiring interpersonal interaction (Gill & Oberlander, 2003; Mount, et al., 1998). The student, who offers help to others, has to approach peers in order to interact, which imposes a challenge to shy students. Therefore, we hypothesize:

H_2: Shyness is negatively associated with voluntarily helping behavior.

The Moderating Role of Care Communication

Previously, we argued for a direct association between care communication and voluntary helping behaviors. However, we also expect an interaction effect between care communication and shyness, such that the negative association between shyness and helping behaviors decreases for higher levels of care

communication. Because teachers can support shy students instrumentally and emotionally (Paulsen, et al., 2006), they can promote a caring and friendly environment for the shy student (Lacina-Gifford, 2001). Furthermore, teachers who are sensitive towards the feelings and interests of the shy student and who show respect towards them, can build a good relationship with their students (Lacina-Gifford, 2001; Lacina-Gifford, et al., 2002). This behavior will create a secure social environment in which even shy students might be more likely to demonstrate helping behavior. In a similar vein, other scholars show that teachers' support can augment social and academic enhancement, feeling of security, and self-confidence (Kahn, 1992; Paulsen, et al., 2006), feeling of comfort and care (Lacina-Gifford, 2001; Paulhus & Morgan, 1997): encouraging shy students to act and help others. Therefore, we hypothesize:

H_3: Care communication style is moderating the negative association between shyness and helping behavior, such that more caring communication is weakening the association between shyness and helping behavior.

Methodology

Educational Context

We collected our data at a midsized European university within the first weeks of university experience of the students. The participants were enrolled in a preparation course for mathematics for all studies offered before they started with their first year of bachelor. The preparation course took place every day for four weeks. During a typical day the students went to a lecture and to a tutorial session. In the lecture all students were together. However, for the tutorial session they were divided into 50 tutorial groups according to their studies. The tutorial groups consisted of 30 to 40 students. During the tutorial session the students could put their knowledge gained from the lecture into practice by solving mathematical problems.

Procedure and Data Collection

Before the course started, the teachers were briefed about the purpose of this study and the data collection procedure was explained. While the course lasted four weeks, we only used the data collected within the first three weeks as the dropout rate after the third week was too high due to the start of other courses. Once a week, every Wednesday, the survey was delivered to the students during the tutorial session. Right after the tutorial session, they completed the paper based surveys and dropped it in a sealed box, which was provided within the classroom. This way their anonymity was assured.

The sample consisted of 917 students in the first, 733 in the second and 638 in the third week. Mean age was 19.92 years (SD 1.3) and the gender distribution was 22.9% female and 77.1% male participants.

Measures[5]

Communication Style

In order to measure the communication style of the teacher, care and cure, we adopted the measurements from Roberts and Aruguete (2000). Cure communication was measured with 4 items on a seven point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item of cure communication is “The tutor explained the most important topics of this tutorial session”. Aggregating the data over three weeks, Cronbach’s alpha was .84 for cure communication. The Cronbach’s alpha’s per week were equally strong .80 (week 1), .87 (week 2), and .86 (week 3). Care communication was measured with 4 items on a seven point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item for care communication is “The tutor was friendly towards the students”. Cronbach’s alpha across the three weeks was .85 and the Cronbach’s alpha’s per week were appropriate too: .83 (week 1), .85 (week 2), and .87 (week 3).

[5] All measures of the dissertation can be found in the appendix.

Cure and care communication were conceptualized as students' shared perceptions of cure and care communication of the teacher, and were assumed to be different across teachers. An aggregated score for cure or care communication was derived for each teacher by averaging individual-level (i.e., student) perceptions of the respective teacher's cure or care communication. Each teacher only taught one tutorial group; therefore teacher and tutorial group correspond with each other. In order to meaningfully aggregate individual level responses from students for each teacher, sufficient agreement across students of the same teacher had to be demonstrated. Before aggregating, we first assessed within-teacher agreement for care and cure communication by means of the Average Deviation ($AD_{MD(J)}$, AD henceforth) (Burke & Dunlap, 2002; Burke, Finkelstein, & Dusig, 1999; Dunlap, Burke, & Smith-Crowe, 2003). The AD index is computed by finding the average absolute deviation of each rating from the mean of the group rating (i.e., teacher) and then averaging the deviations. Smaller scores indicate better agreement. The mean AD obtained for care communication was .55 in week 1, .57 in week 2, and .53 in week 3. The mean AD obtained for cure communication was .75 in week 1, .67 in week 2, and .67 in week 3. These values are all substantially lower than the recommended value of 1.16 for a Likert-type 7-point scale (Burke & Dunlap, 2002), allowing aggregation.

Next, we assessed within-individual agreement in care and cure communication by means of the $r_{wg(J)}$- index (James, Demaree, & Wolf, 1984) using a uniform null distribution. The $r_{wg(J)}$-value obtained for care communication was .94 in week 1, .94 in week 2, and .93 in week 3. The $r_{wg(J)}$-value obtained for cure communication was .87 in week 1, .89 in week 2, and .87 in week 3. All values are well above the conventionally acceptable value of .70 (George, 1990; LeBreton, Burgess, Kaiser, Atchley, & James, 2003), also permitting aggregation.

Afterwards, we computed the intra-class correlation coefficient ICC(1) (Bliese, 2000). The ICC(1) can be interpreted as the proportion of total variance that can be explained by students belonging to the same teacher. The ICC(1) value obtained for care communication was .14 in week 1, .07 in week 2, and .11 in week 3. The ICC(1) value obtained for cure communication was .21 in week 1, .11 in week 2, and .15 in week 3. These values represent small to medium effects,

suggesting that teacher membership influenced students' perceptions of care and cure communication (LeBreton & Senter, 2008), suggesting that aggregation is allowed.

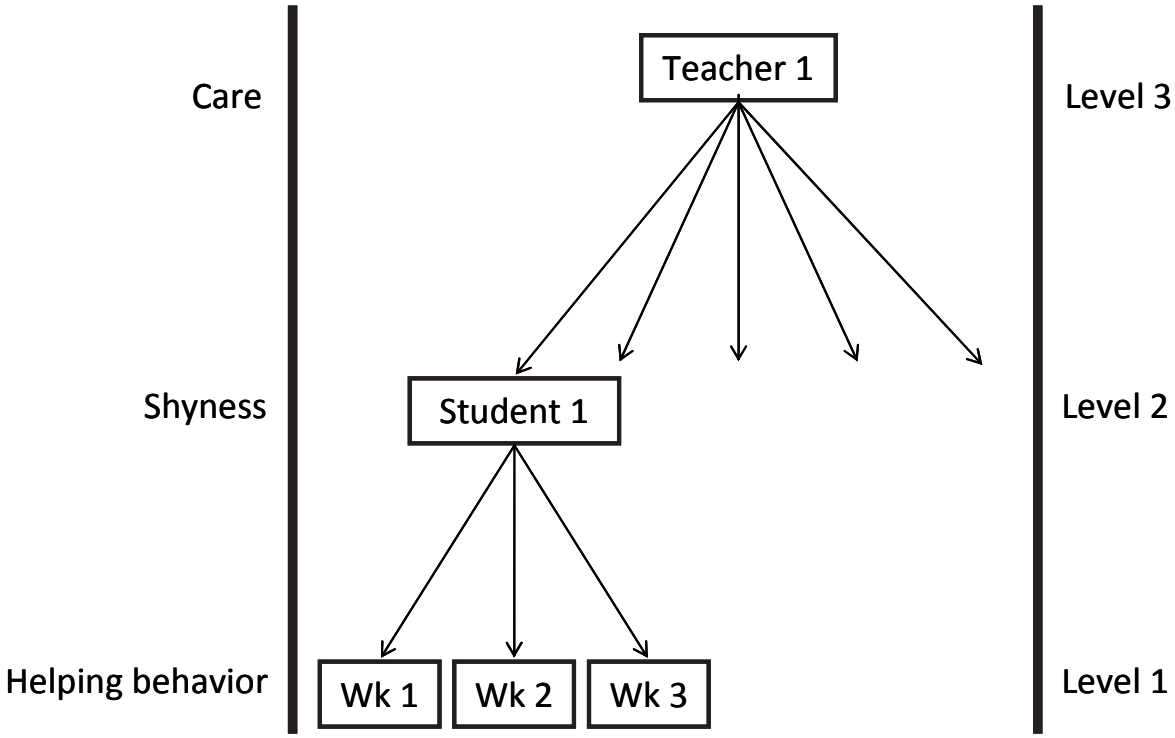
We further estimated the reliability of the teacher mean by means of the ICC(2) (Bliese, 2000). The ICC(2) value obtained for care communication was .77 in week 1, .54 in week 2, and .64 in week 3. The ICC(2) value obtained for cure communication was .84 in week 1, .66 in week 2, and .72 in week 3. These values are similar to, or even greater than, those obtained by other researchers (e.g. Gamero, González-Romá, & Peiró, 2008; Schneider, Salvaggio, & Subirats, 2002; Schneider, White, & Paul, 1998), and they indicate that the teacher means were sufficiently reliable, also justifying aggregation.

Finally, we carried out one-way analyses of variance (ANOVA) to ascertain whether there were significant mean level differences between teachers in terms of care and cure communication. The observed F values were all statistically significant at the $p < .001$ level. For week 1 $F(45, 864)=4.3$, week 2 $F(44, 687)=2.2$, and week 3 $F(44, 593)=2.8$ was obtained for care communication. For cure communication we obtained $F(45, 864)=6.1$ for week 1, $F(44, 687)=2.9$ for week 2, and $F(44, 593)=3.0$ for week 3. Together, these five indices provided sufficient justification for aggregation of individual perceptions to the teacher level, in order to create two new aggregated variables: Care communication and cure communication.

Shyness

Shyness was measured only once, as we picture in figure 3.2. We used three items, on a seven point Likert scale ranging from very poor (=1) to very good (=7): "being shy", "bashful with others", and "quite with people" – from the Mowen's Personality Scale to measure shyness (Van Emmerik, et al., 2004). Cronbach's alpha was .833 in our study. Students were asked to what extent these terms describe them.

Figure 3.2: Multi-level approach, indicating at which level constructs are measured



Helping Behavior

Within this study we measure helping behavior by using one of the subscales of organizational citizenship behavior (Belogolovsky & Somech, 2010). We used and rephrased three items to adjust to the educational setting. One sample item is: “I helped other students who had difficulties”. The responses were measured with a seven point Likert scale ranging from completely disagree (=1) to completely agree (=7). Cronbach’s alpha was .515 across weeks, and .478, .514, and .510 accordingly for each week.

Control Variables

Because helping behavior could be age related (Bar-Tal, 1982; Bar-Tal, et al., 1980) and it is an affect-driven behavior (Ilies, et al., 2006), we also included age (in years) and gender as control variables. Gender was dummy coded, with a 0 for male and 1 for female.

