Patient Safety

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Preface

The purpose of this book is to explore the important and complex topic of patient safety from a psychological perspective. Psychology is a science and a profession that aims to understand, predict, and possibly change people’s experiences and behaviors. Psychology also investigates the individual, interpersonal, and contextual factors that influence people’s experiences and behaviors, as well as the consequences of certain experiences and behaviors for individuals, teams, and organizations. The main premise of this book is that patient safety and quality of care are desirable outcomes of the interplay between health care professionals’ and patients’ characteristics, experiences, and behaviors, as well as structural and social factors of the healthcare context. Taking a multilevel systems approach, this book addresses individual characteristics and processes, interpersonal and team factors, and organizational characteristics that impact on those experiences and behaviors of healthcare professionals and patients that are relevant to patient safety and the quality of care.

I wrote this book for healthcare and clinical professionals, patients, practitioners working in and providing support for healthcare teams and organizations, academics in a variety of clinical fields such as medicine, dentistry, health and rehabilitation sciences, nursing and midwifery, pharmacy, and psychology. By reading this book, I trust that readers will appreciate the topic of patient safety in a novel and useful way, and gain valuable insights for their interactions with (other) healthcare professionals, for their everyday work with patients, and for planning and designing structured interventions that aim to reduce medical errors and increase patient safety and the quality of care.

As an organizational psychologist working in academia, I am interested in developing theories and hypotheses based on observations in applied settings, in empirically testing my theories and hypotheses in these settings, and in using evidence-based principles to help improve organizational practice. I was enthusiastic when the editors of this book series asked me to write a book on patient safety, because this topic lends itself well to a systematic and thorough examination from a psychological perspective. The healthcare context offers abundant opportunities to develop and test psychological theories, and psychological theories, concepts, methods, and empirical findings can be used fruitfully to understand, predict, and also change experiences and behaviors in this context.

This book was written at the University of Queensland in Brisbane, Australia, where I worked as a lecturer and research fellow in organizational psychology between July 2010 and December 2013. Since then, I have started a new position as associate professor in organizational psychology at the University of Groningen in the Netherlands. The School of Psychology at the University of Queensland provided me with the autonomy and support needed to write this book, and I am thankful for the
time I spent in this fabulous intellectual powerhouse down under. I am also grateful to Brenda Hughes and Lauren Kramer for their help with literature search and proofreading. Last but not least, I thank my family for their support and for the wonderful times we spend together.

Brisbane, September 2013
Hannes Zacher
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1 Introduction

1.1 Purpose of this book

Almost a quarter of a century ago, in 1991, an influential study showed that errors and adverse events in hospitals were much more frequent and widespread than many professionals working in the health care industry had previously believed [1]. The Institute of Medicine in the United States of America reacted by publishing a detailed scientific report on errors caused by individual and broader system factors in different areas of health care including medical practices, nursing homes, and hospitals (“To err is human: Building a safer health system”) [2]. This report, as well as research conducted by other international health care organizations [3, 4], not only confirmed the previous findings on the epidemiology of errors and adverse events in health care but also suggested several strategies to prevent them in the future. Since the publication of these seminal studies several years ago, patient safety has become an increasingly important topic internationally, and it has attracted the attention and interest of academics and practitioners from multiple disciplines, ranging from medicine and health sciences to social work and gerontology, as well as psychology and business.

The trend toward a greater focus on preventing errors and maintaining high levels of patient safety over the past decades is not surprising, given that the health care industry in developed countries, and in some developing countries such as China, India, and Brazil, is growing at an exponential rate. This growth is due to continuous improvement in health care technology and procedures, increased individual awareness and subjective importance surrounding health issues, and rapidly aging populations worldwide. At the same time, researchers estimate that ten per cent of patient admissions to acute care in hospitals are due to the short- or long-term consequences of suffering caused by medical errors. Such impairments, where the underlying causes are in the process of health and medical care, are called iatrogenic harm. Iatrogenic harm is now considered to be one of the top five public health problems in developed countries [5]. According to estimates by the United States Institute of Medicine, between 44,000 and 98,000 patients still die every year due to medical errors [6]. Thus, while academics’ and practitioners’ interest and competencies related to patient care are steadily increasing, these statistics suggest that further integrative research on the various factors that help prevent errors and improve patient safety is needed.

