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*The Boon and Bane of Religiosity in Dealing
With Uncertainties Arising From Social Change*

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Tempora mutantur, nos et mutamur in illis.

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Summary

Current trends of social change such as globalization, individualization, and pluralization confront people in many industrialized societies with perceived growing uncertainties concerning important developmental tasks and goals of young and middle adulthood, such as career development and family formation. Because they threaten the successful resolution of these developmental tasks and goals, these uncertainties pose new demands that require a response by the individual; as such, they represent potential stressors that may impinge on subjective well-being.

An important yet understudied question is what psychosocial resources may help individuals deal with such conditions of heightened uncertainty. Burgeoning evidence in both psychology and sociology points to an important role of religiosity in coping with life stress generally, and uncertainty more specifically. Building on this precedent, three studies were conducted within the scope of this dissertation. The overarching goal of these studies was to explore the role of religiosity in dealing with perceived uncertainties that arise from social change in the realm of work and family life. The Jena model of social change and human development served as the broader theoretical background for these studies, according to which religiosity can be conceived as a potential psychosocial resource. Data came from a cross-sectional survey among $N = 3,078$ adolescents and adults aged 16 to 46 years conducted in spring 2009 in Poland. As a nation that is still highly religious and which has been witnessing profound and rapid social change in recent years, Poland presented itself as a particularly apt and interesting case for these investigations.

Study 1, employing a stress-buffering paradigm, found that religiosity (measured as frequency of religious attendance and religious self-identification) was positively related to subjective well-being (depressive symptoms, life satisfaction, and work satisfaction). Most importantly, religiosity buffered the association between perceived

work-related uncertainties and depressive symptoms (but neither life satisfaction nor work satisfaction). Study 2, building on the motivational theory of life-span development, sought to pinpoint a possible mechanism behind these stress-buffering effects. It showed that religiosity (measured as perceived religious support) can foster opportunity-congruent goal engagement and goal disengagement in coping with work-related uncertainties: Whereas religiosity was positively related to goal engagement and tended to be negatively related to goal disengagement in opportunity-rich regions (*powiaty*, i.e., administrative districts similar to the German *Landkreise*), it fostered disengagement from futile struggles with work-related goals and demands in opportunity-deprived regions. This pattern is likely to be adaptive. Finally, Study 3 extended the findings of the first study to the domain of family life. Results of this study indicated that religiosity (measured by religious self-identification and identification with the religious community) reduced perceived family-related uncertainties but exacerbated, rather than buffered, the association of these uncertainties with psychological distress.

The results of the three studies, taken as a whole, point to a dual role of religiosity in coping with social change: They suggest that religiosity can function both as a resource and as a risk factor for psychological adaptation, in particular subjective well-being. Theoretical and practical implications of these results, as well as suggestions for future psychological studies in the emerging research area of religion and coping are discussed.

Zusammenfassung (Summary in German)

Gegenwärtige Trends des sozialen Wandels wie Globalisierung, Individualisierung und Pluralisierung konfrontieren Menschen in vielen Industrienationen mit subjektiv wachsenden Unsicherheiten bezüglich wichtiger Entwicklungsaufgaben und -ziele der Jugend und des jungen Erwachsenenalters, wie etwa der beruflichen Etablierung und Familiengründung. Da sie die erfolgreiche Bewältigung solcher Entwicklungsaufgaben und -ziele gefährden, stellen solche Unsicherheiten neue Anforderungen an das Individuum, die eine Reaktion von ihm erfordern. Somit handelt es sich um potentielle Stressoren, die das subjektive Wohlbefinden beeinträchtigen können.

Eine wichtige Frage lautet, welche psychosozialen Ressourcen Menschen helfen können, solche Bedingungen erhöhter Unsicherheit erfolgreich zu bewältigen. In Psychologie und Soziologie deutet eine wachsende Zahl empirischer Studien auf eine mögliche Rolle der Religiosität für die Bewältigung von Belastungen im weiteren Sinne, sowie von Unsicherheit im Speziellen, hin. Basierend auf diesen Vorbefunden wurden im Rahmen dieser Dissertation drei Untersuchungen durchgeführt. Hauptziel dieser Untersuchungen war die Exploration der Rolle von Religiosität im Umgang mit subjektiv empfundenen wachsenden Unsicherheiten bezüglich wichtiger Entwicklungsaufgaben und -ziele, die der soziale Wandel in den Lebensdomänen Arbeit und Familie mit sich bringt. Den theoretischen Hintergrund hierfür bildete das Jenaer Modell der Entwicklung im sozialen Wandel, demzufolge Religiosität als eine mögliche psychosoziale Ressource verstanden werden kann. Die Daten für die Untersuchungen stammten aus einer im Frühjahr 2009 durchgeführten querschnittlichen Befragung von $N = 3.078$ polnischen Jugendlichen und Erwachsenen im Alter zwischen 16 und 46 Jahren. Als eine Industrienation, die hoch religiös ist und gleichzeitig in den vergangenen Jahren raschen und tiefreichenden sozialen Wandel erfahren hat, bot sich Polen als besonders geeigneter Fall für diese Untersuchungen an.

Studie 1, einem „Stresspuffer“-Paradigma folgend, ergab, dass Religiosität (gemessen als Häufigkeit des Kirchgangs und religiöse Selbstidentifikation) in positivem Zusammenhang mit subjektivem Wohlbefinden (Depressivität, Lebenszufriedenheit und Arbeitszufriedenheit) stand. Darüber hinaus reduzierte Religiosität die Stärke des Zusammenhangs zwischen empfundenen arbeitsbezogenen Unsicherheiten und Depressivität (nicht jedoch Lebens- oder Arbeitszufriedenheit). In Studie 2 wurden, aufbauend auf der Lebensspannentheorie der Kontrolle, individuelle Bewältigungsstrategien als ein möglicher Mechanismus hinter dieser stressreduzierenden Wirkung der Religiosität gegenüber arbeitsbezogenen Unsicherheiten untersucht. Hierbei zeigte sich, dass Religiosität (hier gemessen als empfundene Unterstützung durch Religiosität) opportunitätskongruentes Zielengagement und Zieldisengagement in der Bewältigung von arbeitsbezogenen Unsicherheiten beförderte: Während Religiosität in opportunitätsreichen Regionen (*Powiaty*, vgl. etwa deutsche Landkreise) in positivem Zusammenhang mit Zielengagement und in tendenziell negativem Zusammenhang mit Zieldistanzierung stand, beförderte sie in opportunitätsärmeren Regionen die Distanzierung von (dort nur schwer zu bewältigenden) arbeitsbezogenen Anforderungen und Zielen. Ein solches Muster ist aller Wahrscheinlichkeit nach adaptiv. Studie 3 schließlich erweiterte die Befunde aus der ersten Studie auf den Bereich des Familienlebens. Sie erbrachte, dass Religiosität (hier gemessen als Identifikation mit der eigenen Glaubensgemeinschaft und religiöse Selbstidentifikation) zwar empfundene familienbezogene Unsicherheiten reduzierte. Allerdings verstärkte Religiosität den Zusammenhang ebendieser familienbezogenen Unsicherheiten zu höherer psychologischer Belastung (Depressivität, Ängstlichkeit, Selbstwertprobleme) sogar noch – dies mutmaßlich deswegen, weil diese Unsicherheiten mit religiösen Werten und Normen bezüglich der Gestaltung des Familienlebens konfliktieren.

Zusammengenommen deuten die Befunde der drei Studien auf eine Doppelrolle der Religiosität im Umgang mit den sich aus dem sozialen Wandel ergebenden

Unsicherheiten hin: Religiosität scheint sowohl als Ressource als auch als Risikofaktor für die psychologische Anpassung, insbesondere das subjektive Wohlbefinden, wirken zu können. Mögliche Erklärungen für dieses Ergebnismuster, theoretische und praktische Implikationen dieser Befunde sowie Vorschläge für zukünftige psychologische Forschung auf dem noch jungen Gebiet von Religiosität und Bewältigung werden diskutiert.

Introduction

Religion is a potent force in the life of most people worldwide. According to recent estimates from the Gallup World Poll, 68% of human beings, or 4.6 billion people, say that religion is important in their daily lives (Diener, Tay, & Myers, 2011). Notwithstanding ongoing trends of secularization in European countries (Norris & Inglehart, 2004; Pickel, 2009), religion, even here, remains a prominent topic both in the popular media and in the social sciences. Indeed, as Hood, Hill, and Spilka (2009) speculated in the introduction to their recent textbook on the psychology of religion, “Chances are that more books have been written on religion, or some aspect of religion than on any other topic in the history of humanity.” (p. 7).

Despite the interest of some its founding fathers like Wilhelm Wundt or William James, psychology as a discipline has, however, remained surprisingly mute on religious issues throughout much of the 20th century (K. Brown, 2005; Emmons & Paloutzian, 2003). It was only in the last two decades that interest in religion has begun to rise markedly, filling this long-standing void with a growing number of rigorous and often sophisticated empirical studies. The rising number of research articles and textbooks published, the appearance of several new journals specializing in the psychology of religion, and the establishment of institutions to undergird these research activities (Emmons & Paloutzian, 2003) suggest that this scientific endeavor will gain further momentum in the coming years.

This new field of psychological research is immensely diverse in substantive focus, theoretical underpinnings, and preferred methodologies, ranging from correlational research on religion and prejudice to laboratory studies on the neural foundations of religious experience. However, one clearly discernible center of gravity is the linkage between religion and coping (Hood et al., 2009; Pargament, 1997). Studies from this stream of research, often integrating religion into a broader stress-coping perspective

(e.g., Gall et al., 2005; T. D. Hill, 2010; Pargament, 1997), have provided sound evidence that religion can intervene in virtually all stages of the stress process. Contrary to the well-known surmise of Sigmund Freud (1961), who famously dismissed religion as a universal obsessional neurosis, the preponderance of evidence points to a salutary role of religiosity in coping with a broad range of stressors (Faigin & Pargament, 2010; Smith, McCullough, & Poll, 2003).

Importantly, however, research on religion and coping has mostly focused on severe and circumscribed health-related stressors, such as cancer, and negative life events, such as bereavement (Hood et al., 2009). This research focus is predicated on the notion that religion is most often invoked when people face existentially threatening conditions that push them to the limits of their resources (Faigin & Pargament, 2010; Pargament & Cummings, 2010). That said, some scholars have suggested that the role of religion in coping may be more encompassing, extending to non-existential stressors as well. These scholars have emphasized the unique comprehensiveness of religion in providing an interpretive framework for both ordinary and exceptional human experiences (Berger, 1967; Park, 2007) and ventured to claim that religion is a universal resource that can be used to cope with virtually any stressor, from the petty annoyances and hassles of everyday life to severe trauma (e.g., Faigin & Pargament, 2010; T. D. Hill, 2010; Pargament, Magyar-Russell, & Murray-Swank, 2005). Following this assumption, several nascent investigative lines have begun to extend research on religious influences in the coping process beyond health-related stressors and life events.

One of the more prominent of these investigative lines is the uncertainty/insecurity perspective, which provides the broader perspective informing the present dissertation. Quite a number of recent theoretical approaches to religion in sociology (e.g., Norris & Inglehart, 2004) and psychology (e.g., Hogg, Adelman, & Blagg, 2010) converge in the notion that the central function of religion, understood as a broader cultural system, is to reduce, or help cope with, feelings of insecurity and uncertainty that can arise in peoples' lives from a variety of different sources. Building on this precedent, the present

dissertation seeks to explore the possible role of religiosity in dealing with a specific type of uncertainty which, much akin to religiosity, has only recently come into the focus of psychological research: Perceived uncertainties concerning important developmental tasks and goals in various life domains that arise from current trends of social change (Pinquart & Silbereisen, 2004; Tomasik & Silbereisen, 2009). The central research questions governing this dissertation are whether and how religiosity is involved in dealing with such uncertainties, and whether religiosity exerts salutary or deleterious effects therein.