Results

As explained, we aggregated care communication at the teacher level (Level-3). We measured shyness (and age and gender) once for every student (Level-2), and we measured helping behavior every week for every student (Level-1). Figure 3.2, provides an overview of our multilevel measurements. Regarding the structure of the data, measurements at the week-level (Level 1) were nested within students (Level-2) since every student was observed on three different occasions. Furthermore, students (Level-2) were nested within teachers (Level-3). Multilevel analysis, a hierarchical linear modeling approach, was used for analyzing the data, because it accounts for the dependent nature of the measurements at the lower level (Hox, 2002). Stata/SE 10.1 for Windows was used for data analysis. Teacher- and student-level predictor variables were centered around the grand mean, and week-level predictor variables were centered around the respective student mean (Enders & Tofighi, 2007).

For the analyses, 2,288 measurement points (Level 1) from 1,052 students (Level 2) and 46 teachers (Level-3) were available[6]. The dependent variable was weekly helping behavior. To test the hypothesized interaction effect, the variables were entered in six consecutive steps. After the estimation of the intercept-only model (null model), that is to say, the model that contains no explanatory variables, the variable time was added to the model (model 1) to account for a possible linear trend in the dependent variable. Besides the intercept, also the slope of time was allowed to vary across individuals to account for the possibility that individuals have different rates of change in the dependent variable (Hox, 2002). In model 2, the Level-2 demographic control variables (age, gender) were entered, followed by the Level-2 variable shyness in model 3. In model 4 and 5, the Level-3 variables cure and care communication were entered, respectively. Finally, in model 6, the shyness * care communication interaction term was entered to examine the cross-level moderating hypothesis that a Level-3 care communication would moderate the

[6] The number of individual at each time point (week 1: 917, week 2: 733, week 3: 638) add up to 2288 measurement points. Across the three weeks, 1052 different students participated, and in total there were 46 different teachers.

effect of Level-2 shyness. The variables used to create the interaction terms were centered around the grand-mean prior to analyses (Enders & Tofighi, 2007). The improvement of each model over the previous one was tested using the difference between the respective likelihood ratios. This difference follows a chi-square distribution (degree of freedom equal to the number of new parameters added to the model).

Preliminary Analysis

Between-individual (student level) and within-individual (week level) correlations of all variables are presented in table 3.1. The correlations below the diagonal represent between-individual correlations and above the diagonal represent within-individual correlations. For the between-individual correlations, age was negatively correlated with gender and with helping behavior; and positively correlated with care communication. Care communication is also positively correlated with cure communication. Lastly, shyness is negatively correlated with helping behavior. For the within-individual correlations, we observe that helping behavior is positively correlated with care and cure. Moreover, care and cure are positively correlated with each other.

As table 3.1 demonstrates, care and cure are significantly and positively correlated with each other. This finding is in line with other scholars, who indicated that these communication styles are interlinked and do not exist in a vacuum. No service provider can strictly divide these two styles, since they are complementary and go hand in hand (De Valck, et al., 2001; Ong, et al., 1995).

Table 3.1: Correlation Matrix

	Age	Gender	Shyness	Care Communication	Cure Communication	Helping Behavior
Age						
Gender	-.08*					
Shyness	.05	.07				
Care Communication	.07*	-.01	-.06		.47**	.12**
Cure Communication	.04	-.02	-.04	.74**		.08**
Helping Behavior	-.11**	.05	-.14*	.01	.06	

Note: * Correlation is significant at the 0.05 level. ** Correlation is significant at the 0.01 level. Below the diagonal the correlations between students (student level) are represented. In the grey cells above the diagonal the correlations within students (week level) are represented, and were computed by standardizing the level-1 regression coefficients for predicting one variable with the other in fixed-effects HLM models.

Variability of Day-Level Measures over Time

Before testing the hypotheses, we examined the within-student, between-students and between-teacher variation of helping behavior across the three weeks by estimating its null model (Bryk & Raudenbush, 1992). The results for the null model and attendant variance partitioning are provided in table 3.2.

Table 3.2: Distribution of Variance for the Three Levels in the Null Model

	Level		
Dependent variable	Week	Individual	Teacherr
Helping behavior	63%	35%	2%

As shown in table 3.2, 63% of the variance in helping behavior could be attributed to within-student variation (i.e., fluctuations over time). 35% of the

variance in helping behavior was attributable to between-student variation, and 2% of the variance were attributable to between-teacher variation. These findings suggest that the dependent variable is not stable over time but fluctuates considerably, thereby supporting the application of multilevel analysis.

Test of Hypotheses

H_1 stated that care communication would be positively related to weekly helping behavior. Table 3.3 displays model fit information (difference of -2 Log Likelihood), estimates for the fixed and random parameters, and estimates for the variance components. As shown in table 3.3 (model 4), cure communication did not significantly predict helping behavior (*B* = -0.16; *ns*). Adding care communication to the equation (model 5) did not significantly improve the model fit (*B* = .24; *ns*). Hence, no support was found for H_1.

H_2 stated that shyness would be negatively associated with weekly helping behavior. As is shown in table 3.3 (model 3), shyness did negatively predict helping behavior (*B* = -0.12, *p* < .001), supporting H_2. The shyness-helping behavior relationship was significant in all other models presented, which further attests the robustness of this finding.

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Table 3.3: Fixed Effects Estimates (Top) and Variance-Covariance Estimates (Bottom) for Models Predicting Helping Behavior

Parameter	**Null model**		**Model 1**		**Model 2**		**Model 3**	
				Fixed effects				
Intercept	4.66	(0.04)	4.42	(0.05)	5.60	(0.52)	5.51	(0.51)
Time (γ_{100})			0.28***	(0.03)	0.29***	(0.03)	0.30***	(0.03)
Age (γ_{010})					-0.06*	(0.03)	-0.06*	(0.03)
Gender (γ_{020})					0.14	(0.08)	0.17*	(0.08)
Shyness (γ_{030})							-0.12***	(0.02)
Cure com (γ_{001})								
Care com (Care) (γ_{002})								
Care*Shyness (γ_{032})								
	Random parameters							
Level 3								
Intercept/intercept	0.03	(0.02)	0.04	(0.02)	0.03	(0.02)	0.02	(0.01)
Level 2								
Intercept/intercept	0.57	(0.05)	0.62	(0.08)	0.63	(0.08)	0.60	(0.08)
Time/time			0.11	(0.04)	0.11	(0.04)	0.12	(0.04)
Time/intercept			-0.05	(0.05)	-0.06	(0.05)	-0.06	(0.05)
Level 1								
Intercept/intercept	1.03	(0.04)	0.86	(0.05)	0.84	(0.05)	0.84	(0.05)
-2 x log likelihood	7,329.45		7,209.24		6,370.56		6,230.05	
Difference of -2 x Log			120.21***		838.68***		140.51***	
df			1		2		1	

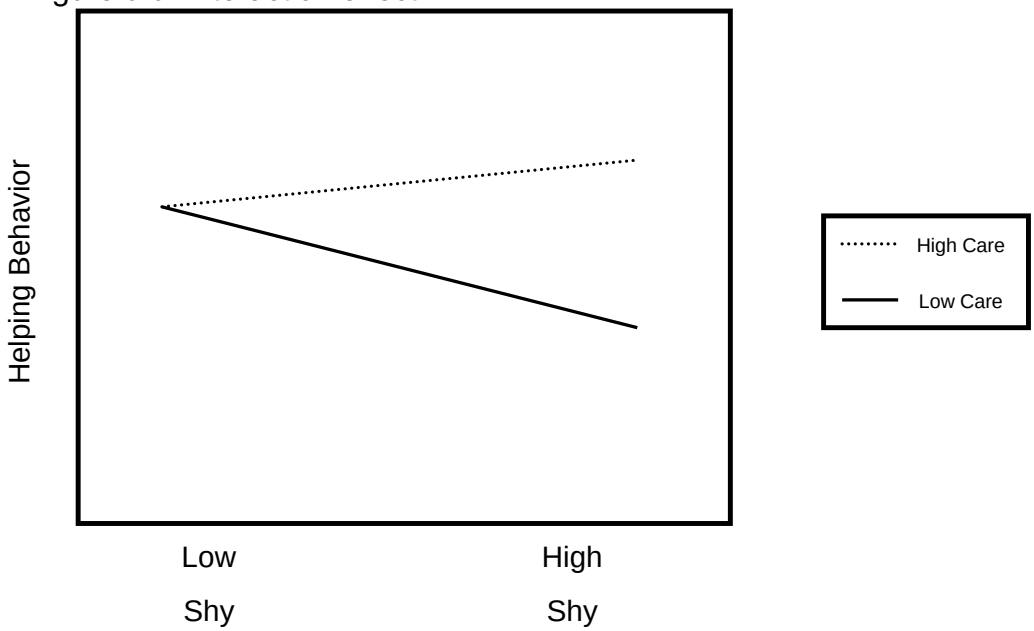
Table 3.3 (Continued)

Parameter	Model 4		Model 5		Model 6	
	Fixed effects					
Intercept	5.50	(0.51)	5.53	(0.51)	5.52	(0.51)
Time (γ100)	0.30***	(0.03)	0.30***	(0.03)	0.30***	(0.03)
Age (γ010)	-0.06*	(0.03)	-0.06*	(0.03)	-0.06*	(0.03)
Gender (γ020)	0.17*	(0.08)	0.17*	(0.08)	0.18*	(0.08)
Shyness (γ030)	-0.12***	(0.02)	-0.12***	(0.02)	-0.12***	(0.02)
Cure com (γ001)	-0.16	(0.10)	-0.30	(0.19)	-0.29	(0.19)
Care com (Care) (γ002)			0.24	(0.29)	0.20	(0.29)
Care*Shyness (γ032)					0.20*	(0.09)
	Random parameters					
Level 3						
Intercept/intercept	0.02	(0.01)	0.02	(0.01)	0.02	(0.01)
Level 2						
Intercept/intercept	0.60	(0.08)	0.60	(0.08)	0.59	(0.08)
Time/time	0.12	(0.04)	0.12	(0.04)	0.12	(0.04)
Time/intercept	-0.06	(0.05)	-0.06	(0.05)	-0.06	(0.05)
Level 1						
Intercept/intercept	0.84	(0.05)	0.84	(0.05)	0.84	(0.05)
-2 x log likelihood	6,227.57		6,226.90		6,222.23	
Difference of -2 x Log	2.48		0.67		4.67*	
df	1		1		1	

Note. * p < .05. ** p < .01. *** p < .001.

H_3 predicted that care communication would moderate the relationship of shyness with helping behavior. As is shown in table 3.3 (model 6), H_3 was supported in that care communication influenced the relationship between shyness and helping behavior (B = 0.20, p < .05). The form of this interaction effect is shown in figure 3.3. Visual inspection of the graph and simple slope tests showed that, as predicted, shyness was associated with lower levels of helping behavior only for students whose teacher scored low on care communication.

Figure 3.3: Interaction effect



Discussion

In this study we demonstrated that (1) care communication alone does not have an influence on helping behavior, (2) shyness is negatively related to helping behavior, and (3) teachers' care communication enhances helping behavior of shy students. Also based on these key findings, this paper advanced existing literature by using a within-subject study design to investigate the relationships between shyness of students and voluntarily helping behavior of students, and the moderating role of the teacher's care communication. Furthermore, the concept of helping behavior was refined, focusing on voluntary rather than compulsory helping behavior.