The present book examines the topic of patient safety from a psychological perspective. Psychology is a theoretically grounded and empirical science as well as a profession that is concerned with understanding, predicting, and potentially changing human experience and behavior. In addition, psychologists are interested in the organization of human behavior in social groups, as well as the reciprocal exchange relationships between humans and their material and social environment.
A psychological perspective on patient safety is an important addition to other disciplinary perspectives on the topic, as human experience and behavior can be both causes and consequences of patient safety-related events. In addition, a psychological approach to person-environment interactions is relevant to a better understanding and potential improvement of patient safety because health care professionals anticipate, make, and deal with the outcomes of errors in social and organizational settings.

The psychological approach to the topic of patient safety taken in this book is mainly informed by theoretical frameworks that were developed and tested within the area of work and organizational psychology. Work and organizational psychology is a subfield and area of specialization within psychology that attempts to understand, predict, and possibly change people’s experiences and behaviors in work settings, including medical practices and larger health care organizations [7]. Academics and practitioners trained in work and organizational psychology apply scientific theories and methods to improve processes and outcomes (e.g., well-being and performance) in work and organizational settings. They use the insights gained from practice, in turn, to inform and advance theorizing and research. This approach is called the “scientist-practitioner model.” For instance, work and organizational psychologists have conducted scientific studies to understand and predict the causes of errors and accidents in hospitals by studying the concept of organizational safety climate (i.e., shared perceptions and attitudes among employees regarding patient safety) [8]. At the same time, leadership and team training programs that were developed based on this research on organizational safety climate may be implemented in hospitals to improve patient safety.

While a psychological approach necessarily emphasizes the perspective of the individual person and health care professional with regard to patient safety, this does not imply that contextual and system factors that may be causes of medical errors and threats to patient safety are neglected in this book. Individual, job, team, and organizational factors may influence these outcomes, both additively (i.e., independent main effects) and multiplicatively (i.e., interactive effects). For instance, interactions among health care professionals and between health care professionals and patients may take place in work environments that are characterized by routines and a great deal of predictability such as private medical practices. Yet these interactions may also take place in very dynamic and challenging work environments such as emergency rooms or acute psychiatric care [9]. Both individual factors, such as clinical abilities, decision making, and attitudes toward safety, as well as interpersonal factors, such as communication and teamwork, may contribute to errors and threats to patient safety in these situations (main effects). Furthermore, due to their individual characteristics, some health care professionals may work more or less successfully in one or the other job or organizational setting (interaction effects). Patient safety in health care organization is the result of a complex interplay between multiple factors that exist at different “levels”: the individual, the job, the team, the organization, or even
the broader health care system. This book, therefore, examines patient safety from a “multilevel perspective” that includes individual factors, job characteristics, interpersonal and team influences, as well as organizational factors that contribute to, or impede, patient safety.

1.2 A multilevel framework of patient safety

The multilevel framework of patient safety is illustrated in Fig. 1.1. Moving from the center to the periphery, individual, job, interpersonal and team, organizational, and societal and economic factors, as well as specific examples for these factors are depicted at the nested layers of this “onion model.” The first central idea of this framework is that the different factors may, as indicated by the arrows, influence each other in a top-down and bottom-up manner. For instance, societal factors (e.g., government regulations) may influence how health care organizations design and implement their safety procedures, and team factors such as trust may influence whether individual factors...

Fig. 1.1: A multilevel framework of factors influencing patient safety
employees report errors to their managers. Alternatively, individual employees may also take the initiative and suggest new ways to approach the critical safety issues, and organizations with a highly positive patient safety culture may serve as outstanding examples for other organizations in the health care industry. The second central idea is that specific factors may, both by themselves and in interaction with other factors on the same or different levels, impact on patient safety. The individual factors examined in this book in relation to patient safety include people’s work behaviors and a number of individual differences that influence these behaviors: abilities (particularly cognitive abilities); knowledge, skills, and experience; decision making; motivation; personality; attitudes and emotions; stress and well-being; and ethical reasoning.