To that end, three studies were conducted using data from Poland, which is one of the most religious of industrialized nations (Borowik, 2010; Zarzycka, 2008) and which is witnessing rapid and profound social change (Kennedy & Kirwil, 2004). The structure of the following chapter, which contains a synopsis of these studies, is as follows: First, drawing on the Jena model of social change and human development (Pinquart & Silbereisen, 2004; Silbereisen et al., 2006), the linkage between current social change and perceived growing uncertainties in various domains of life such as work/occupation and family is delineated. These uncertainties act as stressors that put successful development at risk. Next, leveraging the uncertainty/insecurity perspective, the potential contributions of religiosity to coping with these uncertainties are set forth. Thereafter, the aims and methods of the present dissertation are outlined in more detail along with its database, and each of the three studies is summarized. Lastly, the joint contributions of the three studies are discussed and put into a broader theoretical perspective. The chapter closes with a number of suggestions for future research and some implications for social policy and psychological counseling.

1 Theoretical Background

This section prepares the ground for a synopsis of the three studies by theoretically linking two hitherto unrelated strands of psychological research: Research on social change and research on religion and coping. The key linkage will be through the

concept of *perceived uncertainties*. As this linkage is outlined, it will become clear that the present dissertation takes a developmentalist viewpoint from which coping with social change is seen as an instance of developmental regulation in a changing social ecology (see Bronfenbrenner, 1979; Lerner & Busch-Rossnagel, 1981).

1.1 How social change impacts on individual development

Social change is a diversely used umbrella term used to describe different phenomena. Most broadly speaking, it can be defined as changes in the typical characteristics of a society, such as its political system, its social institutions, and its cultural products (Calhoun, 1992; Piquart & Silbereisen, 2004). Understood this way, social change mainly refers to changes in what is called the *macrosystem* in Bronfenbrenner's (1979) ecological systems theory, i.e., society and subculture with its belief systems, lifestyles and options, and patterns of social interchange. In the following section, the Jena model, along with some empirical evidence on the model's main tenets, will be described as an innovative framework to understand how such macrocontextual changes translate to the more proximal contexts (e.g., the family or workplace) by altering the opportunities and constraints for individual development in these contexts. This model with its core concept of *perceived growing uncertainties* (or "demands") provides the lens through which to view the linkage between macrolevel social change and individual-level outcomes in the present dissertation.

1.1.1 Social change as a source of growing uncertainties

Modern societies are witnessing a host of social, economic, political, and cultural changes. Although societies are never static, contemporary societal change stands out in its global scope and swift pace, which some see as unprecedented in history (e.g., Raab et al., 2008; Rudel & Hooper, 2005). Quite a number of prominent social theorists agree that one prime consequence of these macrosocial changes is that they confront individuals with new ambiguity, unpredictability, and uncertainty as they navigate their lives. Indeed, chronic and growing uncertainty is seen by many as a key feature of

modernity. For example, individualization theorists such as Beck (Beck & Beck-Gernsheim, 2002), Giddens (1991), and Baumann (2001, 2007) point out that the increasing freedom of choice that individuals enjoy in modern societies also confronts them with new biographical uncertainties. Increasingly emancipated from traditional institutions and social structures, and exposed to the forces of globalization, the individual is free to, but also compelled to, make life choices and to construct her own biography and identity under conditions of omnipresent and ever-changing risks. This poses novel obligations and burdens for individuals that can potentially overtax them. In a related vein, Blossfeld and colleagues (Blossfeld & Mills, 2003; Buchholz et al., 2009; Hofäcker & Blossfeld, 2011; Mills & Blossfeld, 2013), focusing especially on globalization and its consequences for career paths and family life, argued that globalization entails as its main consequence increasing structural uncertainty, which forces individuals to adjust employment decisions, partnership decisions or fertility decisions to altered conditions. Thus, the idea that social change confronts people with new uncertainties features very prominently in contemporary sociological accounts of social change.

In psychology, by contrast, social change has never been at the center of research attention (Silbereisen, Piquart, & Tomasik, 2010). The topic has, of course, not been entirely overlooked. Some theorists have explicitly spelled out the possibility of structural and historical influences on the life course (e.g., Bronfenbrenner, 1979). Moreover, the idea that the developmental settings of modernity permit and demand more agency on the part of individuals has been echoed in developmental psychology (e.g., Brandtstädter, 2009; Wrosch & Freund, 2001). Nevertheless, there has long been a lamentable dearth of theoretical and empirical work explicitly relating social change to individual-level outcomes and development (Noack, Kracke, Wild, & Hofer, 2001; Piquart & Silbereisen, 2004).

The Jena model of social change and human development, developed by Silbereisen and colleagues (Silbereisen & Piquart, 2008; Silbereisen et al., 2006), aims to fill this gap. In line with the abovementioned sociological thinking, the core idea of this

model (shown in Figure 1) is that social change gives rise to perceived growing uncertainties in different life domains that act as new demands. These demands “represent the new claims or opportunities for negotiating one’s life tasks given the changes on the societal level and their manifestations in contexts” (Silbereisen, Pinquart, & Tomasik, 2010, p. 128). In other words, social change is understood as leading to changes in the opportunity structures for the mastery of age-graded developmental tasks and goals, giving rise to perceived growing uncertainties and thus producing new situational imperatives that require a behavioral adaptation (see also Elder & Caspi, 1992).

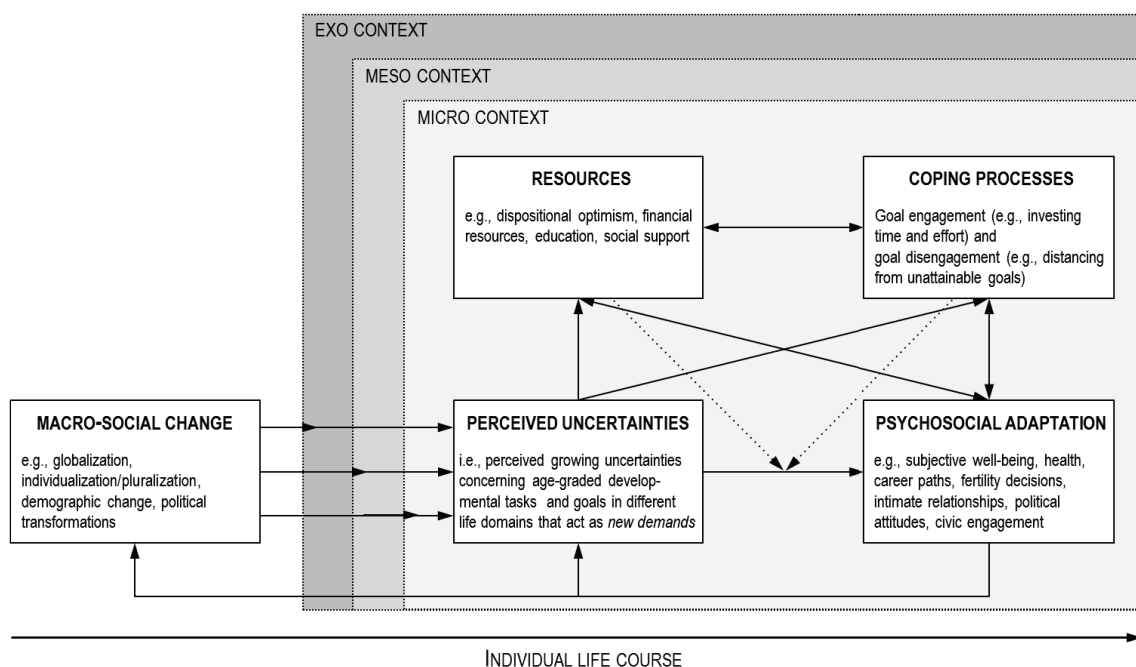


Figure 1. The Jena model of social change and human development (figure taken from Silbereisen & Tomasik, 2011, slightly adapted for the purpose of this dissertation).

Through an extensive search of the sociological and economic literature and public statistics, as well as through qualitative and quantitative pretests, Silbereisen et al. (2006) identified the most significant trends of recent social change at the societal macrolevel affecting the majority of the adult population in Germany at the outset of the new millennium. They considered three life domains: Work and occupation,

partnership and family, and leisure and public life. In the domain of work and occupation, these trends comprised, among others, growing unemployment risks, increasing numbers of fixed-term contracts, and increases in precarious employment; in the domain of family, sample trends were increasing divorce rates, plummeting birthrates, and changes in family relations. Against the backdrop of these macrolevel trends, the authors derived a set of items capturing the new perceived uncertainties that arise from these trends for individuals (a more in-depth discussion of these items and their macrostructural origins is presented in section 2.2.1). These uncertainties are measured as perceived subjective changes for the worse in personal circumstances over the past five years. To illustrate, the item “When considering the past five years, the risk of losing my job has increased” mirrors the macrostructural changes of increasing unemployment rates and decreasing layoff protections, whilst the item “When considering the past five years, it is more likely that my partner could leave me” reflects the declining stability of partnerships and increasing divorce rates.

Focusing on such individually perceived uncertainties allows for an assessment of the *psychologically effective* individual-level manifestation of macrolevel changes. It takes account of the fact that social change does not affect individuals in a mechanistic and uniform fashion. Rather, subjective experiences of social change may vary according to sociodemographic and psychological factors (e.g., Noack et al., 2001) as well as by institutional filters such as welfare regimes that channel the impact of societal changes on different groups of individuals (e.g., Blossfeld & Mills, 2003). In line with this idea, Silbereisen and Tomasik (Silbereisen & Tomasik, 2011; Tomasik & Silbereisen, 2009) were able to demonstrate that individuals’ load of perceived uncertainties depended on a range of sociostructural factors such as employment status, marital status, and educational attainment, as well as respondents’ geographic region (e.g., higher labor market uncertainties in East Germany).

1.1.2 Growing uncertainties as a stressor and risk factor for individual development

Of note, this dissertation's focus on perceived growing uncertainties as changes for the worse is not meant to imply that social change is necessarily negative. Undoubtedly, social change can and does open up new opportunities and offer chances for personal growth. Consider, for example, the increasing personal freedom of choice and political rights or the availability of new information and communication technologies (e.g., Obschonka, Silbereisen, & Wasilewski, 2012; Welzel & Inglehart, 2010). However, it is negatively connoted uncertainties and not positively connoted opportunities that constitute "non-ignorable risk-factors for the wealth and well-being of individuals and thus require some form of adaptive behavior" (Tomasik, Silbereisen, & Pinquart, 2010, p. 247).

How, then, do such perceived growing uncertainties that arise from current social change affect individual development? To answer this question, the nature of these uncertainties must be elaborated. Generally speaking, perceived uncertainty refers to a psychological state that exists when an individual engaging in goal directed behavior possesses less than complete knowledge about the future course of events (unpredictability) and her ability to influence the future course of events (lack of control) (see Downey & Slocum, 1975, for an extensive discussion of uncertainty as a psychological phenomenon). Because people have a (possibly innate) need to exert control over their lives (Heckhausen & Schulz, 1995; Heckhausen, Wrosch, & Schulz, 2010), uncertainty is an aversive state that motivates individuals to react in order to resolve the uncertainty. In other words, uncertainty represents an "action imperative". The same is true for uncertainties concerning important developmental goals and tasks that arise from social change: When an individual perceives a goal she is pursuing as being rendered increasingly uncertain because the conditions for the realization of that goal have changed, she must respond in some way – be it by investing more time and effort, by looking for detours, or by giving up that goal. For this reason, the Jena model,

drawing on Elder's concept of situational imperatives (Elder & Caspi, 1992), originally referred to perceived uncertainties of social change as *perceived demands* in order to stress the action imperative inherent in them.

The foregoing analysis elucidates that, due to their demand character, perceived growing uncertainties that arise from social change represent potential stressors. As such, they can pose a risk to successful development. Uncertainty is generally considered an aversive psychological state, a notion corroborated by both experimental research not specific to social change (e.g., Greco & Roger, 2003) and studies more specifically investigating perceptions of societal conditions (e.g., J. Kim, 2008; Westerhof & Keyes, 2006). Most crucially, however, these uncertainties, and especially their accumulation over time and across life domains (see Sameroff, 2000), may overtax individuals' adaptive capacities and thus hinder the successful resolution of age-graded developmental goals that individuals pursue (Tomasik, Silbereisen, & Pinguart, 2010; Tomasik & Silbereisen, 2012b). Insofar as they can thwart central developmental goals, these uncertainties can be expected to impinge on several dimensions of development, including psychological adaptation.