Our first contribution is that we applied the care communication concept from the services literature (Dabholkar, et al., 2009; Donabedian, 1996; Sheng, et al., 2006; Webster & Sundaram, 2009) and health care literature (for an overview see Ong, et al., 1995) to an educational setting. Thereby, we investigated to what extent the teachers' care communication can overcome shy students' barriers to demonstrate voluntary helping behavior.

Nevertheless, we were unable to find empirical evidence for H_1, in which we assumed a positive association between care communication and students' voluntary helping behavior. A potential explanation might be found in the educational setting, which can be seen as a high credence services setting. In an educational setting, service delivery and service consumption take place simultaneously. This means that the teacher (service provider) and the student (service recipient) both have to be present and involved (Bowen, 1990; Carman & Langeard, 1980; Donnelly, 1976; Grönroos, 1978; Matear, Gray, Garrett, & Deans, 2000; Onkvisit & Shaw, 1991; Regan, 1963; Wolak, Kalafatis, & Harris, 1998; Wyckham, Fitzroy, & Mandry, 1975; Zeithaml, 1981). Several scholars even argue that services are co-created (Gabbott & Hogg, 2001; McColl-Kennedy, et al., 2009; Vargo & Lusch, 2008; Whitaker, 1980).

In line with this literature stream, it is not surprising that helping behavior is not significantly influenced by care communication only, as the student plays a crucial role in exhibiting voluntary helping behavior.

As our second contribution, to our best knowledge, our study is the first examining the relationship between shyness and helping behavior. By definition shy students tend to experience discomfort and inhibition in the company of others (Jones, et al., 1986) and they frequently report feelings of tension, concern and worry (Cheek & Buss, 1981). Given that schools represent a social environment which require interpersonal interaction within classroom (Heylen, et al., 2004; Van den Bossche, et al., 2006; Weinstein, 1991), H_2 expressed that shyness has a negative impact on voluntary helping behavior. We found empirical support for the negative relationship between shyness and voluntary helping behavior, implying that shy students, due to their personality, cannot benefit from the various advantageous of demonstrating helping behavior. For that reason, we asked

ourselves: can teachers support shy students and thereby enable them to help others?

As our third contribution, we focused on helping behavior as an extra-role behavior of the students and thereby enhance the education literature in two ways: first, we consider extra-role behavior as voluntary rather than compulsory helping behavior (Van Emmerik, et al., 2004). Students' helping behavior and its positive consequences, such as academic and social achievement have been investigated within peer-intervention (-assessment, -learning, - feedback etc.) studies in the education literature. However, in these studies the helping behavior of the students was "forced" (explicitly asked) by teachers or study designers (Boud, et al., 1999; Mastropieri, et al., 2001; Van Gennip, et al., 2010). Within our study, the helping behaviors of the students are completely *voluntarily*. This is of high importance particularly for shy student group, because if they are not yet ready for social interaction and they are forced to do so, this might backfire and increase the inhibition, tension and stress level of the students even more (Brophy, 1995; Crozier, 2003; Lacina-Gifford, et al., 2002). Therefore, it is important to differentiate between peer-intervention and helping behaviors and to focus on the voluntary helping behavior. Second, up until now only the extra-role behavior of teachers as employees of an organization (universities or schools) were considered (Belogolovsky & Somech, 2010) and, to our knowledge, the extra-role behavior – as helping behavior – of students never received any attention so far.

Our fourth contribution is related to our multilevel study design. We developed a within-subject design in which we examined the relationship between a student's shyness and his/her voluntarily helping behavior, while we assessed the role of the teacher's care communication within this relationship. Weekly diary data was gathered over the course of three weeks at a mid-sized university with first year students. This is approach is complementary to the traditional between-person approach and has the advantage of controlling interpretations based on differences between individuals.

Last but not least, the study design with its three levels – especially the week level – enabled us to demonstrate the fluctuating character of helping behavior. As the variance decomposition already indicated, most of the variance in helping

behavior was explained on the week level. Furthermore, including time as an indicator in the hierarchical model demonstrated that time has a positive relationship with helping behavior. Based on these insights, we demonstrated that helping behavior of students increases over time. A potential explanation for this increase might be that in the first week of the course students wait and watch, and once they are at ease and feel comfortable, they increase their help towards known individuals within their group (Amato, 1990).

Practical Implications

In the present study, we found support for the impact of the teacher's care communication on the effect of shyness on voluntary helping behavior. This study particularly illustrated that the mere communication style, without considering e.g. instructional style or classroom structuring, is of importance for desired student behaviors. We could support our hypothesis that care communication of the teacher is especially beneficial for the shy student group. Care communication provides a safety net and a comfortable environment for the shy to be engaged and socially integrated in the group. Teachers, curriculum directors and school boards could consider paying special attention to the teacher's care communication, ultimately resulting in students' voluntary helping behavior. Therefore, teachers would benefit from incorporating communication trainings in their education, besides general methods that improve their lecturing skills (Lochner & Gijselaers, 2011). Future teachers have to be aware of the effects of their interpersonal communication style on shy students' helping behavior. The teacher could create a comfortable and secure environment for shy students.

University managers, who are concerned about social integration of students, drop out rates, and the difficult transition phase from high school to university, especially for shy students (Briggs, 1988; Burton & Dowling, 2005; Buss, 1980), and high student achievements' should ensure that their employees are well qualified in communication skills.

Limitations and Future Research

Like other studies, our study has potential limitations which can be addressed in future studies. A first possible limitation is that we collected data from rather large tutorial groups with 30-50 students to assess the relationship between care communication and students' helping behavior. However, the relationship between care communication and the desired outcomes might differ for smaller groups. We could assume that in a smaller group the intensity and form of a relationship between the teacher and student is more intense and close. A further study could focus on smaller groups to investigate the relationship between the teachers' communication style and the students' helping behavior. Other didactic approaches such as problem based learning take place in smaller groups and would offer an interesting educational setting.

Second, the constructs of our study mainly focused on individuals' perception about themselves or about their teachers and did not consider any group effects. However, in a classroom the interaction between the teacher and student is not one-to-one, because of the presence, involvement and interference of other tutorial members. The explicit incorporation of group variables, such as group diversity or group achievement, might shed new light on interesting outcomes such as helping behavior.

Third, the Cronbach's alpha values of helping behavior were below the recommended cut-off point of .7. Future researchers are encouraged to adopt a measurement scale from organizational citizenship behavior with more items for the educational context. A measurement with more than three items might improve the internal reliability of the scale.

Furthermore, it would be interesting to observe the communication style of the teacher and helping behavior of the students for a longer period to investigate whether a development over time can be demonstrated.

Finally, our study focuses on an educational services environment and so far lacks generalizability to other contexts. Future studies could extend our findings by investigating different but related settings. Would shy employees be less likely to help others until their supervisor shows care communication?

CHAPTER 4

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Antecedents and Carryover Effects of Helping Behavior

Antecedents and Carryover Effects of Helping Behavior:

The Role of Care Communication in an Educational Setting[7]

Abstract

This study explores the relationships between care communication of a service provider, feelings triggered in the service recipient and the helping behavior of the service recipient in an educational context. We investigated the direct effect of the teacher's care communication on students' helping behavior, and we investigate the indirect effect of care communication through the mediating role of students' feelings on their helping behavior. We used Structural Equation Modeling (SmartPLS) to analyze survey data collected at the beginning, in the middle and at the end of an academic course, including 90 students. This approach also enables us to investigate the carryover effect of helping behavior and to investigate the intensity of feelings as mediator. Our empirical findings reveal that care communication influences helping behavior through the feelings of the students. Furthermore, the empirical analysis demonstrates that helping behavior of the current time period impacts future helping behavior and that the intensity of feelings' mediating role changes across the course of time. These finding suggest that the teacher should already pay attention at his/her communication style at the beginning of a course, impacting students' future helping behavior.

[7] Kilic, R.I., Odekerken-Schröder, G., Van Emmerik, IJ.H. (2011). Antecedents and Carryover Effects of Helping Behavior: The Role of Care Communication in an Educational Setting, under review.

Introduction

As indicated in chapter 3, helping behaviors are prosocial behaviors (Bar-Tal, 1982; Solomon, et al., 1988; Stanhope, et al., 1987) and can be understood as behaviors which are voluntarily performed for the benefit of others without anticipating external rewards (Bar-Tal, 1982; Eisenberg & Mussen, 1989). Within organizations, helping behaviors are defined as the voluntarily behaviors of employees that are not formally required from the organization and are comprised performing extra-job activities and assisting colleagues (Organ, 1988). Helping behaviors, by promoting cooperation and ethical responsiveness, are fundamental for the functioning of society, organizations, and -important for the present study- classrooms (Organ, 1988; Solomon, et al., 1988; Stanhope, et al., 1987).

In the educational context, helping behaviors appear in the form of peer activities and can be described as the processes by which students help each other to learn with and from each other (Boud, et al., 1999; Mastropieri, et al., 2001; Topping, 1996; Van Gennip, et al., 2010). In addition to encouraging students' performance, peer helping behaviors are typically enforced by the educational setting. In the present study, peer helping activities are refined such that we focus on voluntarily helping behaviors of students and therewith represent activities that go beyond formal and compulsory requirements (Organ, 1988). In addition, it is important to make a distinction between common peer activities and voluntarily helping behaviors, since previous studies observed several negative effects of forced peer activities (Evans & Beinert, 1992; Stanhope, et al., 1987): (1) reactance (Bendapudi, Singh, & Bendapudi, 1996; Brehm, 1966); (2) more tension and inhibition (Lacina-Gifford, et al., 2002; Paulhus & Morgan, 1997); (3) fear of negative evaluation (Karakashian, et al., 2006), and (4) higher level of embarrassment and stress (Brophy, 1995; Crozier, 2003).

For successful and efficient functioning of students in the classroom, helping behaviors are indispensable as they may have many beneficial effects. For instance, helping behaviors in the classroom may free up resources, such as time and money, of the teacher and university (Boud, et al., 1999; Podsakoff, et al.,

1997), increases academic and social skills of students (Packham & Miller, 2000; Topping, 1996; Webb & Farivar, 1994) and may facilitate social integration (Podsakoff, et al., 1997) and social cohesiveness (Slavin, 1996) within the classroom. The social ties which result from helping behavior (Amato, 1990) will also be beneficial for students' further development on the labor market, as they might build a supportive network of friends. These benefits are valuable for various parties such as the help seeker, the help giver, teachers, the university, and future employers.

Acknowledging the beneficial effects of helping behaviors, it is important to investigate what antecedents, such as the teacher's communication style and feelings evoked, may explain helping behaviors in the classroom. In addition, departing from the notion that behaviors are not created anew each time (Bolton & Drew, 1991; Oliver, 1980), but are rather up-dates from previous experiences, it is also crucial to investigate how helping behaviors of today impact the helping behaviors of future. For instance, if there is a carryover effect of exhibiting this desired behavior to future, then high efforts of using an appropriate communication should be emphasized right from the beginning of a course. Departing form a dynamic perspective, it is necessary to model the carryover effects of helping behavior and the intensity of the mediating role of feelings across the time frame of an academic course. Therefore, this study has three major objectives.