The job factors discussed in this book include job design and training. Psychological research on job design examines how the key characteristics of a job may structure, motivate, or constrain people’s work behavior. This book will examine how the design of health care jobs may influence safety-relevant work behaviors. Psychological training research investigates how effective training programs are planned, selected, designed, carried out, and evaluated. This book will also focus on types of training that may be particularly useful with regard to teaching patient safety knowledge and skills, as well as changing patient safety attitudes.

The interpersonal and team factors reviewed in this book include patient participation, communication, teamwork, and leadership. Patient participation is becoming an increasingly important topic in health care, and research has shown that, under certain circumstances, patients can be successful “co-creators” of their own care and safety. Effective communication is a key contributor to patient safety, and this book will discuss both effective communication among health care professionals and effective communication between health care professionals and patients. Teamwork and leadership involve further interpersonal processes that may influence patient safety, and both theoretical approaches to teamwork and leadership, as well as empirical findings on these two topics will be reviewed.

Finally, the organizational factors in the multilevel framework that will be examined in this book are organizational safety culture and climate. These shared beliefs about the importance of safety and shared perceptions of safety practices in the workplace have been shown to have significant influences on employees’ safety-related motivation and behavior as well as objective safety outcomes such as error rates and accidents.

Fig. 1.1 also shows that factors of the broader health care and societal context (e.g., political, legal, historical, and cultural factors) are part of an integrated, multilevel, and systems perspective on patient safety, but a detailed discussion of these distal factors is beyond the scope of this book. Consistent with a psychological approach, the multilevel framework used in this book has the health care professional and its individual characteristics at its core. This conceptualization also follows the widely accepted notion that health care professionals’ decision-making and behavior are the
1.2 A multilevel framework of patient safety

most proximal causes of errors, adverse events, threats to patient safety, and injuries. However, the framework also recognizes that the behavior of individuals can be caused by factors both within and outside the person, including more proximal (e.g., job design) and more distal (e.g., organizational culture) external factors.

The multilevel framework is also consistent with an approach to errors and safety in complex systems that has distinguished between active and latent failure [10]. Active failure refers to errors made by employees performing a task. In contrast, latent failure involves system-based errors that are due to external factors, for instance, careless equipment maintenance, incorrect management decisions, and excessive workload. The approach assumes that latent failures can lead to active failures under specific constellations of external circumstances or due to interactions between higher-order external and individual factors.

The structure of the multilevel framework used in this book is further similar to a recently developed, evidence-based framework of factors that contribute to errors and patient safety in hospitals [11]. The “Yorkshire Contributory Factors Framework” was developed based on a systematic review of the contemporary patient safety literature from various data sources. The authors extracted over 1600 contributory factors from 95 articles reporting 83 studies, and coding by two independent raters resulted in 20 thematic domains. The majority of studies included in the review identified health care professionals’ behavior as the most proximal contributing factor to patient safety incidents (i.e., active failure, including mistakes, lapses, and violations). The second most frequently studied contributing factors were other individual factors (e.g., experience, stress, personality, and attitudes), job factors (i.e., equipment and supplies, lines of responsibility, physical work environment, scheduling and bed management, staff workload, task characteristics, training and education), interpersonal and team factors (i.e., communication, management of staff, supervision and leadership, and patient and team factors), organizational factors (i.e., organizational policies and procedures, safety culture, support from central functions such as information technology and human resources), and broader context factors (i.e., external policy context). Thus, the “Contributory Factors Framework” confirms the importance of approaching patient safety from a psychological, multilevel, and systems perspective as it is done in this book.

Finally, the use of a multilevel framework is in line with research on health care professionals’ views on the contributing factors of patient safety. In one study, researchers asked operating room nurses what they believed were the most important influences on patient safety [12]. The nurses nominated individual psychological factors as the most important contributors to patient safety, which included decision-making, knowledge, and experience, as well as concentration difficulties, emotional exhaustion, and fatigue. In addition, the nurses mentioned factors on other levels as relevant factors, including work demands, control over work situations and scheduling, good team coordination and mutual trust, and organizational safety culture. These factors identified by the nurses based on their daily experiences clearly mirror the structure of this book’s multilevel framework.