An alternative way to understand the nature of these perceived uncertainties is in terms of Hobfoll's (1989) conservation of resources theory (COR). According to this theory, people seek to obtain, retain, and protect resources. Resources are defined as those *objects* (e.g., a mansion), *personal characteristics* (e.g., optimism, self-efficacy), *conditions* (e.g., workplace roles, marriage), or *energies* (e.g., time, knowledge) that are either valued by the individual in their own right or that serve as a means for the attainment of other resources. Stress occurs when individuals perceive a threat to valued resources, fail to gain resources after substantial resource investment, or are beset by actual resource loss. Based on this approach, perceived uncertainties as conceived in the Jena study could be viewed as perceived threats to a number of valued resources that individuals typically seek to obtain as they negotiate the central

developmental tasks of young and middle adulthood, such as a stable career, financial assets, good marriage, family stability, or a sense of purpose (see Hobfoll, 2001, 2002).

Both these alternative views converge in understanding perceived uncertainties as developmentally relevant stressors that may pose risks to psychological adaptation. The main focus in this dissertation is on measures of mental health and subjective well-being. Several empirical studies using the Jena model as a guidepost have shown that perceived uncertainties are linked to higher depressive symptoms and lower life satisfaction in German adolescents and young adults (Grüner & Pinguart, 2011; Körner, Silbereisen, & Cantner, 2012; Pinguart & Fabel, 2009; Pinguart, Silbereisen, & Körner, 2009). These results dovetail with assertions by researchers from various other investigative lines who have warned that macrosocial change may entail negative consequences for health and well-being (J. Kim, 2008; Noack & Kracke, 1999; Westerhof & Keyes, 2006), including reports from researchers focusing on the transition in Central and Eastern European countries (Easterlin, 2009; Eiroá Orosa, 2013; Schröder & Scheuch, 1996).

1.1.3 Individual differences in the adaptation to social change

The Jena model also stresses that individuals are not simply passive recipients of these uncertainties but active agents who adapt to such changes in various ways (see Eccles & Wigfield, 2002; Lerner & Busch-Rossnagel, 1981). In a nutshell, the model proposes that the impact of the uncertainties on psychosocial outcomes are mediated and moderated by the way in which individuals *deal* with them in terms of coping processes. Coping processes, in turn, critically hinge on the individual and social resources people have at hand. In empirical studies guided by the model, individuals' specific coping responses are operationalized in terms of control strategies of *goal engagement* (i.e., investing time and effort; overcoming obstacles) and *goal disengagement* (i.e., self-protection of self-esteem and motivational resources against failure experiences; distancing oneself from unattainable goals) as conceived in the motivational theory of life-span development (MTD) proffered by Heckhausen and

colleagues (Heckhausen & Schulz, 1995; Heckhausen et al., 2010). The latter theory is, strictly speaking, not a theory of coping but of longer-term developmental regulation to achieve important developmental goals, such as building a family in young adulthood or staying active in late adulthood in the face of biological or societal constraints. This, of course, makes it all the more apt to capture how people deal with changing societal conditions that create growing uncertainties concerning important developmental goals.

Studies from the Jena research group on social change have supported the key propositions of the Jena model. For example, the associations between perceived uncertainties and measures of psychological adaptation are buffered by resources such as social support, optimism, and self-efficacy (Grüner & Pinquart, 2011; Pinquart, Silbereisen, & Juang, 2004). Likewise, findings from other investigative lines (Eiroá Orosa, 2013; Schröder et al., 2011; Shteyn, Schumm, Vodopianova, Hobfoll, & Lilly, 2003) also highlight the critical importance of individual and social resources as mediators and moderators of the linkage between social change and individual development. Furthermore, studies have shown that the association between perceived uncertainties and these outcomes is moderated by the control strategies that individuals use to deal with the uncertainties (Grüner, Silbereisen, & Heckhausen, 2012; Körner, Reitzle, & Silbereisen, 2012; Pinquart et al., 2009; Tomasik, Silbereisen, & Pinquart, 2010; Tomasik & Silbereisen, 2012a). The emerging pattern here is that goal engagement generally yields more adaptive outcomes while goal disengagement can be equally or more adaptive under restricted opportunity structures or in individuals perceiving a lack of control; this is in line with the congruence theorem in MTD (Heckhausen et al., 2010; Tomasik, Silbereisen, & Heckhausen, 2010). Moreover, several studies have demonstrated that resources such as dispositional optimism (Pavlova & Silbereisen, 2013) or employment and marriage (Tomasik, Silbereisen, Lechner, & Wasilewski, 2013; Tomasik, Silbereisen, & Pinquart, 2010) can fuel individuals' goal engagement and disengagement control strategies in dealing with these uncertainties.

Because a more comprehensive account of the Jena model and the studies conducted against its backdrop would go beyond the purview of the present chapter, suffice it to say that the evidence sketched thus far substantiates the main tenets of the Jena model. These can be summarized as follows: Social change differentially affects individuals by confronting them with perceived growing uncertainties concerning important developmental tasks and goals. Such uncertainties act as demands that require a behavioral response and thus represent stressors that may impact on outcomes such as well-being, mediated and moderated by individuals coping responses and depending on their endowment with psychosocial resources. In view of these findings, the next section will shed light on how religiosity may be involved in dealing with these uncertainties.

1.2 Religiosity as a resource in dealing with uncertainties

How might religiosity be involved in dealing with perceived uncertainties posed by current social change? After a brief definition of religiosity as a psychological construct, the following section gives an overview over theoretical accounts of religion in psychology and sociology. It will be pointed out that most of these accounts approach religion from a functionalist viewpoint, highlighting the various psychological needs it serves. Particular emphasis will be given to the uncertainty/insecurity perspective. This perspective is especially pertinent to the present dissertation because it allows linking psychological research on social change to research on religiosity.

1.2.1 A brief definition of religiosity as a psychological construct

Defining the psychological construct of *religiosity* (or, often used synonymously, *religiousness*) as the subjective side of the larger cultural system of *religion* has proven elusive. Summarizing much of the earlier literature, Saroglou (2011) recently proposed that religiosity comprises four basic dimensions, which he termed the “Big Four” religious dimensions: Believing (i.e., accepting theological messages concerning the sacred or the transcendent as true), belonging (i.e., partaking in a religious community),

behaving (i.e., adhering to religious moral norms and codes of conduct), and bonding (i.e., self-transcendent experiences, such as through rituals, that bond believers with what they perceive as the transcendent). These dimensions correspond to distinct psychological processes (cognitive, social, emotional, and moral), involve distinct cultural products (dogmas, groups, norms, and rituals), as well as goals, ways of transcendence, health-related processes (e.g., self-control, social enhancement), and potential risks (e.g., dogmatism or moral rigorism). This makes clear that religiosity is a complex and multi-faceted, albeit unified, psychological phenomenon (Saroglou, 2011; Hall, Meador, & Koenig, 2008).

Not surprisingly, then, researchers interested in religiosity from a psychological perspective have offered a vast number of definitions and measures of the phenomenon (Hall et al., 2008; P. C. Hill & Pargament, 2003). Further complicating matters, there has recently been a tendency to conceive of spirituality as distinct from religion (Zinnbauer & Pargament, 2005; Zinnbauer et al., 1997). In an attempt to resolve some of the definitional issues, some researchers have suggested to succinctly define religiosity as a „search for significance in ways related to the sacred“ (Pargament, 1997, p. 32) or as “beliefs, practices and rituals related to the sacred” (Koenig, 2009, p. 284). These researchers have stressed that what sets religiosity apart from other psychological phenomena is that it organizes around what people perceive as sacred, e.g., God, the supernatural, or an ultimate truth or reality (Pargament et al., 2005). Because it would go beyond the scope of the present chapter to dwell on these definitional issues more extensively, the remainder of this chapter follows these researchers’ definitional approach: Religiosity is understood as a search for significance in ways related to what people perceive as the sacred that manifests in specific religious beliefs, practices, and rituals. This definition is specific enough to distinguish religiosity from other psychological constructs but at the same time broad enough to incorporate the multidimensional nature of religiosity and the plurality of religious measures encountered in the literature.

1.2.2 The linkage between uncertainty and religiosity: Theoretical approaches from a functionalist viewpoint

Reflecting the intrinsic complexity of the phenomenon, researchers have approached religiosity from a variety of theoretical perspectives with often very different foci. For example, researchers have proposed that religion serves to quell the otherwise debilitating death anxiety (Vail et al., 2010), to provide meaning in life generally (Silberman, 2005) and make meaning from adversity and trauma more specifically (Park, 2005, 2007), to fulfill the need for attachment (Granqvist, Mikulincer, & Shaver, 2010), or the need to self-enhance (Sedikides & Gebauer, 2010). Others put more emphasis on the social side of religion, maintaining that religion forms the basis for strong social identities (Ysseldyk, Matheson, & Anisman, 2010) and binds individuals into moral communities (Graham & Haidt, 2010). Obviously, these approaches represent not mutually exclusive but complementary views on the subject. Fragmented and disjointed as they may seem at first glance, they have one important commonality: They approach religiosity from a functionalist perspective. That is, they are interested in the various benefits that religion affords to individuals and social groups.

One prominent example of this functionalist line of thought that is particularly pertinent to the subject matter of this dissertation is the uncertainty/insecurity perspective. This perspective, often invoking evolutionist notions, considers religiosity as evolving from the need for existential certainty and a sense of control. Religions as cultural systems, so the core argument goes, evolved to reduce feelings of anxiety that stem from humans' awareness not only of their mortality but also of their powerlessness against nature's vicissitudes and, notably, many other forms of uncertainty and insecurity that characterize human existence. Variations of this basic idea loom large in several psychological and sociological theorizations of religiosity.

In social psychology, the uncertainty-identity account of religiosity (Hogg et al., 2010) starts from the premise that people are motivated to counter uncomfortable

feelings of self-uncertainty. Such feelings of self-uncertainty can arise from numerous sources, including societal (e.g., economic crises) and more personal ones (e.g., life transitions and events such as unemployment or divorce). Under uncertainty, people display a tendency to identify with highly entitative groups (i.e., homogenous groups with clear structure, clear boundaries, and common goals) in order to counter such powerfully stressful feelings of uncertainty. Religions are a prime example of identity-defining groups that possess enormous power to reduce feelings of self-uncertainty. As all-encompassing ideological systems, they not only impart a sense of meaning and purpose to existence but also prescribe moral choices, sacred observances, codes of conduct for daily living, and rites de passage. From a closely related social identity perspective, Ysseldyk (Ysseldyk et al., 2010; Ysseldyk, Matheson, & Anisman, 2011) explained the evolution and persistence of religiosity by the marked cognitive and emotional value that religious group membership offers believers. She maintains that by offering a distinctive sacred worldview and eternal group membership guiding individual action, religious identification offers epistemological and ontological certainty unmatched by identification with other social groups. Coming from a control-theoretical rather than an identity perspective, Kay and colleagues (Kay, Gaucher, McGregor, & Nash, 2010; Kay, Gaucher, Napier, Callan, & Laurin, 2008) proposed that the belief in a controlling God, and thus religions as larger cultural systems harboring this belief, originate in part from people's desire to preserve beliefs in an orderly and controllable world. Religious beliefs in an omnipresent and omnipotent God help counter the emotionally uncomfortable experience of perceiving the world as random and chaotic when personal or external sources of control are threatened. That is, religious conviction is viewed as a defensive source of compensatory control (or "vicarious control"; see Rothbaum, Weisz & Snyder, 1982). In sociology, insecurity theory (Norris & Inglehart, 2004) claims that individuals turn to religion when beset by insecurities because it offers them emotional benefits in dealing with these insecurities (this is sometimes referred to as the "uncertainty hypothesis"; see Barber, 2011). Aiming

to explain cross-national variations in the level of religiosity, this theory also addresses contextual economic insecurities such as income inequality as potential factors driving religious beliefs.