The first objective of this study is to uncover to what extent the teacher's communication style plays a role in encouraging students' helping behavior. The second objective of this study is to investigate whether students' feelings mediate the impact of teachers' communication on students' helping behaviors. Our third objective is to investigate the carryover effect of helping behavior during an academic course in order to see if the performance of this desired behavior sets an anchor for performing the same behavior in subsequent periods.

Based on these objectives, this study offers three major contributions to the existing literature on helping behavior in an educational setting. Our first contribution is to uncover the role teachers can play in encouraging helping behavior. We will consider teachers' care communication as perceived by students and examine if this type of communication is associated with the students' helping

behaviors. Generally, we know that teachers influence many different behaviors of their students (Rotgans & Schmidt, 2011; Skinner & Belmont, 1993; Trigwell, et al., 1999). Furthermore, caring from teachers side is considered an important element of teaching (Goldstein, 1997; Isenbarger & Zembylas, 2006) which enhances e.g. trust, teacher-students relationship, and self-esteem of student (Charney, 1992; Ertesvåg, 2011; Isenbarger & Zembylas, 2006; McDermott, 1977). Moreover, the students might replicate the nice and caring communication of their teachers, by also being nice and helpful towards their peers (Gouldner, 1960). Therefore, we hypothesize that the care communication of the teachers will be associated with more helping behavior.

Our second contribution is to assess the mediating role of positive feelings which explain why care communication style has an impact on helping behavior, especially in the context of credence services. This contribution is based on the feelings-as-information theory (Schwarz, 1990, 2002a; Schwarz & Clore, 1996, 2007). This theory hypothesizes that people, under certain circumstances such as lack of knowledge, complexity and affective situation, use their feelings as a direct source of information to judge and evaluate their situation (Clore & Parrott, 1994; Schwarz, 2002a, 2004; Schwarz & Clore, 2007). In services literature there is a call for papers which investigate the role of feelings in services (Dagger, et al., 2007; Edvardsson, 2005; Mattila & Enz, 2002; Price, et al., 1995). Kilic et al (2011)8 already supported the mediating role of feelings in their research model. However, we want to bring this mediating role one step further and investigate how the intensity of the mediator changes over time.

We thirdly contribute to the existing literature by investigating whether there is a carryover effect of helping behavior across time, since it is insightful to discover if the performance of a desired behavior in the current time period also impacts the

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[8] Kilic, R.I., Odekerken-Schröder, G., Van Emmerik, IJ.H. (2011). How Communication Impacts Satisfaction and Compliance: the Mediating Role of Feelings in a Medical Services Setting, submitted to Journal of Service Research.

engagement in helping behavior in subsequent periods. These insights would determine the importance of teacher's care communication early in the course.

Helping Behaviors in the Classroom

Helping behaviors can be defined as activities entailing more commitment than spontaneous assistance in which time is given freely to benefit another person, group, organization or cause (Wilson, 2000). Helping behaviors can be targeted toward other students but also to teachers or to the whole classroom. As such, helping behaviors are vital for the effective functioning of schools. While a substantial body of research has investigated voluntarily helping behaviors within organizations, relatively few studies have focused on voluntarily helping behaviors within the educational context.

Helping behaviors offer various benefits to all parties involved. For instance, the help providing student may learn how to give elaborate answers and simultaneously learn to recognize and clarify materials in new ways and this cognitive re-structuring enhances students' own understanding. On the other hand, help seeking students may benefit directly from this action by filling their gap of knowledge or needs (Webb & Farivar, 1994). Universities can save resources – time and money – which are freed up, because students help each other, instead of relying on teachers' input (Boud, et al., 1999; Spence, et al., 2011). Furthermore, crucial soft skills, such as team work and responsibility taking, are acquired by helping behavior of students (Boud, et al., 1999; Griffiths, et al., 1995; Topping, 1996). In addition, the acquired and transferable skills, developed by engaging in helping behaviors are also demanded by future employers (Boud, et al., 1999). Last but not least, social ties can be strengthened within a group and social integration and cohesiveness may increase as a consequence of helping behaviors (Amato, 1990; Podsakoff, et al., 1997; Slavin, 1996).

Carryover Effect of Helping Behavior

Scholars from different fields indicated that helping behavior is not a static behavior (Benson, et al., 1980; Ilies, et al., 2006; Spence, et al., 2011). Being inspired by these insights, we are interested in the carryover effect of helping

behavior, emphasizing the need to foster helping behavior at the start of an academic period. Even though there are scholars arguing that perceptions, attitudes, and intentions in one period serve as a foundation for the next period (Bolton & Drew, 1991; Oliver, 1980), to our knowledge, there is no research that considered the carryover effect of helping behavior (Johnson, Herrmann, & Huber, 2006). Consequently, we hypothesize:

H_1: Helping behavior of the current period will have a positive effect on helping behavior in a subsequent period.

Care Communication and Helping Behavior

Teachers – as significant others – can influence students. Within this study we focus on the role of teachers, since they are the frontline employees of universities who get in contact with students and teachers play a crucial role within the educational setting. This study focuses on one specific behavior of the teacher: care communication style as perceived by the students. Since this communication style encompasses behaviors of the teachers such as showing respect, interest, feelings towards students and promoting a friendly environment. This communication style has an affective orientation. It is defined as all verbal and non-verbal cues that contain socio-emotional aspects and anything said or done by the teacher to establish, maintain, and enhance a relationship with the student (Hall, et al., 1987; Ong, et al., 1995; Roberts & Aruguete, 2000).

Even though the technical communication style, where the teacher shows his expertise and knowledge, is important, we exclusively focus on care communication, as this is something extra the teacher can offer beyond technical communication (Hamachek, 1969; Kearney & McCroskey, 1980). The supportive teacher-student relationship encourages prosocial actions of students (Solomon, et

al., 1988). Kilic et al (2011)[9] focused on the effects of care communication of the teacher and its effect on helping behavior in a within-individual design. However, this study could not demonstrate an effect of care communication on helping behavior. Building on that study we aim at showing an indirect influence of care communication on helping behavior.

We assume a positive relationship between teachers' care communication and students' helping behavior and support this assumption with two arguments. Firstly, scholars indicate that caring for students will provide a desired social environment (Lacina-Gifford, 2001; Paulhus & Morgan, 1997) that encourages students to open up and be active in social encounter. Secondly, in line with social exchange theory (Blau, 1964) and the norm of reciprocity (Gouldner, 1960), the students might want to reciprocate the caring behavior of the teacher by being helpful to others. Social exchange theory represents the idea of unspecified obligations and reciprocity. Reciprocity – individuals will respond to another in kind (Gouldner, 1960) – is essential aspect of life (Deckop, et al., 2003). In certain situations where formal and contractual obligations are absent, individuals rely even more on the norm of reciprocity (Deckop, et al., 2003). In our study, students are in a very similar situation because the helping behavior is not a formal requirement and therefore it is rather based on the norm of reciprocity.

Interestingly, the reciprocity does not have to be direct from one person to the other (Blau, 1964). An indirect chain of reciprocity is also possible, e.g. where one person helps another person, and this person helps someone else. In analogy with organizational and educational literature (Armeli, et al., 1998; Eisenberger, et al., 2001; Solomon, et al., 1988), we expect that students who feel that they have been supported by their teacher via care communication will be more likely to help other students, than those who report lower levels of care communication. Therefore, we hypothesize:

H_2: Care communication is positively associated with helping behavior.

[9] Kilic, R. I., Odekerken-Schröder, G., Van Emmerik, IJ.H., & Schreurs, B. (2011). How Shy Students Engage in Voluntary Helping in the Classroom: The Encouraging Role of a Care Communication Style in an Educational Services Setting, under review.

Feelings as Mediator

A common typology in services research reflects a distinction between search, experience and credence services (Darby & Karni, 1973; Nelson, 1970). An educational setting can be seen as a service high in credence properties (Hsieh et al., 2005). These services are described as services that customers might not be able to evaluate due to customers' lack of knowledge.

The role of emotions is also explored within the services literature (Mattila & Wirtz, 2002; Miller, et al., 2009; Schoefer, 2010; Spake, et al., 2003). It is known that a variety of feelings are evoked during interactions at the service encounter (Edvardsson, 2005; Mattila & Enz, 2002; Price, et al., 1995). Especially in credence services, the emotions are seen as a central element to understand the experience of service recipient (Mattila & Enz, 2002). Also within education, the role of feelings is acknowledged (Tempelaar, et al., 2007). Moreover, an extensive body of research in social psychology, consumer behavior and services show that the feelings of individuals serve as a direct source of information (Dubé & Menon, 2000; Edvardsson, 2005; Essén & Wikström, 2008; Mattila & Enz, 2002; Pham, 2004; Schwarz, 1990; Schwarz & Clore, 2007; Wirtz, et al., 2007).

Focusing on the specific credence service qualities of the educational setting, existing literature implies a mediating role of feelings. Further support for a potential mediating role of feelings originates from the organizational literature. Ilies et al. (2006) state that helping behavior is influenced by affective states. Also Spence et al. (2011) show in their analysis that positive affective state mediate the relationship between events and prosocial behavior. Other scholars (George & Brief, 1992) affirm that the positive feelings, which are associated with social behavior, can be influenced by the role of the leader. These authors describe the phenomenon as "contagious nature" and therewith illustrate the chain of reciprocity between the leader and its subordinates and the prosocial behavior among subordinates. This is completely in line with our idea, that the teacher's caring communication will trigger positive feelings, which will ultimately enhance the helping behavior among students.

Regarding the intensity of the mediating effect, Schwarz (1990) mentions that certain conditions enhance the use of feelings. He states that the affective nature of the judgment at hand, lack of other information, and the complexity of the given situation foster the reliance on feelings. Under these circumstances the likelihood of using ones feelings-as-information increases. However, we assume that these conditions hold in a novel and unfamiliar situation, but with time passing these conditions will weaken or even disappear such that the effect of the feelings as a mediator might decrease. Summarizing, communication can influence feelings (Spake, et al., 2003; Webster & Sundaram, 2009) and these feelings influence judgment and behavior (Schwarz, 1990; Spence, et al., 2011), but this mediating effect will decrease over time (Schwarz, 1990), we hypothesize:

H_3: Positive feelings will mediate the relationship between care communication and helping behavior, however the intensity of the mediation effect will weaken over time.

Methodology

Data Collection and Sample

To test the hypotheses, we collected data at a medium-sized European university during a typical eight week academic course. The students were recruited from an undergraduate course and their participation was on voluntary basis. In exchange for their participation they took part in a lottery where they could win shopping vouchers.

Before the course started, the teachers were briefed about the purpose of this study and the data collection procedure was explained. While the course lasted eight weeks, we collected data in the first week (t_1), third week (t_2) and seventh week (t_3) to assess the carryover effect of helping behavior. Right after the tutorial sessions, students completed the paper based surveys and dropped it in a sealed

box, which was provided within the classroom. This way their anonymity was assured.

The sample consisted of 230 students in t_1, 151 in t_2 and 124 in t_3. But for the analysis in SmartPLS, we only used 90 students who took part in each wave of data collection. Mean age was 20.53 years (SD 1.7) and the gender distribution was 25% female and 75% male participants.

Measures[10]

Communication Style

In order to measure students' perceived care communication style of the teacher we adopted the care communication scale from Roberts and Aruguete (2000). Care communication was measured with 5 items on a seven point Likert scale ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item for care communication of the teacher is "The tutor was friendly towards the students". Cronbach's alpha was .93 for t_1, .95 for t_2, and .90 for t_3 for this construct.

Helping Behavior

There are various forms of helping behavior, such as volunteering, within this study we focus on a helping behavior within the organizational citizenship behavior scale (Organ, 1994). We used the subscale of organizational citizenship behavior from Belogolovsky and Somech (2010) with three items (adapted to the educational context). An example item is: "I helped other students who had difficulties". The responses were measured on a seven point Likert scale ranging from completely disagree (1) to completely agree (7). Cronbach's alpha was .55 for t_1, .75 for t_2, and .85 for t_3 for this construct.

Feelings

In order to measure students' feelings, we adopted the measurements of the consumption emotions set scale from Richins (1997). Students were asked to what

[10] All measures of the dissertation can be found in the appendix.

extent they experienced a list of feelings during the tutorial session. For the measurement of positive feelings we used 3 items such as “happy” on a seven point Likert scale ranging from 1 (not at all) to 7 (to a great extent). Cronbach’s alpha was .82 for t_1, .87 for t_2, and .9 for t_3 for this construct.

Results

Our model involves 9 latent constructs with carryover effects. Partial Least Squares (PLS), a type of structural equation modeling, is well suited to the estimation of complex structural equation models. Therefore, PLS was applied to test all the constructs and hypotheses. Regarding the advantages, PLS simultaneously estimates all path coefficients (standardized values) and each item loadings within one model, as a consequence it enables us to avoid biased and inconsistent results (Grégoire & Fisher, 2006; Hulland, 1999). Moreover, PLS has fewer limitations and statistical specification than covariance-based techniques, for instance LISREL (Hennig-Thurau, et al., 2006). Finally, PLS makes minimal demand on sample size (Chin, 1998; Hennig-Thurau, et al., 2006; Yi & Gong, 2009).

Measurement Model

The measurement model is estimated with SmartPLS by first evaluating the reliability of each item, then inspecting the discriminant validity between constructs, and afterwards considering the convergent validity of the measures (Fornell & Cha, 1994; Hulland, 1999; Mathwick, et al., 2008; White, et al., 2003). Item reliability is assessed by examining the loadings of each measure on its respective construct. All loadings exceed the cut-off point of 0.7 substantially. But only one item of helping behavior in t_1 reached .5 (Hulland, 1999).

The discriminant validity of the constructs was evaluated in two steps. Firstly, examining of the cross-loadings revealed that each item loads more highly on their respective construct than it does on other constructs. Secondly, we computed the square root of the average variance extracted from each construct and compared these values with its correlations with the other constructs (Hulland, 1999). As table

4.1 depicts, all values of square root of average variance extracted (AVE) are greater than all the other correlations.

Table 4.1: Correlation Matrix and Square Root of AVE

	HB1	HB2	HB3	Care1	Care2	Care3	Feel.1	Feel.2	Feel.3
HB1	**.73**								
HB2	.45	**.82**							
HB3	.30	.53	**.88**						
Care1	.08	.12	-.02	**.89**					
Care2	.16	.24	.25	.36	**.91**				
Care3	.11	.15	.22	.44	.54	**.85**			
Feelings1	.26	.27	.10	.26	.28	.21	**.86**		
Feelings2	.24	.40	.16	.20	.38	.31	.59	**.89**	
Feelings3	.19	.33	.27	.19	.40	.27	.52	.65	**.91**

Note: The square root of average variance extracted is presented on the diagonal of the correlation matrix. HB is the abbreviation for helping behavior.

Furthermore, we assessed the convergent validity of the constructs by using composite scale reliability and average variance extracted (Chin, 1998; Fornell & Larcker, 1981). Composite scale reliability ranged from .76 to .96, surpassing the proposed cut-off value of .7 (Nunnally & Bernstein, 1994). Average variance extracted arrays from .53 to .83, all exceeding the cut-off value of .5 suggested by Fornell and Larcker (1981).

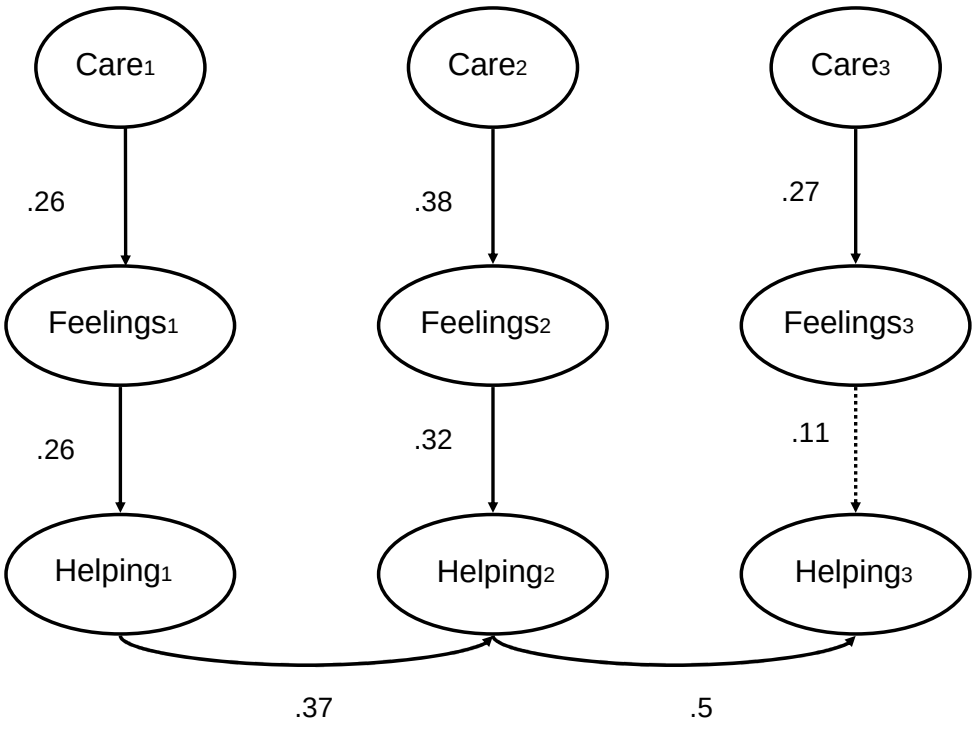
Finally to assess the goodness of fit of the model, three different approaches are executed. First, for the Stone Geisser Criterion (Q^2), we applied a Blindfold approach to estimate the predictive power of the model (Fornell & Bookstein, 1982). Chin (1998) states that values above 0 imply that the model has predictive value, and if the Q^2 value is below 0 the model lacks predictive relevance. In our measurement model all Q^2 values are above 0, therewith demonstrating that the model has predictive power. Second, we calculated R^2 values. They are very low in our model ranging from .07 to .29. However, this is not surprising since we have mainly only one predictor for each construct. Only helping behaviors in t_2 and t_3 have two predictors, and accordingly they have higher R^2 values: .29. Therewith, lots of variance can be explained by other latent variables than the ones included in

our conceptual model. Third, the GoF value amount to 0.33, which is slightly below the cut-off point of .36 for a large effect size and is substantial above the cut-off point of .25 for medium effect size (Wetzels, et al., 2009). Concluding, these values support the goodness of fit of our model.

Path Model for Hypotheses Testing

Figure 4.1 pictures the path coefficients and shows all significant paths in solid arrows and the insignificant one in a dashed arrow.

Figure 4.1: Path coefficients of conceptual model



H_1 postulates that helping behavior in the current period will have a carryover effect on the helping behavior in a subsequent period. The carryover effect of helping behavior from t_1 to t_2 is positive and significant (.37) and the same effect from t_2 to t_3 is even stronger and also positive and significant (.5). This finding suggests that the helping behavior in current time serves as an anchor for their

helping behavior in the subsequent time period (Bolton & Drew, 1991; Johnson, et al., 2006; Oliver, 1980).

As a main effect we hypothesized a positive effect of teachers' care communication on students' helping behavior (H_2). This hypothesis implies that the teacher can play a role in fostering the student's helping behavior within the tutorial group. We ran a separate model in PLS with only assessing the direct paths from care communication on helping behavior without including the feelings. As the results demonstrated, none of these main effects were significant. This finding is in favor of the mediating role of students' feelings, arguing that not only the teacher's care communication, but especially the student's feelings triggered by the communication style of the teacher cultivate helping behavior. Hereby reducing the solely direct impact a teacher's communication style has on students' behavior.

We determined the mediating role of students' feelings (H_3) between teacher's care communication and the student's helping behavior by using the bootstrapping procedure in SmartPLS. The results show that the path coefficients between care communication and feelings; and between feelings and helping behavior are significant in t_1 and t_2 (Iacobucci, et al., 2007). This means that the teacher's care communication has a positive and significant impact on students' feelings of happiness. And these feelings of happiness in turn have a positive and significant effect on the students' helping behavior in t_1 and t_2.

Schwarz (1990) mentions that individuals rely on their feelings for decision making under certain general conditions: affective nature of the judgment at hand, lack of other information, and complexity of the given situation. In an educational context, we can assume that during the progression of the course, most of these conditions decrease in importance. For example, we expect students to gain more information during the course and to consider the course structure and interaction with peers and teacher less complex. Therefore, we hypothesized that the intensity of the mediation effect will weaken over time.

Moving from t_1 to t_2, the mediation effect of feelings increases, while moving from t_2 to t_3 the mediation effect decreases such that the mediating role of feelings even disappears (the path between feelings in t_3 and helping in t_3 is insignificant as shown in figure 4.1 by the dashed arrow). This finding suggests that students rely

most on their feelings to mediate the effect of the teacher's care communication on helping behaviors, in the middle of the course, compared to the beginning and the end of the course. This finding partially supports H_3.

Discussion

Our empirical results demonstrate that: 1. care communication of the teacher has an indirect effect on students' helping behavior through the students' feelings, 2. the intensity of feelings as a mediator changes over time, and 3. helping behavior of current time has an impact on the helping behavior of future.

In the educational context, attention to peer helping behaviors has increased significantly over the past 15 years (Boud, et al., 1999; Slavin, 1995; Topping, 1996; Van Gennip, et al., 2010). It is acknowledged that in a complex, volatile and pressuring services setting like education, helping behaviors may well assist students to feel capable and responsible, promote knowledge development, and enable students to better develop their communication skills and to understand others (Mastropieri, et al., 2001; Slavin, 1995; Van Gennip, et al., 2010).