1.2.3 Empirical evidence for the linkage between uncertainty and religiosity

As it appears, then, quite a number of scholars agree that one important function of religion is to help people deal with uncertainty, insecurity, and feelings of low control. Accordingly, perceived uncertainties are assumed to drive the “demand” for religion. A sizeable body of evidence, comprising both experimental laboratory studies and correlational data from large-scale surveys, buttresses this principal notion of religiosity as being driven by uncertainty. For example, Laurin, Kay, and Moscovitch (2008) found that people whose beliefs in personal control (i.e., a nonrandom world) were threatened in an anxiety-provoking experimental manipulation reported stronger beliefs in the existence of a controlling God. McGregor, Haji, Nash, and Teper (2008) reported that both an academic uncertainty manipulation and a relationship uncertainty manipulation led to increased religious zeal, including normative religious beliefs and problematic zeal such as support for religious warfare. Similarly, van den Bos, van Ameijde, and van Gorp (2006) found that experimentally increasing the salience of personal uncertainty led participants to be more protective of their religious beliefs and identity. This was especially true among individuals for whom religious identity was more central to their self-definition. In another series of studies, faith in God increased when other sources of external control were threatened – in this case: the government prior to an election, when government stability was low (Kay, Shepherd, Blatz, Chua, & Galinsky, 2010). Experimental inductions of low governmental stability as higher/lower also entailed lower/higher levels of belief in a controlling God.

Strong evidence in favor of the uncertainty/insecurity perspective is also accumulating from large-scale cross-national comparisons. Immerzeel and van Tubergen (2013) found in their study with data from 26 European countries that higher levels of economic (e.g., unemployment, social welfare spending) and existential (e.g.,

spousal loss, threat of terrorism) insecurities, both past and present and measured both at the individual and contextual level, were predictive of cross-national variation in church attendance rates and subjective religiosity. By the same token, Barber (2011) was able to demonstrate with data from 137 countries that belief in God was lower in economically more developed countries (i.e., countries with a lower percentage of the workforce employed in agriculture and a higher percentage of young people enrolled in tertiary education) and in countries offering higher income security (i.e., countries with a lower Gini coefficient and a larger welfare state). He maintained that as existential security increases, religious belief declines because it is no longer needed to cope with feelings of existential uncertainty.

Nascent evidence has even begun to reveal the neural processes behind the uncertainty-religiosity linkage. Specifically, there is evidence for reduced reactivity in the anterior cingulate cortex (ACC), a cortical system involved in the experience of anxiety and in self-regulation, among participants with greater religious zeal and a stronger belief in God (Inzlicht, McGregor, Hirsh, & Nash, 2009; Inzlicht & Tullett, 2010). The authors of these studies concluded that religious conviction provides a meaning-making framework which helps individuals understand their environment and guide their actions, thereby acting as a buffer against anxiety and minimizing the experience of uncertainty.

1.2.4 Empirical gaps in the literature on uncertainty and religion

Although the linkage between uncertainty, including “societally induced” uncertainties, and religiosity is well established, a closer look reveals a significant empirical gap. Studies in this strand of literature are usually interested in how different forms of uncertainty, be they experimentally induced or inherent in individuals’ objective life circumstances, prompt people to turn to religion; that is, how uncertainty leads to higher religiosity. Finding such an association is then typically interpreted as evidence that religious beliefs and practices must have been recruited to counter, in some way, the unpleasant state of feeling uncertain or insecure.

Somewhat paradoxically, considerably less attention has been devoted to investigating whether religiosity is actually conducive to coping with uncertainty, let alone such “societally induced” uncertainties – and if so, what the specific role of religiosity in dealing with such uncertainties might be. For example, studies testing whether religiosity buffers the impact of perceived uncertainties on measures of emotional well-being, or studies scrutinizing how precisely religiosity helps individuals deal with uncertainty in terms of coping strategies, are in short supply.

Thus, although ample theoretical precedent suggests that religiosity plays an important role in dealing with various kinds of uncertainties, one important question still remains largely unanswered: How exactly may religiosity be involved in dealing with the actual uncertainties people are confronted with in their everyday lives, such as those uncertainties that arise from social change?

2 The Present Dissertation

2.1 Aims and research questions

This broader question represents the point of departure for the present dissertation. Its overarching objective is to clarify the role of religiosity in dealing with growing uncertainties concerning important developmental goals and tasks that arise from current social change. Drawing on the Jena model, one could envision several distinct (but not mutually exclusive) ways in which religiosity could be involved in dealing with these uncertainties, all of which are explored in this dissertation: Religiosity could act as an individual and social resource, moderating the association between perceived uncertainties and outcomes such as mental health or subjective well-being. Religiosity – or more precisely, religious communities – could also function as an “institutional filter”, reducing the exposure to perceived uncertainties. Moreover, religiosity might be related to the specific strategies individuals use for coping with these uncertainties, promoting either goal engagement, goal disengagement, or both. Finally, religiosity could be directly related to outcomes such as subjective well-being.

Four guiding principles for this research endeavor can be derived from the foregoing discussion: First, as suggested by the Jena model, social-change-related uncertainties should be measured directly at the individual level as *perceived uncertainties* (Principle A). Doing so not only takes into account the important fact that individuals are differentially affected by macrolevel social change (J. Kim, 2008; Noack et al., 2001; Tomasik & Silbereisen, 2009); it also provides an elegant possibility of linking research on the individual-level consequences of social change to the theories of religiosity centering around notions of “self-uncertainty” (Hogg et al., 2010) or “personal uncertainties” (van den Bos, 2009), thus joining two hitherto unrelated areas of research.

Second, research on the role of religiosity should take into account the role of contexts (Principle B). As the Jena model suggests, social change manifests itself in the form of perceived uncertainties in different microcontexts such as work or family. That is, the uncertainties arising in these microcontexts are of specific content and refer to specific developmental tasks (e.g., family formation, establishing a stable career, etc.). Previous research suggests that religious influences on the coping process may depend on the type and content of the stressor (e.g., Pargament, 2002; Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998). By implication, the specificity of the uncertainties confronting individuals in these different microcontexts must be considered. Moreover, the Jena model stresses the importance of higher-order ecological contexts, and indeed there is evidence to suggest that religious influences on outcomes such as well-being might in manifold ways depend on the larger ecological context in which individuals are embedded (e.g., Eichhorn, 2012; Okulicz-Kozaryn, 2010; Pargament, 2002).

Third, research should attend to both adaptive and maladaptive religious effects in dealing with social change (Principle C). Although the literature discussed so far paints a fairly positive picture of religiosity as a resource and a means of dealing with uncertainty, some evidence points to possible downsides of certain forms of religiosity. These include, among other things, the stress-exacerbating potential of perceived

discrepancies between one's life situation and religious doctrines, as well as some maladaptive religious coping practices (e.g., Exline, 2002; Pargament, 2002). Herein may lie some potential risks of religiosity in dealing with social change as well. To the extent that social change renders individuals' chances of attaining important life goals increasingly uncertain, this may lead to discrepancies between religiously prescribed goals individuals hold (e.g., family formation) and their actual life realities.

Fourth and finally, research should specify – and ideally test – possible mechanisms underlying hypothesized religious effects (Principle D). Researchers have recently called for greater effort in developing and testing such “minitheories” in the psychology of religion and spirituality (McIntosh & Newton, 2013). Not only do minitheories stimulate further research and allow a deeper understanding of the phenomena under study; they may also provide insights into possible targets for interventions. Ideas concerning possible mechanisms abound in the field of stress research with its elaborate stress-coping models (Lazarus & Folkman, 1987), as well as in the literature on developmental regulation (Brandtstädter, 2009; Heckhausen et al., 2010). They include, for example, appraisals, psychosocial resources, values and belief systems, coping behaviors, and biological processes and thus allow integrating religious research into a broader stress-coping or developmental regulation perspective. Not surprisingly, hence, the stress-coping perspective is writ large in the psychological literature on religion, and several researchers have maintained that religiosity can intervene into virtually all stages of the stress process (e.g., Ellison & Levin, 1998; Gall et al., 2005; T. D. Hill, 2010; Park, 2007). Even though the specific mechanisms governing religious effects may not always be ascertainable with the data at hand, it is important to lay them out in terms of established psychological theorizing and empirical findings.

Governed by these four principles, three studies were conducted within the purview of this dissertation. Focusing on the sample case of Poland, their purpose was to explore the role of religiosity in dealing with individually perceived uncertainties that arise from social change (Principle A). These studies addressed two different

microcontexts (or life domains), namely work and family, and one study explicitly addressed the role of the higher-order ecological contexts as well (Principle B). The studies considered both salutary and harmful effects of religiosity (Principle C). All three studies bestowed great care on delineating possible mechanisms behind the hypothesized religious effects in their theoretical part, and one study explicitly tested one such mechanism (Principle D).

More specifically, Study 1 employed a stress-buffering paradigm (Wheaton, 1985), which is implicit in the Jena model, to investigate whether religiosity buffers the impact of perceived work-related uncertainties on subjective well-being. Study 2 explored whether religiosity influences how individuals cope with these work-related uncertainties in terms of goal engagement and goal disengagement control strategies as conceived in MTD (Heckhausen et al., 2010) under varying contextual conditions. Finally, Study 3 extended the principal approach of Study 1 to the microcontext of family by examining whether religiosity reduces the load of perceived family-related uncertainties but at the same time exacerbates, rather than buffers, their impact on psychological distress. Before outlining each of these three studies in greater detail, the next section describes the database upon which all these studies draw.

2.2 Database

The three empirical articles in this dissertation all draw on data from the study “Sociological and psychological determinants of coping with rapid social changes” (Jacek Wasilewski, Principal Investigator), a large-scale multitheme survey on adult development and adjustment in times of social change conducted in Poland in 2009. This study grew out of an international collaboration with the Jena research group on social change and is in large parts a replication of the first wave of the Jena study, which was gathered in Germany in 2005. In order to be comparable to the Jena study, the Polish survey used identical instruments to assess the core constructs, an almost identical sample size, and a similar sampling procedure (see Reitzle, 2008, for details on

the Jena study). A description of the sample and procedure, along with an evaluation of the data quality, is given below. Before proceeding with technical aspects of the database, however, a few words on the context of Poland with special regard to social change and religion are warranted, setting the stage for the summaries of the three studies given thereafter.

2.2.1 Some notes on the case of Poland

Poland presents itself as a particularly apt and interesting case for studying the consequences of social change (Kennedy & Kirwil, 2004), and especially the role of religiosity therein. This is due to the coincidence of two characteristics of the country: First, in comparison to most other industrialized countries, Poland is an exceptionally religious nation. According to data from the Bertelsmann Religion Monitor (Zarzycka, 2008), 95% of Poles subscribe to Roman Catholicism, 47% can be considered “highly religious”, 40% “religious” – and only 5% “not religious”, which constitutes the lowest value in Europe. As much as 50% of Poles attend church at least once a week (CBOS, 2009a). Furthermore, Catholicism is an integral part of Poland’s national culture and highly salient in everyday life, a constellation rooting deep in the historical role of the Catholic Church as a leader of the opposition against communist rule (Borowik, 2010).