In this study, we assessed whether a carryover effect of helping behavior across time periods takes place. The carryover effect of helping behaviors was clearly supported by our empirical results. This means that the current helping behavior of the individuals serves as a predictor for the exhibition of their future helping behavior. The significant and positive path coefficients of the results indicate that a person who helps now also is likely to help at a later moment in time. Except for some notable recent studies (Ilies, et al., 2006; Spence, et al., 2011) investigating the dynamic aspects of helping behavior, there is no research investigating the carryover aspect of helping behavior. Especially within the education literature, to our knowledge, there is no single published research that considers this desired outcome of students and its carryover aspect within a tutorial session during an academic time frame (block, semester, or year). Acknowledging the carryover effect of this behavior would encourage teachers to foster this desired behavior right from the beginning of a course, since these endeavors carry their fruits at present as well as in the future. It might be too late or even insufficient if teachers try to create this behavior later on when it is needed. By demonstrating the

existence of this carryover effect, we contribute to the knowledge about the predictability of helping behavior across time.

Our study did not demonstrate the direct effect of teacher's care communication on students' helping behavior. A potential explanation for the insignificant direct effect of care communication on helping behavior might be found in the specific context of the educational setting. The educational setting can be seen as a high credence services setting (Hsieh, Chiu, & Chiang, 2005), where service delivery and service consumption take place simultaneously. This means that the teacher (service provider) and the student (service recipient) both have to be present and involved (Bowen, 1990; Carman & Langeard, 1980; Donnelly, 1976; Grönroos, 1978; Matear, et al., 2000; Onkvisit & Shaw, 1991; Regan, 1963; Wolak, et al., 1998; Wyckham, et al., 1975; Zeithaml, 1981) in order to have rewarding educational experiences. In services literature, several scholars argue that services are co-created (Gabbott & Hogg, 2001; McColl-Kennedy, et al., 2009; Vargo & Lusch, 2008; Whitaker, 1980), emphasizing both the role of the teacher and the student. Therefore, it is apparent that a student's helping behavior is not directly influenced by teacher's care communication, as the student's positive feelings – which are triggered by the care communication – play a crucial role in evoking helping behavior. Consequently, the input of the teacher (care communication) and the input of the student (feelings of the student) are needed in order to nourish helping behavior.

Finally, we found partial support for the mediating role of positive feelings between care communication of the teacher and the helping behavior of the student. Schwarz (1990) mentions that individuals rely more on their feelings for decision making under certain general conditions: affective nature of the judgment at hand, lack of other information, and complexity of the given situation. In an educational context, we can assume that during the progression of the course, most of these conditions decrease in importance. For example, we expect students to gain more information during the course and to consider the course structure and interaction with peers and teacher less complex. Therefore, we hypothesized a weakening of the intensity of the mediation effect over time.

Moving from t_1 to t_2, the mediation effect of feelings increases, while moving from t_2 to t_3, the mediation effect disappears. This finding suggests that students rely most on their feelings to mediate the effect of the teacher's care communication on helping behaviors, in the middle of the course, compared to the beginning and the end of the course. A potential explanation of why we could not see a clear decrease across all time periods, and instead only from t_2 to t_3, might be found in the perceived complexity of the credence service, which is likely to change over time. In the first session of the course students typically "get to know each other" and the course did not really start with all its complexity. Thus the usage of feelings-as-an information source was not required to a large extent at the beginning. In the middle of the course, perceived complexity is likely to be highest, as students are in the middle of demanding course work and assignment. This might result in a strong reliance of feelings (e.g. strong mediating effect of feelings). Towards the end of the course, students are fully familiar with the setting and their tutorial group, typically reducing the perceived complexity, resulting in a weaker role for feelings in exhibiting helping behavior.

Despite the fact that there was no direct effect of the teacher's care communication on the student's helping behavior, it is a big step forward to see that care communication has an effect on helping through the feelings of students. This study shows the important role of feelings and their bridging role between the external input (communication of teacher) and the internal output (helping behavior).

Practical Implications

The literature on helping behaviors emphasized various benefits of helping behavior for all involved parties, such as freeing university resources, enhancing social integration between students, academic and social gains for students (Boud, et al., 1999; Griffiths, et al., 1995; Slavin, 1996; Topping, 1996). Our study demonstrated that teachers' communication style has an effect on positive feelings, and these positive feelings in turn are associated with increased helping behavior.

This finding stresses the importance not only to select and hire teachers, who master the content, but to select and hire especially those who also master the skill

of communicating in a caring manner with their students. For the current teaching staff, training in communication could make the teaching staff aware about their communication and develop a communication style that is more characterized by care. For instance, training sessions with role plays and video recording (Dobbins, Higgins, Pierce, Tandy, & Tincani, 2010; Sogunro, 2004) could be used to clarify teachers the impression they make on students and how their communication style affects student feelings and ultimately helping behavior.

It is also important to acknowledge that helping behaviors in the classroom refer to dynamic processes. As shown in the present study, the helping behaviors in the first part of the course have consequences to later in the course. Thus, teachers who invest in fostering helping behavior at the beginning of a course through an adequate communication style, will most likely benefit later on from these early investments.

Limitations and Future Research

This study offers several contributions by showing the indirect effect of care communication on helping behavior, through the mediating role of feelings, but also by demonstrating that the intensity of the mediation differs across time as well as by manifesting the carryover effect of helping behavior. Despite these contributions, our paper also has its limitations which therefore, might inspire further research. Within the present study, the focus was on the carryover effect of helping behavior. The explained variance of this outcome variable was low. Future studies could include more explaining variables in order to understand which omitted variables further drive this desired behavior. This would enhance our understanding and eventually enlarge the amount of strategies that can be used by practitioners to increase helping behavior. Surprisingly, the majority of our sample was male even though the data collection took place in an undergraduate study which was obligatory for all students of that study, characterized by an equal gender distribution. Typically, we aim for an equal gender distribution. However, in the current setting, we might consider a male-dominated sample a conservative test of our hypotheses, as female students might prefer care communication and rely more on their feelings than male students would (Allen & Haccoun, 1976; Lithari, et al.,

2010). Moreover, we only considered three time points within our study. A more dense (e.g. daily or weekly) data collection over a longer period (e.g. an academic semester or year) might be able to detect further insights. This would enable academia to investigate the dynamics of helping behavior better and understand its evolution deeper.

Last but not least, it would be very interesting to see if this model also holds in different context. For instance can we observe similar results across different services settings, emphasizing helping behavior of consumers in retail environments?

CHAPTER 5

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Conclusion

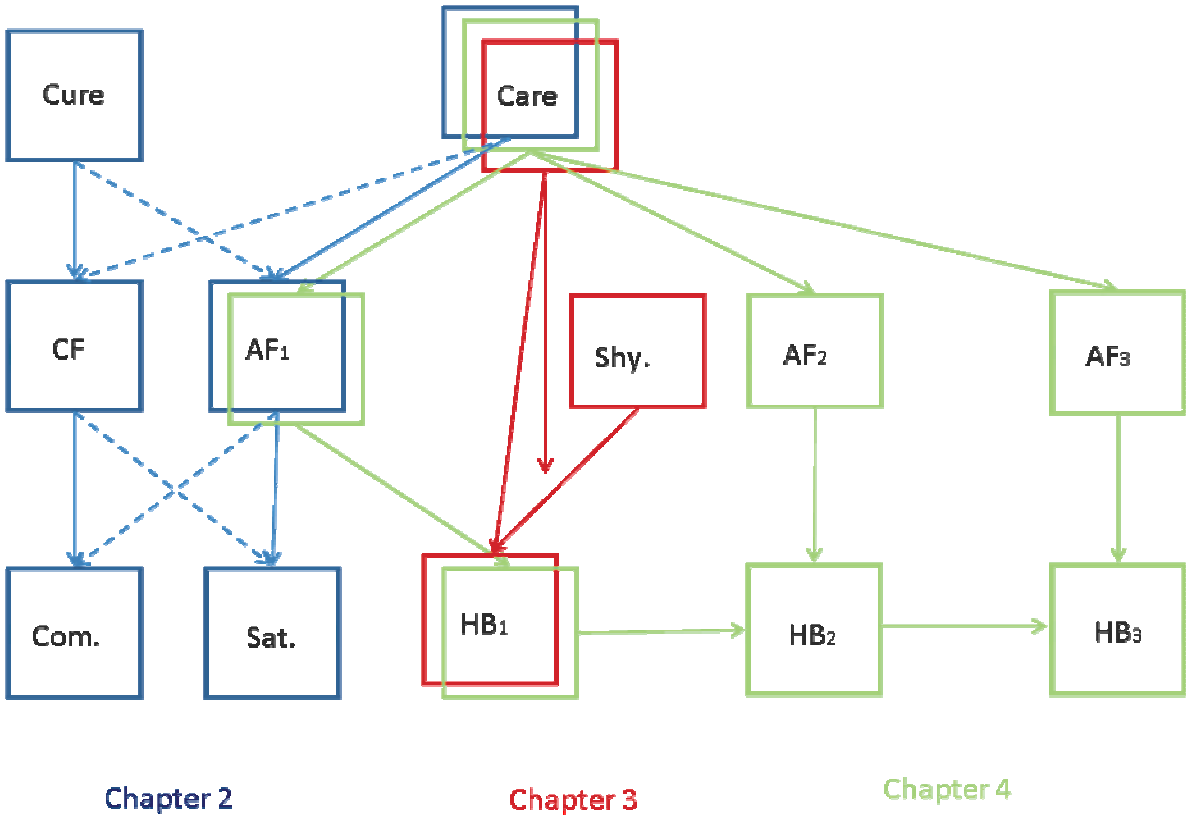
Synopsis

The focus of this dissertation has been on high credence services (Darby & Karni, 1973). We investigated two sectors of high credence services: health care and education. Both of these sectors are undergoing immense changes: re-structuring, cost pressure, and increased competition (Dagger, et al., 2007; Johnstone, 2004; Marginson, 2006; Paulsen, et al., 2006). Captured within these dynamic developments, we wanted to investigate how attitudes and behaviors of service recipients can be improved. One instrument that service providers could employ is an appropriate style of communication (Hutchinson & Beadle, 1992; Lings, Beatson, & Gudergan, 2008; Ong, et al., 1995; Roter, Hall, & Katz, 1988; Sundaram & Webster, 2000). Therefore, the common thread throughout this dissertation was the role of the service provider's communication style in evoking service recipients' feelings, satisfaction, compliance, or helping behavior.

Even though the service provider's endeavors are crucial determinants of service outcomes (Mattila & Enz, 2002), we need the reciprocation, co-creation part from the service recipient as well (Vargo & Lusch, 2008). Since a service is commonly accepted as interactive, process-based, experiential and relational (Edvardsson, et al., 2005), this interactive exchange requires the involvement of both parties (Payne, et al., 2008). Therefore, we will not only focus on the communication style of the service provider, but also explicitly consider the service recipient's reciprocation in terms of attitude and behavior.

Figure 1.1 depicts the overall research model structuring our overall research question and the resulting three main studies of this dissertation. We wanted to investigate to what extent the role of communication styles of the service provider influenced attitude and behavior of the recipient in high credence services. Additionally, we formulated sub-questions for each chapter:

Figure 1.1: Overall Model of the Dissertation



Note: Care and cure are the communication styles; affective feelings (AF) and cognitive feelings (CF) are the mediators, shyness (Shy.) depicts interaction effect, the desired outcome variables are: compliance (Com.), satisfaction (Sat.), and helping behavior (HB). The lower case number indicates the time.

1. *What is the mediator between service provider's communication styles and service recipient's outcome variables? (Chapter 2)*
2. *How does shyness of the recipient influence voluntary helping behavior and how does care communication of the service provider strengthen or weaken this relationship? (Chapter 3)*
3. *To what extent does voluntary helping behavior carryover time and how does the intensity of the mediating role of feelings change over time? (Chapter 4)*

In order to successfully answer these research questions, we conducted several interrelated and complementary research projects. We will share the main conclusions of each study in the next sections.

Conclusion and Discussion

Chapter 2: How Communication Impacts Satisfaction and Compliance – the Mediating Role of Feelings in a Medical Services Setting

In this chapter we investigated how the communication style of the doctor – care and cure – influences two desired outcome variables from the patients – satisfaction and compliance – by means of their feelings. Thereby, we differentiated two types of feelings: affective and cognitive.

In contrast to other studies (Roberts & Aruguete, 2000), we followed the call for investigating a mediator (Arora, 2003) to better understand how communication style influences desired outcome variables – satisfaction and compliance – within the health context.

In order to accomplish our contributions, this chapter consisted out of four studies: (1) a pilot study to test the manipulation, realism, and scale reliabilities with 84 participants; (2) a 2x2 between-subject experimental design focusing on the main effects of communication on outcome variables with 127 participants; (3) a second 2x2 between-subject experimental design (using both analyses of variance and structural equation modeling by means of SmartPLS) that measured feelings as mediator with 143 participants; and (4) qualitative interviews with 16 physicians, for qualitative validation of the results.

We provided empirical support for the mediating role of feelings in the relationship between communication styles and attitudes and behaviors of patients. Based on reciprocity theory (Blau, 1964; Gouldner, 1960), we could furthermore disentangle a cognitive and an affective domain. The cognitive domain demonstrates that cure communication has a strong effect on cognitive feelings, and compliance. The affective domain on the other hand, shows a strong relationship between care communication, affective feelings, and satisfaction.

Considering affective and cognitive feelings simultaneously (Greifeneder, et al., 2011), made it possible to identify and disentangle these two domains. It is valuable to distinguish between these two domains, because it enables physicians to apply a communication style (that can be controlled and trained) that most likely

leads to the more affective satisfaction or the more cognitive compliance of patients.

Chapter 3: How Shy Students Engage in Voluntary Helping in the Classroom –The Encouraging Role of a Care Communication Style in an Educational Services Setting

In contrast to the previous chapter, the context of this research project was the educational setting, to investigate whether our main findings also hold in another high credence services setting with high social and economical relevance. We investigated how the personality of the student – shyness – and care communication of the teacher influence a desired prosocial behavior – helping behavior – over the course of three consecutive weeks within a classroom.

In order to explore these relationships, we collected weekly data and used multilevel analysis for the within-individual study design. The sample consisted of 917 students in the first, 733 in the second and 638 in the third week, resulting in 2288 data points. The data was collected in a preparation course for bachelor studies at a midsized European university.

It is important to understand the relationships between shyness and helping behavior and the moderating role of care communication, because (1) helping behavior is a beneficial behavior for a successful functioning of a classroom (Solomon, et al., 1988; Van Emmerik, et al., 2004); (2) however, shy students are less inclined to perform helping behavior, because it requires interpersonal interaction (Gill & Oberlander, 2003; Mount, et al., 1998); but (3) teachers' care communication can impact students within a classroom (Fredricks, et al., 2004; Paulsen, et al., 2006; Potter & Emanuel, 1990; Trigwell, et al., 1999).

Our empirical findings demonstrated that (1) care communication alone has no impact on helping behavior, (2) shyness is indeed negatively associated with helping behavior, (3) the interaction effect of care communication and shyness was significantly predicting helping behavior, and (4) time was also an important and significant predictor of helping behavior.

Keeping in mind, that services are interactive, process-based, experiential and relational (Edvardsson, et al., 2005) and that the value is co-created with the involvement of all parties (Payne, et al., 2008; Vargo & Lusch, 2008), it is not surprising that the care communication alone did not have a significant effect on helping behavior. That means only considering the direct effect of care communication on helping behavior, without incorporating the personality of the student was insignificant. However, considering the care communication and shyness together and examining the interaction effect was significant. The interaction effect demonstrated that the shy students were more likely to perform helping behavior when they perceived high care communication from their teachers (Isenbarger & Zembylas, 2006; Lacina-Gifford, et al., 2002). Achieving a state, in which shy students help their peers, also means that the full potential of the shy student can be used within classroom (Paulsen, et al., 2006). Based on this, all different parties – university, teacher, help seeker and giver, can benefit from the fruits of this desired behavior (Boud, et al., 1999; Griffiths, et al., 1995; Mastropieri, et al., 2001; Slavin, 1996). Furthermore, the analysis demonstrated that time is a predictor of helping behavior and that this behavior increases over time.

Chapter 4: Antecedents and Carryover Effects of Helping Behavior – The Role of Care Communication in an Educational Setting

In line with the research context of chapter 3, this chapter also focuses on the education setting. Inspired by chapter 3, we aimed at advancing our understanding of helping behavior by incorporating two new aspects: feelings as mediators (Schwarz, 1990) and their evolution and considering the carryover effect of helping behavior (Bolton & Drew, 1991; Johnson, et al., 2006; Oliver, 1980; Spence, et al., 2011).

For this study we collected data at the beginning, in the middle and at the end of an academic course of an international university. At these three data collection waves respectively 230, 151, and 124 students took part. Structural equation modeling by means of SmartPLS was used in order to analyze the data. We found empirical support for the effect of care communication on helping behavior mediated by students' feelings. As in chapter 2, communication style of the teacher

influenced the feelings of students, and these feelings subsequently influenced students' helping behaviors. However, complementary to chapter 2, we furthermore investigated how the intensity of mediator change over time and the carryover effect of helping behavior. Therefore, we conducted surveys at the beginning, middle and end of an academic course. As our findings demonstrated, helping behavior of current time period significantly influences helping behavior of future time period. This carryover effect emphasizes the importance of enhancing helping behavior right at the beginning of a course, since performed behaviors are not created anew each time, but they are rather up-dated from previous time (Bolton & Drew, 1991; Johnson, et al., 2006; Oliver, 1980). As also demonstrated in chapter 3, teachers can reach the objective of triggering helping behavior with their care communication that elicits positive feelings and ultimately evokes helping behavior (Spake, et al., 2003; Webster & Sundaram, 2009). As in Johnson et al (2006), another interesting empirical finding is the change of intensity of the mediating role of feelings within our study. Feelings mediated the relationship between care communication and helping behavior at the beginning of a course, and even stronger in the middle of a course, but approaching the end, the significance of the mediating role disappeared. This confirms that feelings are used in novel and complex situation (Schwarz, 1990). However, with time passing, other sources of information and apparently other mechanisms seem to take over the role of feelings.

Concluding, teachers should already pay high attention to their communication style right at the beginning of a course in order to enhance helping behavior. Since the future helping behaviors are up-dated versions of today's helping behavior.

Directions for Future Research

Each chapter of this dissertation ends with detailed future research suggestions based on the results and insights of the according chapter. Nevertheless, we would like to point out the most striking future research ideas that go beyond the bounds of the separate chapters. These suggestions represent overall avenues for future research.

The current topic of all chapters was the role of the service provider's communication style on attitudes and behaviors of service recipients within credence services. We successfully demonstrated the, direct and indirect, impact of communication styles on desired outcomes within the educational and medical setting, both credence services (Arora, 2003; Greifeneder, et al., 2011; Roberts & Aruguete, 2000). However, it would be of interest to find out if the impact of the different communication styles changes for non-credence services, such as search and experience services (Galetzka, Verhoeven, & Pruyn, 2006; Mitra, Reiss, & Capella, 1999; Wu, 2011). Maybe in a search service (such as public transport), for instance, the effect of cure communication is more important than care communication, because these are services that customers can judge with factual information and therefore require more facts and explanations – cure communication – from the service provider.

Furthermore, we used the feelings-as-information theory from Schwarz (1990) in order to demonstrate that feelings are mediating the effect of communication style on attitude and behavior. However, will this mediating role still exist in other non-credence services? Another interesting question to discover is if the weight of one the type of feeling – affective versus cognitive –changes for different services (Johnson, et al., 2006). For instance could it be that affective feelings mediate stronger – or are the only mediators – in services which are more emotional, and therefore cognitive feelings mediated stronger – or are the only mediators – when it comes to rather technical services (Chitturi, Raghunathan, & Mahajan, 2007; Jiang & Wang, 2006; Wakefield & Blodgett, 1994)? Or do these feelings go hand in hand and therefore will be present as soon as one of them is a significant mediator?

In the last study of this dissertation we also focused on the intensity of this mediator (as in Johnson, et al., 2006). We could see that the positive affective feelings demonstrate mediation at the beginning and in the middle of the course. However, the mediation effect disappeared at the end of the course. Future research could incorporate both types of feelings (Greifeneder, et al., 2011) – affective and cognitive – (this dissertation chapter 2) and then look simultaneously at the evolution of these two feelings. Fascinating to discover would be different

patterns of intensity of these two types of feelings (Brown, 1997; Cole & Maxwell, 2003; Iacobucci, et al., 2007). For instance, depending on the context, while one type increases in explanatory power, the other one might disappear.

Even though within our research projects we also collected data at several time points (chapter 3 and 4), our understanding about the development of feeling or the outcome variables would be enlarged if the data collection is more frequent (density) and covers a longer timer period, e.g. collecting diary data of a course of 6 months (Bolger, Davis, & Rafaeli, 2003). This might enable research to discover patterns of development and help us predict certain attitudes or actions. Advanced programs such as MPlus (Muthén & Muthén, 1998-2007) also will be able to determine different groups of patterns to offer customized services for the specific group members.

Last but not least, within all our projects we considered constructs measuring the reaction or evaluation of individuals e.g. students' helping behavior or teachers' communication style. However, several services take place in a group and the group as such has an impact on the evaluation and perception of individuals (Finsterwalder & Tuzovic, 2010). Therefore, future research could incorporate the effect of a group measurement, such as group similarity and diversity (Harrison, Price, Gavin, & Florey, 2002; Van Emmerik & Brenninkmeijer, 2009) in order to understand the dynamic effect when more than two parties are involved in the service encounter.

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APPENDICES

Exemplifying Scenario

Scenario 1: high care (**bold**) and high cure (*italic*) communication.
The bold and italic font is only to show how we manipulated care and cure. This information was not shared with the participants of the experiment.