Second, Poland is a transformation society witnessing rapid and profound social change. In the economic realm, the country is simultaneously subject to several intertwining and mutually reinforcing trends: (a) Systemic change, i.e., the transformation from a command economy to a free market economy since 1990, (b) restructuring and modernization of the economy, and (c) more general trends of globalization (Golinowska, 2005). In the political realm, the country saw the introduction of democratic institutions after 40 years of socialist rule, and more recently the integration into the European Union in 2004 (Balcerowicz, 1995; Góra & Zielińska, 2011). Although the country experienced robust economic growth and plummeting unemployment rates in the aftermath of the EU accession, this came at the expense of increasing labor market flexibility (Bukowski, 2010a, 2010b) and growing social

inequality (Czapiński & Panek, 2010; Janicka & Słomczyński, 2008). Moreover, at the time respondents of the study on which this dissertation is based were interviewed, Poles were beginning to feel the consequences of the financial crisis, with the number of individuals reporting they personally felt the impact of the financial and economic crisis climbing from 18% in September 2008 to 48% in February 2009 (CBOS, 2009b). All these changes occurring within just two decades, almost every aspect of private life, especially the family (Galbraith, 2008; Ornacka & Szczepaniak-Wiecha, 2005), has been touched as well.

As part of the work for this dissertation, the author performed an extensive literature search in order to establish whether the trends of social change Silbereisen and colleagues had identified for the context of Germany between the years 2000 and 2005 (Silbereisen et al., 2006) also applied to Poland between the years 2004 and 2009. This, indeed, was what the collaborators from the Polish research group expected on the basis of the comparative sociological literature. The literature search largely confirmed this expectation. For almost every item capturing a perceived uncertainty in the domain of work or family life, clear evidence for the existence of the corresponding macrostructural trends in Poland could be determined. The Polish survey comprised three additional items that were devised to capture trends which were deemed relevant in Poland but not in the original German study (having to look for work abroad; having to work in the gray sector; possibility that one's partner has to leave for work abroad). Table 1 (work-related uncertainties) and Table 2 (family-related uncertainties) show the wording of all items used in the three studies of this dissertation and selected evidence for their validity in the Polish context. In addition, the tables present information on the mean endorsement and standard deviations of all items in Poland and, for comparison, in the original German study.

Table 1

Perceived Growing Work-related Uncertainties as Assessed in the Studies

Work-related uncertainties			
When considering the past five years...	Selected evidence	<i>M (SD)</i>	
		PL ^a	GER ^b
...it has become more difficult to plan my career path.	<ul style="list-style-type: none"> ▪ In 2005, 23% of male and 24% of female employees below age 30 involuntarily worked under fixed-term contracts, compared to 12-13% on EU-27-average (European Commission, 2008) ▪ 85% of the growth in employment between 2003 and 2007 was composed of temporary positions, rendering Poland the country with the highest intensity in temporary employment in the EU-27 (Ingham & Ingham, 2013) 	4.54 (1.90)	4.14 (2.10)
...today, I have to be prepared more for the possibility of reluctantly only working part time instead of full time.	<ul style="list-style-type: none"> ▪ With 28% in 2007, Poland had one of the highest shares of individuals working in part time and temporary employment (combined) in the EU-27 (Leschke & Watt, 2008) ▪ Although the percentage of involuntary part time employment of the total part time employment decreased from 33.4% in 2003 to 18.5% in 2008, it again started increasing thereafter as a result of the financial crisis to 24.5% in 2011 (Eurostat, 2013a) 	4.14 (2.11)	4.49 (2.15)
...the risk of losing my job has increased.	<ul style="list-style-type: none"> ▪ Although unemployment rate dropped from 20% in 2002 to 9.6% in 2007, and then to 7.1% in 2008 (European Commission, 2009), unemployment risks remained high or even increased among certain segments of the population, such as those with lower education (Golinowska, 2005) ▪ After continuously declining from 2004 to 2007, the risk of job loss (average monthly inflow into unemployment hazard) rose again between 2007 and 2009 from 0.8 to 1.0 (Bukowski, 2010a) 	4.05 (2.13)	4.61 (2.16)

...my career plans were often hindered by unforeseen events and circumstances.	<ul style="list-style-type: none"> ▪ The percentage of Poles reporting they felt the impact of the recent financial and economic crisis on themselves or their household soared from 18% in September 2008 to 48% in February 2009 (CBOS, 2009b) ▪ The percentage of Poles reporting they already experienced negative impacts of the recent financial and economic crisis on their situation at the workplace rose from 5% to 17% in September 2008 to 48% in February 2009 (CBOS, 2009b) 	3.88	4.39
...it is now more likely that I will be forced to accept a job requiring lower qualifications than those I have.	<ul style="list-style-type: none"> ▪ Incidence of low-paid jobs (less than two thirds of the median wage) climbed from 18% in 1995 to 23% in 2004 (Kolev & Saget, 2010) ▪ The absolute number of economically inactive persons with tertiary education increased between 2003 and 2007 (Główny Urząd Statystyczny, 2009) 	4.30	4.73
...there are currently fewer job opportunities for me.	<ul style="list-style-type: none"> ▪ Under the impact of the financial crisis, the chance of finding a job (i.e., the average monthly outflow from unemployment hazard) decreased sharply from over 12 to just over 10 (Bukowski, 2010a) 	4.33	5.18
...I have to be prepared for the possibility of looking for a job abroad.	<ul style="list-style-type: none"> ▪ The number of Poles who had worked abroad for at least two months within the preceding year tripled to 540,000 between 2004 and 2007 (Kaczmarczyk & Okólski, 2008) ▪ Emigration rate increased from 6.2 per 1,000 in 2003 to 10.9 per 1,000 in 2006 (DeWaard & Raymer, 2012) 	4.01	n/a
...I have to be prepared for the possibility of taking a job in the “gray sector”.	<ul style="list-style-type: none"> ▪ The number of people working in the shadow economy was between 1 and 2.2 million in recent years, which amounts to 5.1% to 9% of the total number of the employed (Golinowska, 2005) 	4.17	n/a

Note. ^a PL = Poland; data in Poland were gathered in 2009 ($N = 3,078$, age range: 16 to 46). ^b GER = Germany; data in Germany were gathered in 2005 ($N = 2,863$, age range 16 to 43) and are shown for comparison here.

Table 2

Perceived Growing Family-related Uncertainties as Assessed in the Studies

Family-related uncertainties			
When considering the past five years...	Selected evidence	<i>M (SD)</i>	
		PL ^a	GER ^b
<p>...I now have to take more things into account when it comes to decisions concerning the relationship with my partner or family.</p>	<ul style="list-style-type: none"> ▪ Mean age at first marriage increased from 22.8 to 24.7 for females and 25.1 to 26.7 years for males between 1989 and 2004 (Kotowska, Józwiak, Matysiak, & Baranowska, 2008) ▪ Mean age at first birth increased from 23.3 years in 1989 to 25.6 years in 2005 (Kotowska et al., 2008) ▪ Drop in total fertility rate from 2.1 in 1981 to 1.27 in 2007 (Mishtal, 2009) ▪ Average age of women at first birth increase from 23.4 to 25.2 between 1990 and 2003 (Kotowska et al., 2008) 	4.52 (2.03)	4.57 (2.08)
<p>... it is more difficult to decide, given my present life circumstances, whether I want to have a(nother) child or not.</p>	<ul style="list-style-type: none"> ▪ Poland has highest proportion of women who remained (mostly unintended so) childless among the 1960 and 1970 birth cohorts in Central and Eastern Europe (Kotowska et al., 2008) ▪ Fewer women have more than one child, with first-birth intensity falling from 0.89 in 1988 to 0.69 in 2003 (i.e., by 23%), second-birth intensity from 0.7 to 0.4 (i.e., by 43%), and the third-birth intensity from 0.32 to 0.10 (i.e., by 70%) (Kotowska et al., 2008) 	3.70 (2.36)	4.35 (2.33)
<p>...the knowledge and experiences of my parents now provide less sense of direction in my life.</p>	<ul style="list-style-type: none"> ▪ Qualitative research suggests that the relevance of parents' experiences and values for their adult children is waning due to the rapidly changing economic and technological environment (Bojar, 2005) 	3.87 (1.86)	3.74 (1.90)
<p>...it is more likely that I now have to reckon with being or once again becoming financially long-term dependent on my parents.</p>	<ul style="list-style-type: none"> ▪ 55% of young people aged 18-34 years still live in the parental home, compared to a EU-average of 45% (Choroszewicz & Wolff, 2010) ▪ 67% of young adults aged 15-24 quoted material difficulties as the main reason not to leave their family 	3.30 (2.08)	2.86 (2.00)

	home (Choroszewicz & Wolff, 2010)		
...my personal contacts are now less reliable.	<ul style="list-style-type: none"> ▪ Average number of family members with whom Poles reported having close, amicable contacts dropped from 7.90 in 1999 to 6.77 in 2003 and 6.65 in 2007 (CBOS, 2008) ▪ Decreasing solidarity within multigenerational families and growing physical isolation among parental and filial generations (Ornacka & Szczepaniak-Wiecha, 2005) 	3.55 (1.72)	3.15 (1.83)
...it is now more likely that my partner could leave me.	<ul style="list-style-type: none"> ▪ Total divorce rate rose from 0.16 in 1997 to 0.23 in 2005, and the total number of divorces rose from under 45,000 in 2002 to 67,600 in 2005 (Kotowska et al., 2008) ▪ Number of marriages ending in “separation” (a legal alternative to divorce introduced in 1999) rose from 1,300 in 2000 to 11,600 in 2005 (Kotowska et al., 2008) ▪ The incidence of informal cohabitation (which many Poles perceive as something unstable) increased from 12% of all newly formed unions in the early nineties to almost 30% between 2004 and 2006 (Matysiak, 2009) 	2.64 (1.85)	3.25 (2.09)
...it is now more likely that my spouse/partner could leave for work abroad.	<ul style="list-style-type: none"> ▪ The number of Poles who had worked abroad for at least two months within the preceding year tripled to 540,000 between 2004 and 2007 (Kaczmarczyk & Okólski, 2008) ▪ Emigration rate increased after EU-accession from 6.2 per 1,000 in 2003 to 10.9 per 1,000 in 2006 (DeWaard & Raymer, 2012) 	2.87 (2.02)	n/a

Note. ^a PL = Poland; data in Poland were gathered in 2009 ($N = 3,078$, age range: 16 to 46). ^b GER = Germany; data in Germany were gathered in 2005 ($N = 2,863$, age range 16 to 43) and are shown for comparison here.

Some exceptions must be noted. One concerns the increase in (involuntary) part time employment, which is still a comparatively rare phenomenon in Poland (Wóycicka, 2010). Even more importantly, in contrast to the situation in Germany between 2000 and 2005, the Polish labor market had experienced change to the better in the five years prior to the study, with unemployment rates falling from 19.8% in 2003 to 7.1% in 2008 (but afterwards climbing to 8.1% in 2009 and 9.7% in 2010 under the impact of the recent financial crisis; Eurostat, 2013b). As mentioned earlier, however, these improvements came at the expense of an increase in flexible and precarious forms of employment such as temporary work, especially for low-skilled workers (Golinowska, 2005; Ingham & Ingham, 2013; Trappmann, 2011). By assessing the differential exposure to these macrolevel trends via individually perceived growing uncertainties, the work-related uncertainties scale shown in Table 1 allows capturing this very polarization of the labor market.

Further supporting the validity of the items, their mean endorsements and standard deviations in the Polish sample were overall quite similar to the sample from the German study. Importantly, where somewhat larger differences were found, these differences reflected objective differences in the underlying macrostructural conditions between Germany in late 2005 and Poland in early 2009. Such was the case, for example, with the items referring to increasing unemployment risks and decreasing numbers of job offers. Taken together, Poland proves to be a valuable case in point for the purpose of this dissertation, and the scales originally devised for Germany were found to capture valid trends in Poland as well. The next section provides details on the sampling procedure.

2.2.2 Sample and procedure

Between February and April 2009, trained interviewers from a professional survey institute conducted a total of $N = 3,078$ standardized computer-assisted personal interviews (CAPI) with 16 to 46-year-old respondents based on a standardized interview manual. These interviews comprised an oral part and a self-report

questionnaire. They lasted for approximately 90 minutes. Each interviewer was handed a written set of information on the research project and instructions concerning the interviewing procedure (e.g., hints regarding how to encourage respondents who frequently chose the middle categories on scales not to answer in such routine fashion and a reminder that some questions allowed for multiple answers). The age range of 16 to 46 years (16 to 43 years in the Jena study) was chosen because it comprises the transitional stage from adolescence to young and middle adulthood in which major developmental tasks and goals, such as the school-to-work transition, career development, marriage, or childbearing are negotiated (Buchmann & Kriesi, 2011; Havighurst, 1952). Furthermore, there is evidence that youth and young adults are most strongly affected by the increasing uncertainty current social change creates (Blossfeld & Mills, 2003; Buchholz et al., 2009), rendering them a highly relevant age group for studying the individual-level consequences of social change.

Respondents came from four different voivodeships (i.e., NUTS-2 statistical units in the geocode standard used by the European Union). Among these were two economically more prosperous Western Polish voivodeships, Pomerania and Lower Silesia, and two economically less prosperous Eastern Polish voivodeships, Lublin and Subcarpathia. Some poviats (i.e., LAU-2 statistical units) were excluded in order to obtain a similar distribution of town sizes across all four voivodeships. Figure 2 shows the number of interviews conducted in each poviat.

To recruit respondents, addresses of 600 target individuals – stratified by community size, age, and gender – were drawn from the Universal Electronic System for Registration of the Population (PESEL), run by the Polish Ministry of the Interior and Administration. These 600 addresses served as sampling points for interviewers. Interviewers initially approached the target individuals at these starting addresses and, after successfully conducting the interview or if the target was unavailable, recruited eligible individuals in the neighborhood following a random route procedure (Arber, 2001, p. 66). This procedure consisted in visiting the household located to the right of

the one they had just left until encountering a person who met the predefined selection criteria, which was ascertained via a number of screening questions, and who was willing to participate. In case more than one person in a household matched the selection criteria, interviewers conducted an interview only with the person in this household who had last had birthday. In this manner, five interviews were conducted at each sampling point. Due to money and time constraints, if nobody was encountered in a household, this household was skipped and never visited again during the data collection.

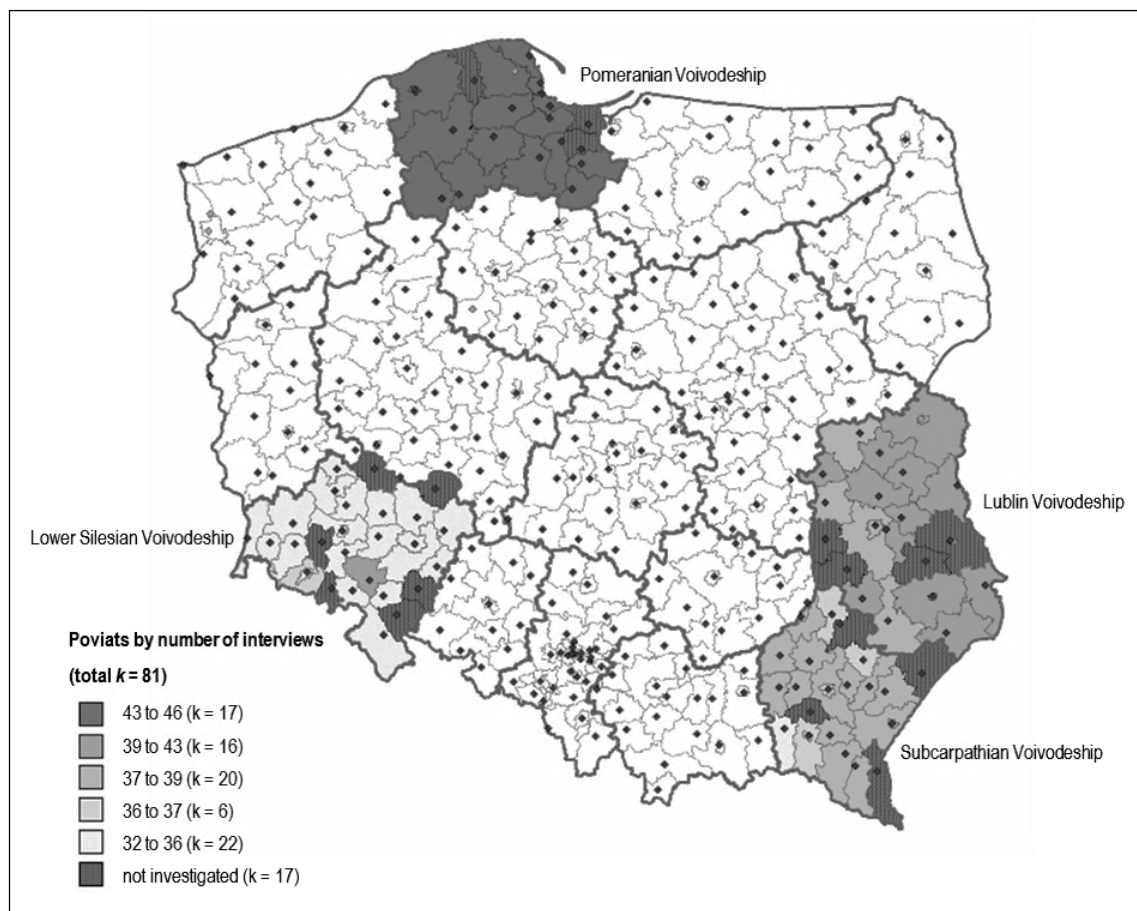


Figure 2. Number of interviews conducted in each poviat.

2.2.3 Representativeness and data quality

In order to judge the quality of this dataset, two main criteria shall be considered here: the quality of the sampling process, which is a key determinant of representativeness; and the quality of the interview procedure, which is a key determinant of the quality of the data themselves.

As to the first criterion, no exact record of the response rate for this particular study was available to the author. However, according to estimates of the survey institute based on typical response rates across all its household surveys conducted in 2009, response rates reached from 47.17% in Lublin Voivodeship to 53.63% in Pomeranian Voivodeship. Such response rates would be roughly comparable to those of various large-scale surveys using face-to-face interviews conducted in Europe, such as the European Values Survey or the European Social Survey (Kohler, 2007).

To evaluate its representativeness, the sample was compared against official registry data and representative survey data from the four voivodeships in terms of key sociodemographic characteristics. Values for age, gender, and employment status were compared with year 2009 municipal registry data for the four voivodeships (NUTS-2 regions), accessible online through the *Local Data Bank* of the Polish Central Statistical Office (Główny Urząd Statystyczny, 1995-2012). Values for household size were compared against year 2002 data from the same source because more recent data were not yet available. Because no adequate registry data were available for educational attainment and marital status, values for these characteristics were compared against data from the 2009 wave of the *Social Diagnosis* (Czapiński & Panek, 2010), a large-scale survey on living conditions in Poland ($N = 26,178$); these data are claimed to be representative at the level of voivodeships. Table 3 provides the detailed results of this comparison (calculations by the author). As the column "Total" shows, unemployed individuals, who have a higher likelihood of being at home and thus of being interviewed, were slightly overrepresented. Individuals with the lowest (i.e., elementary) and highest (i.e., tertiary) education were underrepresented, whereas

individuals with basic vocational and secondary education were overrepresented. Individuals from the youngest age group were also somewhat overrepresented. Neither of these deviations, however, was large enough to cast serious doubts on the representativeness of the data, and apart from the aforementioned deviations, the sample represented the population from the respective age-bracket and voivodeships adequately in terms of basic demographic characteristics.

As to the second criterion, the fieldwork seems to have produced data of rather high quality. Thanks to the CAPI technique, there were almost no missing data on the key constructs or on sociodemographic indicators. Moreover, a thorough inspection of the data using various routines (e.g., detection of cases with exceptionally high or low means and/or low variance across all 7-point scales in the questionnaire; screening for cases with unlikely constellation of answers, such as maximum levels on both the depression and optimism scale) yielded no suspicions for the presence of interviewer falsifications or response sets in these data.

Taken together, the sample is largely representative for the population from the respective age-bracket in the four voivodeships under study, and the quality of the survey data appears to be quite high. In addition, the large sample size provides sufficient statistical power to address even more complex research questions. Moreover, data are geocoded (information on postal codes and poviats is available for every respondent), which allows the researcher to link the individual data to regional data, an opportunity exploited in Study 2. To conclude, the project “Sociological and psychological determinants of coping with rapid social changes” offers a sound database for the three studies of the present dissertation.

Table 3

Representativeness of the Sample in Terms of Basic Sociodemographic Characteristics

	Total (N = 3,078)		Lower Silesia (n = 780)		Lublin (n = 772)		Subcarpathia (n = 766)		Pomerania (n = 760)	
	Own sample	Com- parison	Own sample	Com- parison	Own sample	Com- parison	Own sample	Com- parison	Own sample	Com- parison
Age group:										
16-19	16.5	12.0	14.1	11.2	17.2	13.0	17.8	13.2	16.8	12.0
20-29	35.8	36.1	37.7	36.8	36.8	37.2	35.1	36.6	33.7	36.0
30-39	29.1	32.8	30.9	33.7	27.6	30.6	29.8	31.1	28.0	33.3
40-46	18.6	19.1	17.3	18.3	18.4	19.1	17.4	19.1	21.4	18.7
Gender:										
Male	51.0	50.7	50.5	50.6	51.8	51.3	50.8	51.0	50.8	50.5
Female	49.0	49.3	49.5	49.4	48.2	48.7	49.2	49.0	49.2	49.5
Unemployed ^a	13.9	9.5	18.3	8.1	11.5	10.3	17.5	12.4	8.2	7.7
In education / training	21.5	19.3	16.2	18.0	27.6	22.0	24.3	21.9	18.2	16.1
Educational attainment:										
Elementary	15.1	20.1	21.3	18.8	15.4	23.3	13.3	20.7	10.4	19.0
Basic vocational	31.9	24.0	35.4	23.8	20.6	21.8	25.7	26.8	46.1	23.5
Secondary	37.0	33.2	34.4	32.9	40.4	33.6	40.5	33.7	32.9	32.7
Post-secondary	2.7	3.4	1.8	4.0	3.5	4.4	3.7	2.5	2.0	2.7
Tertiary	13.2	19.3	7.2	20.5	20.1	17.9	16.8	16.3	8.7	22.0
Marital status:										
Single	46.1	45.8	48.6	45.7	46.6	44.8	44.7	47.6	44.6	45.2
Married	48.5	50.7	42.4	49.5	49.1	52.3	52.7	50.6	50.1	50.8
Widowed	.7	.3	1.3	.3	1.0	.2	.3	.2	.1	.5
Divorced / separated	4.6	3.2	7.7	4.4	3.2	2.7	2.4	1.7	5.2	3.5
Personal net income:										
None	26.6	19.4	20.9	16.6	31.2	19.3	32.0	23.9	22.2	18.3
1000 PLN or less	25.2	27.1	28.6	21.5	24.7	33.9	31.1	34.7	16.4	20.1
1001-1500 PLN	16.9	17.3	20.4	21.0	16.6	15.5	16.8	16.4	13.8	15.2
1501-2000 PLN	13.4	14.3	13.7	16.4	14.0	12.4	10.8	9.8	15.0	17.9
2001 PLN or more	17.9	22.0	16.4	24.5	13.5	18.9	9.3	15.3	32.5	28.6
Household size:										
1 person	3.8	3.7	4.2	4.1	2.7	3.2	2.9	2.6	5.4	5.5
2 persons	10.0	11.4	14.7	13.0	7.8	12.2	7.3	7.1	10.0	11.2
3 persons	22.4	25.9	24.5	29.7	24.5	24.0	21.8	19.0	18.7	28.7
4 persons	30.9	30.0	28.1	28.4	32.4	26.1	29.6	32.2	33.4	28.7
5 or more persons	33.0	29.0	28.5	24.8	32.6	34.5	38.4	39.1	32.5	26.0

Note. All values are in percent (%).

^a Refers to registered unemployment. Because the definition of age groups differed between data sources, only individuals aged 18 to 44 years were included in the comparisons for unemployment.

2.3 Summary of the three studies

This section provides an overview over the three studies conducted for this dissertation. It describes the aims and key findings of each study and briefly discusses its specific contribution against the backdrop of previous research. The broader theoretical and practical contributions of the three studies will be outlined in section 3.