Scenario:

Imagine yourself sitting in one of your favorite bars with a close friend of yours whom you haven't seen for a long time, because s/he has been travelling and got sick afterwards. Below, s/he is telling you what has happened over the last few weeks:

After having an amazing time in South America, I returned home, which was when I started to experience the downside of my nice holiday. I felt so weak. I had fever, my throat hurt, and my nose was running. Obviously, I was very worried about my health and didn't have a clue what was going wrong. Immediately, I started to look for a specialist in tropical medicine to find out what was happening: Did I have a normal flu or was it the dangerous new flu that already killed some people in Europe? Finally, I found one promising physician: Dr. Berg.

When I entered Dr. Berg's room, **he stood up directly and walked in my direction to shake hands**. With a **nice smile** he introduced himself by saying 'Hi, I am Dr. Berg. How can I help you?' I also introduced myself briefly and then told him that I was afraid that I might have the swine flu. He was **directly looking in my eyes** and **raised his eyebrows** when I mentioned the words 'swine flu'. His facial expression was **reflecting his concern**. I could sense that he was **taking** everything I had to say very **seriously**.

Kindly, Dr. Berg started *to ask a lot of questions* regarding my medical background. *He asked me for instance if I ever suffered from any kind of tropical flu, if I had ever been seriously ill, if I was on some sort of medication, if I ever got sick abroad, if I know of anyone – with whom I was on holiday or with whom I was on the same flight – who also had symptoms of the flu. He also questioned me about many symptoms like fever, sore throat, runny nose, dry cough, shortness of breath, cramps, and muscle and joint pain. Just to name a few. Finally, he asked if I had been vaccinated for any bacterial or viral infections before*.

Next, he first took a nasal swab and then a throat swab. With a **pleasant voice while looking into my eyes**, he *explained to me that this quick test is the first step to see whether I suffered from influenza-like-illness, so called 'ILI'.* Then he asked me to breathe in deeply, while he listened through his stethoscope. Later, in a **friendly manner**, he instructed me to clench my fist. He took a blood sample. Dr. Berg also gave me an injection *just to support my immunity he said.*

He gave me some crucial and detailed information about what to pay attention to in the next 24 hours. For example, I should check my temperature every 3-4 hours and note it down*. I should also pay attention to symptoms that I did not have yet, like respiration problems and joint pain. He handed over a list of symptoms, which were relevant for the dangerous flu.*

Moreover, he gave me some pills, because he said that I probably have a seasonal flu. *He explained to me extensively what the pills were intended to do, what the side effects were, and how to take them.* He said that with a very small chance my symptoms could also be caused by malaria or diarrhea. *He explained that in case of malaria a so called 'HMM', meaning home-based management of malaria with pills would be sufficient. And in case of an intestinal complaint, an oral rehydration, called 'ORS', would be the necessary treatment. I could understand him very well*. **With a friendly smile**, he took *several brochures* from the upper drawer. These were little booklets *about the disease itself, general prevention steps with colored pictures, and how to behave in general if you have the flu.*

After all the medical checks and a set of quick tests, he said '**I can understand that you are afraid. I would be too, probably**. However, your symptoms could also be a sign of seasonal flu, malaria or diarrhea. These diseases are quite common in South America and we have good treatments to cure them. Therefore, they are not dangerous. So let us wait and observe your situation for the next 24 hours and then we can decide how to proceed. **But except your health experience, how was South America? What did you enjoy most**?'

At the end of the consultation, **he stood up,** with one hand he **shook my hand** and with the other he **patted me on my back**, saying **'I am sure everything is OK. Don't drive yourself crazy**.'

Measures

CARE COMMUNICATION

The physician/tutor had eye contact with the students/my friend.

The physician/tutor was friendly towards the students/my friend.

The physician/tutor was polite to the students/my friend.

The physician/tutor was showing concern about the students/my friend.

The physician/tutor was showing interest towards the students/my friend.

The physician/tutor engaged in small talk.

Overall care: The physician/tutor showed good interpersonal skills.

CURE COMMUNICATION

The physician/tutor asked lots of questions.

The physician/tutor answered lots of questions.

The physician/tutor explained the most important topics of this tutorial session/medical consultation.

The physician/tutor was professional.

Overall cure: The physician/tutor showed good technical skills.

SHYNESS

Shy

Bashful when with others

Quiet when with people

FEELINGS

Affective Feelings

Anger

Frustrated

Angry

Irritated

Worry

Nervous

Worried

Tense

Fear

Scared

Afraid

Panicky

Joy

Happy

Pleased

Joyful

COGNITIVE FEELINGS

Skepticism

skeptical

suspicious

distrustful

Uncertainty

I had the feeling that …

… I had a lot of questions that were not answered.

… I understood everything that the physician explained.

… the physician said things that could have many meanings.

… the purpose of this medical consultation was clear.

Confusion

I had the feeling that …

… I did not clearly understand the physician.

… the medial consultation was too difficult.

… I was not sure what was going on during the medical consultation.

… that it required a lot of effort to follow the physician.

COMPLIANCE

Probably seek an advice of another physician before doing anything.

Follow the preventive health measure the physician suggested.

Report back to the physician as he requested.

Follow through with the treatment advice the physician gave.

SATISFACTION

Please evaluate the relationship of your friend with his/her physician based on this experience s/he had with the doctor.

Very dissatisfied	…	very satisfied
Very displeased	…	very pleased
Very unfavorable	…	very favorable
Disgusted with	…	contented with

HELPING BEHAVIOR

I worked collaboratively with others.

I helped other students who had difficulties.

I helped an absent student to catch up.

SAMENVATTINGEN

Zorgen voor zorg:

De invloed van verschillende communicatiestijlen in de gezondheidszorg en het onderwijs

Hoe communicatie tevredenheid en nakoming beïnvloedt

De mediërende rol van patiënt gevoelens in medische dienstverlening

Substantiële veranderingen in de medische dienstverlening en de toenemende kosten van het niet nakomen van medische adviezen leiden, tot de onderzoeksinteresse in deze sector van dienstverlening. Derhalve, beschouwt deze studie de interactie tussen arts en patiënt als een belangrijk onderdeel van medische dienstverlening. Gebaseerd op literatuur over marketing, gezondheidszorg en psychologie, verkent deze studie het effect van communicatie tussen arts en patiënt op uitkomst variabelen van de patiënt. Deze studie bestaat uit vier fasen: (1) Een verkennende studie met 84 respondenten om de manipulatie, het realiteitsgehalte en de betrouwbaarheden van de schalen te meten, (2) Een 2x2 experimentele studie met 127 respondenten waarin verschillen tussen respondenten verklaard worden door het effect van communicatie, (3) Een tweede 2x2 experimentele studie met 143 respondenten (waarbij zowel variantie analyse als ‘structural equation modeling’ met SmartPLS gebruikt werden), met patiënt gevoelens als mediërende variabele, en (4) Diepte interviews met 16 artsen om onze resultaten te valideren.

De resultaten onthullen een keten van wederkerigheid startend bij de communicatie van de arts – zorg en instrumenteel – via de affectieve en cognitieve patiënt gevoelens, uiteindelijk resulterend in tevredenheid en het nakomen van medische adviezen. Deze resultaten specificeren de effecten die verschillende communicatiestijlen van artsen hebben op de tevredenheid van de patiënt en het nakomen van medische adviezen. Hiermee wordt de arts in staat gesteld om de communicatie af te stemmen op gewenste uitkomsten.

Hoe verlegen studenten vrijwillig behulpzaam gedrag vertonen in de klas

De bemoedigende rol van zorgzame communicatie in het onderwijs

Deze studie verkent het verband tussen verlegenheid van studenten en hun behulpzaamheid in een onderwijs context. Bovendien onderzoeken we in welke mate de zorgzame communicatie van de docent, verlegen studenten aanmoedigt behulpzaam gedrag te vertonen. Om deze verbanden te verkennen hebben we drie weken data verzameld bij studenten van 46 docenten, wat leidt tot 2288 meetpunten. Gegevens van deze experimentele studie zijn geanalyseerd met behulp van 'multilevel' analyses. Empirische resultaten geven aan dat verlegen studenten inderdaad minder geneigd zijn behulpzaam gedrag te vertonen. Niettemin, als verlegen studenten zorgzame communicatie van hun docent ervaren, vertonen ze meer behulpzaam gedrag. Bovendien tonen de empirische resultaten dat behulpzaam gedrag toeneemt in de tijd. Door bewust te zijn van het effect van zorgzame communicatie en het af te stemmen op het gewenste effect, zullen de dienstverleners (docenten) in staat zijn behulpzaam gedrag in de klas te bevorderen en baat te hebben bij de gevolgen hiervan.

Antecedenten en overdrachtseffecten van behulpzaam gedrag

De rol van zorgzame communicatie in het onderwijs

Deze studie verkent het verband tussen zorgzame communicatie van een docent, gevoelens van de student en behulpzaam gedrag van studenten in de klas. We hebben het directe effect van de zorgzame communicatie van de docent op behulpzaam gedrag van de student onderzocht. Daarnaast hebben we ook het indirecte effect van zorgzame communicatie via de mediërende rol van student gevoelens op hun behulpzaam gedrag onderzocht. Hiertoe hebben we vragenlijsten gebruikt van 90 studenten, die ingevuld zijn aan het begin, in het midden én aan het eind van een academisch vak. Deze data zijn geanalyseerd met

behulp van SmartPLS. Deze aanpak stelt ons tevens in staat om het overdrachtseffect van behulpzaam gedrag in kaart te brengen en om de intensiteit van student gevoelens als mediërende factoren te analyseren. Onze empirische resultaten tonen aan dat zorgzame communicatie een positief effect heeft op behulpzaam gedrag van de student middels de student gevoelens. Bovendien tonen de empirische resultaten aan dat behulpzaam gedrag in de huidige periode van invloed is op behulpzaam gedrag in de volgende periode. Ook de intensiteit van de mediërende rol van student gevoelens verandert gedurende de tijd. Deze resultaten geven aan dat de docent vooral in het begin van het vak, aandacht moet schenken aan zijn/haar zorgzame communicatie om hiermee behulpzaam gedrag van studenten positief te beïnvloeden.

CURRICULUM VITAE

Raziye Iraz Kilic was born on the 24th of September 1982 in Cologne, Germany. She attended secondary school at Willy-Brandt Gesamtschule in Cologne. During her secondary education she went to Nebraska, USA and received there her high school diploma in 2000. After coming back, she graduated in 2002 in Cologne. Subsequently, she studied Business Administration at RWTH Aachen University. She received the German diploma (equivalent to Masters Degree) in December 2007. During her study time, she was an exchange student in Barcelona, Spain at Universidad International de Cataluña for an academic year and she also worked at Renault in Barcelona.

In January 2008 she joined the School of Business and Economics at Maastricht University to do her PhD. During her time at the department of Marketing and Supply Chain Management she taught different courses (e.g. International Marketing Management and Supply Chain Management) and supervised various master theses from different research fields. She furthermore attended international conferences to represent her research projects. At the Service Science Factory she was inspired by the multi disciplinary research approach that leads to service innovations.