2.3.1 Study 1: Religiosity buffers the association between work-related uncertainties and subjective well-being

The first study addressed the role of religiosity in dealing with work-related uncertainties. The starting point of this study was the idea that changes in the sphere of work and occupation constitute perhaps the most prominent and significant feature of social and economic change in Poland. Among other things, the situation on the Polish labor market in recent years was characterized by increasing and unequally distributed unemployment risks, a polarization of incomes for different levels of formal qualifications, a higher relevance of self-reliance and soft skills, a growth of the informal sector that lacks legal protection and social security, and increasing migration pressure (Bukowski, 2010a; Golinowska, 2005; Plessz, 2009). Moreover, the domain of work and occupation is typically of high centrality to adult individuals (Kuchinke, Ardichvili, Borchert, & Rozanski, 2009; MOW-International Research Team, 1987). Working not only affords to individuals the material means for living, but work roles are also an important basis for identities and a sense of meaning and purpose in life. In addition, stressors in the domain of work and occupation typically have far-reaching consequences for other life domains as well, in particular the family (Buchholz et al., 2009; Conger, Conger, & Martin, 2010; Galbraith, 2008). Hence, perceived uncertainties concerning one's future prospect to successfully achieve important goals and resolve developmental tasks in work life, which the abovementioned labor market changes place on individuals, constitute a significant developmentally relevant stressor that can impinge on subjective well-being. As intimated earlier, this is indeed what several cross-

sectional and longitudinal studies from the Jena research group using data from Germany (Grüner & Pinguart, 2011; Körner, Silbereisen, et al., 2012), as well as extensive research on related concepts (not explicitly referring to social change) such as job insecurity (Sverke, Hellgren, & Näswall, 2002; Sverke & Hellgren, 2002) and employment uncertainty (Mantler, Matejcek, Matheson, & Anisman, 2005), found.

Against this backdrop, the most important research question of the Study 1 was whether religiosity, in addition to having a direct positive relation to subjective well-being, buffers (i.e., reduces) the expected negative association between work-related uncertainties and subjective well-being. To answer this question, the study examined the interplay of work-related uncertainties and two central dimensions of religiosity (Hall et al., 2008) in predicting subjective well-being: religious attendance (i.e., frequency of attendance at masses and church services) and religious self-identification (i.e., subjective religiosity). The study used three indicators of subjective well-being (Diener, Suh, Lucas, & Smith, 1999; Diener, 1984): depressive symptoms as a measure of the affective component, general life satisfaction as a measure of the cognitive-evaluative component, and work satisfaction as an additional domain-specific measure of the cognitive-evaluative component.

A series of hierarchical multiple regressions focusing on a subsample of $n = 1,541$ employed individuals revealed that work-related uncertainties were related to lower life satisfaction, lower work satisfaction, and higher depressive symptoms. Contrariwise, both aspects of religiosity were related to higher life satisfaction, higher work satisfaction, and lower depressive symptoms. Separate models were run for the two religious dimensions to avoid the pitfalls of their potentially high multicollinearity. Most importantly, both church attendance and religious self-identification buffered the association between work-related uncertainties and depressive symptoms, considerably reducing (although not completely offsetting) this association. Thus, religiosity mitigated the deleterious impact of work-related uncertainties on affective well-being. This stress-buffering effect is in line with previous findings regarding other types of

stressors (e.g., Pargament & Cummings, 2010; Smith et al., 2003). Notably, all these associations held after controlling for a number of possible sociodemographic confounders, such as age, education, and type of employment.

Unexpectedly, neither measure of religiosity exerted a stress-buffering effect concerning the two cognitive-evaluative measures of well-being, life satisfaction and work satisfaction. In fact, there was one significant interaction in the opposite direction of the hypothesis: The negative association between work-related uncertainties and life satisfaction was somewhat stronger (i.e., more negative) in individuals who frequently (i.e., once a week or more often) attended religious services. Because the life satisfaction of frequent church-goers was still as high as that of their less-religious counterparts even at the highest level of perceived uncertainties, this unexpected interaction did not meet the definitional criteria of a stress-*exacerbating* effect either; clearly, however, the stress-buffering hypothesis was not supported for life satisfaction.

The first study contributes to the literature in three important regards. First, by replicating the association between work-related uncertainties and depressive symptoms that Grümer and Pinguart (2011) found in Germany and extending this finding to the cognitive-evaluative measures of well-being, life satisfaction and work satisfaction. Second, by examining the association between religiosity and subjective well-being in a large sample of Polish Catholics, whereas most prior research was confined to samples of Protestants from the United States. Third, and most importantly, by showing that religiosity can buffer the association between work-related uncertainties and depressive symptoms. This goes beyond prior studies on stress-buffering effects of religiosity in coping with socioeconomic stressors, which have almost exclusively focused on discrete events and circumstances of relatively “objective” nature such as unemployment (Clark & Lelkes, 2005; Shams & Jackson, 1993), financial strain (Bradshaw & Ellison, 2010; Krause, 2006, 2010; Strawbridge et al., 1998), and living in deteriorated neighborhoods (Krause, 1998). However, Study 1 also suggests that the role of religiosity may be somewhat more complex than previously

envisioned. As a moderator of the linkage between work-related uncertainties and subjective well-being, religious attendance exerted divergent effects on depressive symptoms and life satisfaction. While some caution is warranted in interpreting these effects, given the cross-sectional nature of the findings and the reliance on single-item measures, it is clear that future research should be careful to take the multifaceted nature of religiosity and subjective well-being into account when evaluating the interplay of stressors and religiosity.

2.3.2 Study 2: Religiosity fosters opportunity-congruent coping with work-related uncertainties

Building on the results of the first study, Study 2 aimed to pinpoint a possible mechanism behind the stress-buffering effects of religiosity in relation to work-related uncertainties. It explored the linkage between religiosity and control strategies of goal engagement (i.e., investing time and effort; overcoming obstacles) and goal disengagement (i.e., protecting one's motivational resources and self-esteem against failure experiences; distancing from unattainable goals) that individuals may use to deal with developmentally relevant stressors such as these uncertainties (see Heckhausen et al., 2010). Specifically, the study asked whether religiosity prompts individuals to actively engage with work-related goals and uncertainties, leads them to disengage from them, or perhaps both?

A widespread stereotype ascribes to religiosity the role of an "opiate of the people" leading individuals into withdrawal, passivity, or even denial when facing difficult circumstances. This rather skeptical view of religiosity dates back to some of the earliest proponents of social theory, Karl Marx and Friedrich Engels, and was famously echoed by prominent figures in psychology such as Sigmund Freud (1961) and Albert Ellis (1980b). Empirical studies on the association between religiosity and coping strategies, however, suggest a more nuanced view (see Pargament & Park, 1995). In most of these studies, religiosity was associated with more active coping or goal engagement (e.g., Biegler et al., 2012; Mattlin, Wethington, & Kessler, 1990; Prado et al., 2004) and with

meaning-based forms of coping such as reappraisal, acceptance, or revised goals (e.g., Canada et al., 2006; Carrico et al., 2006; Mattlin et al., 1990; Umezawa et al., 2012). In contrast, religiosity was often unrelated (e.g., Abraído-Lanza, Vásquez, & Echeverría, 2004; Biegler et al., 2012) or even negatively related (e.g., Prado et al., 2004) to passive or avoidant forms of coping. Because these studies are almost completely confined to severe health-related stressors such as cancer or HIV, their results cannot easily be generalized to the case of coping with work-related uncertainties. Yet, in overall accord with theoretical claims by various scholars (Carver, Scheier, & Weintraub, 1989; Pargament & Park, 1995), extant evidence does suggest one important principle: Religiosity, far from leading individuals into passivity, can encourage different forms of coping, including both primary and secondary forms of coping (i.e., “changing the world” and “changing the self”; see Rothbaum, Weisz, & Snyder, 1982).

Informed by these earlier findings, the guiding idea of Study 2 concerning the linkage of religiosity and control strategies was the following: As a multi-faceted resource, religiosity expands individuals' capacity for *both* engagement with, and disengagement from, work-related uncertainties and the respective work-related goals to which these uncertainties refer. Specifically, through its linkages to basic psychosocial resources and control perceptions, religiosity might promote goal engagement. By providing palliative cognitive content, promoting non-materialistic values, and providing alternative goals to pursue, religiosity might foster goal disengagement. However, religiosity may not foster engagement and disengagement “blindly”, so to speak. Rather, it may allow individuals to choose the presumably most adaptive strategy under varying contextual conditions. As the congruence theorem in MTD suggests, the adaptive value of engagement and disengagement fundamentally depends on the opportunity structure of the situation – engagement is most adaptive in the presence of rich opportunities for engagement whereas disengagement can be more adaptive when opportunities are poor (Heckhausen et al., 2010). Thus, what may account for religiosity's salutary potential, evidenced by its stress-buffering effect

regarding depressive symptoms found in Study 1, is its ability to foster an *opportunity-congruent* pattern of engagement and disengagement. That is, religiosity may promote engagement, especially in the presence of adequate opportunities for goal striving; and facilitate disengagement, above all when opportunities for goal striving are poor. This was the third and central hypothesis.

Study 2 used the net migration rate as a parsimonious yet powerful catch-all indicator of the regional economic and labor market conditions – that is, the opportunity structure for coping with work-related uncertainties. The net migration rate was measured on the level of administrative districts (i.e., poviats); with their relatively homogenous economic and labor market conditions, these administrative districts are an important territorial context for coping with work-related uncertainties (Pinquart et al., 2009; Tomasik & Silbereisen, 2012a). The decision not to rely on subjective measures of perceived control but rather to use an objective measure of the contextual opportunity structure for goal striving is an important aspect of this study, answering recent calls for greater attention to objective social ecological conditions in psychology (Oishi & Graham, 2010). This approach may be more conservative than relying on data provided solely by individuals themselves but avoids several attendant drawbacks, such as spurious effects due to shared method variance (Feldman & Lynch, 1988).

Multilevel models applied in a subsample of $n = 2,089$ economically active individuals (i.e., employed, or unemployed but looking for work) aged 20 and older largely supported the predictions. Even after controlling for an array of possible sociodemographic confounders, religiosity was positively related to both aspects of goal engagement the study assessed, selective primary control (i.e., investing time and effort) and compensatory primary control (i.e., seeking help and advice when one's own resources do not suffice). As expected, these associations were stronger under relatively favorable economic conditions (i.e., in regions with a more positive net migration rate) than under more unfavorable economic conditions. Also in line with predictions, religiosity was positively related to the self-protective aspect of goal disengagement

(i.e., strategies to protect motivation and self-esteem, such as self-serving reattributions), but this association was independent of the opportunity structure. Religiosity was also positively related to the second aspect of disengagement, distancing from goals and demands, but only under unfavorable economic conditions; unexpectedly, religiosity was even negatively (although not significantly so) related to goal-distancing under relatively favorable economic conditions.

Study 2 extends previous research on religion and coping in several ways. Results revealed that religiosity can expand individuals' capacity for engagement and the self-protective form of disengagement, which is ultimately in the service of later reengagement. This suggests that religiosity functions as a form of "empowerment" in dealing with work-related uncertainties – in much the same way as it does in coping with health-related stressors according to previous research. Moreover, results substantiated the novel idea that religiosity may fuel different coping strategies under varying opportunity structures, fostering engagement (and partly disengagement) in a way that is congruent with the contextual opportunities for goal striving. Study 2 thus shows how considering the opportunity structure can advance our understanding of the linkage between religiosity and coping strategies. A promising pathway for future research may be to replicate these findings with other types of stressors and other measures of the opportunity structure.

On a more general note, Study 2 adds to the literature on developmental regulation by showing that religiosity is related to the capacity for goal engagement and disengagement. As pointed out by several researchers (e.g., Brandtstädter & Rothermund, 2002; Haase, Poulin, & Heckhausen, 2012), to date little is known about the sources of individual differences in these capacities. Only more recently have studies addressed this question by investigating, for example, the role of dispositional optimism as a predictor of engagement with and disengagement from work-related uncertainties (Pavlova & Silbereisen, 2013) or of positive affect as a predictor of engagement with career goals (Haase et al., 2012). Interestingly, religiosity stands out

among other resources by its positive associations with *both* engagement and disengagement, pointing to its complexity as a psychological phenomenon.

2.3.3 Study 3: Religiosity reduces family-related uncertainties but exacerbates their association with distress

Whereas the first two studies focused on the domain of work and occupation, Study 3 further extends the scope of this dissertation by exploring the role of religiosity in dealing with social change in the realm of family life. The family plays a central role in Polish people's value system (Bojar, 2005; CBOS, 2008). Despite great continuity of traditional family values in the Polish society, family life in Poland has witnessed substantial change in recent years. This is evidenced, among other things, by increasing divorce rates, the spread of nontraditional family forms, declining fertility rates, a weakening of familial bonds, and shifts in familial roles (Bojar, 2005; Galbraith, 2008; Ornacka & Szczepaniak-Wiecha, 2005). Mirroring these macrostructural trends, people in Poland today are confronted with growing uncertainties concerning some of the central family-related developmental tasks and goals such as partnership formation, leaving the parental home, or fertility decisions (see section 2.2).

The principal approach of Study 3 is similar to that of Study 1: Here, too, the interest was in the interplay between religiosity, perceived uncertainties, and subjective well-being (or the lack thereof, namely "psychological distress"). However, Study 3 differs quite markedly from the first study in that the role religiosity was expected to play was somewhat more complex – and not entirely salutary. On the one hand, religiosity was expected to shield believers from the increasing family-related uncertainties that arise from current societal trends. Religion, it was argued in the study, is a central source of family norms and values which prescribe, or at least encourage, a traditional family model and a higher family orientation (Onedera, 2008; Sabatier, Mayer, Friedlmeier, Lubiewska, & Trommsdorff, 2011). These values and norms should provide clear guidance in family-related matters and thereby guard highly religious individuals who have internalized these values and norms against the experience of

family-related uncertainties. Therefore, a stress-deterrent effect sensu Wheaton (1985) of religiosity was hypothesized, meaning that religiosity reduces the 'load' of perceived family-related uncertainties. On the other hand, religiosity was expected to exacerbate the impact of family-related uncertainties on subjective well-being. Perceiving a high load of these uncertainties (e.g., not knowing whether to have another child or not), it was argued, conflicts with traditional family values and norms promoted by Catholic faith communities. Therefore, perceiving such uncertainties may prompt feelings of not living up to their cherished values and norms in highly religious individuals, further aggravating the distress associated with these uncertainties (see Strawbridge et al., 1998; Exline, 2002).

Structural equation models with latent interactions in a subsample of $n = 2,571$ individuals aged 20 and older confirmed these expectations. Specifically, religiosity (as measured by religious self-identification and identification with the religious community) was negatively related to family-related uncertainties. Yet, despite being associated with lower psychological distress (as measured by anxiety, depressive symptoms, and low self-esteem), religiosity exacerbated the association between family-related uncertainties and distress. As in Study 1 and Study 2, all hypothesized associations held even after controlling for a host of sociodemographic variables. Moreover, as additional analyses revealed, the pattern of results was robust across the full age range of the sample.

The contribution of Study 3 is twofold. First, the study extends research on religion and family-related stressors, which has largely focused on discrete events such as divorce or abuse, to the more subjective family-related uncertainties that arise from social change. As Pinquart and Silbereisen (2008) pointed out, these family-related uncertainties may be less stressful than the actual occurrence of the corresponding events (e.g., uncertainty regarding the future prospects of a romantic relationship is less stressful than actual divorce). Nevertheless, considering uncertainties along with life events is important because it offers a more complete picture of the various types of

stressors individuals can face in this life domain (see also Knobloch, 2008). Second, and most importantly, Study 3 shows that religiosity is not necessarily conducive to subjective well-being in individuals confronted with family-related uncertainties. Whilst highly religious individuals are partially shielded from the family-related uncertainties current social change creates, religiosity makes these uncertainties harder to bear for highly religious individuals, exacerbating their impact on subjective well-being. Most likely, this is because perceiving these family-related uncertainties conflicts with central family-related values and norms propagated by Catholic faith communities (see Exline, 2002). This pattern of findings dovetails with a handful of earlier studies that also found stress-exacerbating, rather than stress-buffering, effects of religiosity in relation to discrete family-related stressors such as divorce or conflict among family members (E. Brown, Caldwell, & Antonucci, 2008; Strawbridge et al., 1998). It must be noted that these stress-exacerbating effects occur despite rich evidence for a lower exposure to certain family-related stressors among religious individuals (Mahoney, 2010). In view of these findings, an important task for future research is to scrutinize religious values and norms as the purported mechanisms underlying religiosity's stress-deterrent and stress-exacerbating effects in relation to family-related uncertainties.

3 General Discussion

Integrating the contributions from each of the three studies, this final section aims to answer the overarching research question guiding this dissertation – whether and how religiosity may be involved in dealing with perceived growing uncertainties that arise from current social change. The overall theoretical implications of the three studies, which were discussed separately until this juncture, are delineated. Limitations and directions for future research are outlined. Lastly, some practical implications of the results are discussed.

3.1 Discussion of the findings in the light of the research question

In two recent reviews, Pargament and colleagues described religious individuals as “anchored by faith” (Pargament & Cummings, 2010) and “strengthened by the spirit” (Faigin & Pargament, 2010). According to their account, religion is an important coping resource that can help people deal with life’s vicissitudes, from the petty annoyances of everyday life to severe trauma. Although these authors did point to possible downsides of religiosity in dealing with stress (Pargament, 2002), their position is representative of much of the last decade’s research on religion and coping in that it paints a fairly positive picture of religiosity as a universally applicable coping resource (see also Hood et al., 2009). As outlined in section 1.2, several theorists have suggested that religiosity’s role as a coping resource also pertains to uncertainties individuals are confronted with in their daily life, including uncertainties that originate from societal conditions (e.g., Hogg et al., 2010; Immerzeel & van Tubergen, 2013; van den Bos et al., 2006). In light of the three studies of this dissertation, does religiosity qualify as a “resource” in dealing with uncertainties arising from social change as well? Put differently, are religious individuals better equipped to cope with these uncertainties, and what is the exact nature of religious influences on coping with these uncertainties? The results of the three studies conducted for this dissertation point to a dual role of religiosity.

On the one hand, the studies evinced a number of salutary effects of religiosity. Study 1 and Study 3 were able to establish positive associations between religiosity and several dimensions of subjective well-being. These associations were of comparable size to what previous studies, including several meta-analyses, reported (Bergin, 1983; Diener et al., 2011; Hackney & Sanders, 2003; Smith et al., 2003), most of which used samples from the United States. Furthermore, religiosity was negatively associated with family-related uncertainties in Study 2 (and negatively correlated with work-related uncertainties in Study 1, too). Above and beyond these main effects, Study 1 yielded evidence of stress-buffering effects of religiosity in relation to perceived work-related uncertainties, an effect that can be seen as constitutive of a psychosocial resource

(Wheaton, 1985). Moreover, results of Study 2 suggested that religiosity can indeed fuel goal engagement and disengagement control strategies in coping with these uncertainties, fostering opportunity-congruent engagement with (and to some degree disengagement from) these uncertainties, a pattern that is presumably adaptive (Grüner et al., 2012; Heckhausen et al., 2010; Tomasik & Silbereisen, 2012a).

On the other hand, the salutary effects of religiosity were far from universal. Contrary to expectations, religiosity did not buffer the association between work-related uncertainties and life satisfaction or work satisfaction in Study 1. The pattern of findings even suggested that the association between work-related uncertainties and life satisfaction was somewhat more negative for the most religious individuals, even though they still had slightly higher life satisfaction than their less-religious counterparts at the highest level of perceived uncertainties. Even more importantly, in Study 3 religiosity clearly exacerbated the association between perceived family-related uncertainties and psychological distress.

Taken as a whole, these findings call for a nuanced evaluation of the role of religiosity. Stated briefly, some aspects of religiosity may help, but others may hinder, successful coping with the challenges posed by current social change. Above and beyond the specific theoretical implications of each study that were already discussed in section 2.3, these findings have a number of more general theoretical implications. These will be discussed below.

3.2 Theoretical implications

The first of these more general theoretical implications concerns the role of religiosity in dealing with uncertainties. Although research on religiosity has yet to be put on a more comprehensive theoretical footing, research from several investigative lines has promulgated the notion that religiosity helps people deal with uncertainties diverse in content and originating from a variety of sources (e.g., Barber, 2011; Hogg et al., 2010; Immerzeel & van Tubergen, 2013; van den Bos et al., 2006). This dissertation

adds to earlier studies by scrutinizing the specific ways in which religiosity can be involved in dealing with uncertainties. By showing that there indeed exist (a) negative associations between religiosity and perceived uncertainties arising from social change, (b) stress-buffering and stress-exacerbating effects of religiosity in relation to the impact of these uncertainties on subjective well-being, and (c) associations between religiosity and specific strategies of coping with these uncertainties, the three studies confirm that religion is involved in dealing with uncertainties. At the same time, however, they also caution against assuming that religiosity entails exclusively positive outcomes in dealing with uncertainties. Put simply, the specific content of uncertainty matters: While religiosity may help individuals cope with a broad range of uncertainties (such as the work-related uncertainties in Study 1), uncertainties that create a potential conflict with religious values and norms (such as the family-related uncertainties in Study 3) may actually be harder to bear for believers than for nonbelievers. The idea that perceived conflicts with religious values and norms might be the governing mechanism behind these stress-exacerbating effects of religiosity, as proposed in the discussion of Study 3, would be in line with suggestions of other authors (e.g., Exline, 2002; Strawbridge et al., 1998) and deserves further empirical scrutiny. At any rate, researchers would be well advised to attend to the potential downsides of religiosity, in addition to its indubitable benefits for psychological adaptation (Exline, 2002; Marks, 2006; Pargament, 2002). A justification for assuming that religion is a “panacea for uncertainty” seems hard to come by.

The second implication concerns research on religiosity as a coping resource more generally. Studies in this investigative line have mostly focused on health-related stressors and negative life events (see Faigin & Pargament, 2010; Hood et al., 2009; Pargament & Cummings, 2010), assuming that religion is most relevant in dealing with stressors involving an existential threat (Bjorck & Cohen, 1993; Pargament, 1997). Only a handful of studies using a stress-buffering paradigm demonstrated that religiosity, variously assessed, can mitigate the impact of non-health-related stressors such as

unemployment (Clark & Lelkes, 2005; Shams & Jackson, 1993), financial strain (Bradshaw & Ellison, 2010; Krause, 2006, 2010; Strawbridge et al., 1998), living in deteriorated neighborhoods (Krause, 1998), or discrimination (Bierman, 2006) on mental health and subjective well-being. Addressing perceived uncertainties that arise from social change, this dissertation extends research on religion and coping to a very different type of stressor that is special in several ways: (a) It refers to subjective perceptions of objective conditions, rather than objective conditions themselves (e.g., illness, divorce, unemployment) that were the focus of most prior research; (b) it refers to future prospects of successfully resolving developmental tasks and goals (c) it originates from, and mirrors, changes in macrosocial contexts, i.e., societal circumstances. By showing that religiosity is involved in dealing with such a type of stressor, this dissertation casts doubts on some researchers' conjecture that religiosity may be less, or not at all, relevant in coping with stressors other than severe health-related stressors or severe negative life events (e.g., Plante, Saucedo, & Rice, 2001).

The third implication concerns research on social change, and more specifically the Jena model. The three studies of this dissertation corroborate several parts of this model. Adding to findings previously limited to the German context (Grüner et al., 2012; Pinquart et al., 2009, 2010), Studies 1 and 3 lend broader support to the proposition that uncertainties arising from social change in the realm of work and family life act as stressors that may entail negative ramifications for mental health and well-being. Revealing religiosity's moderating effects in relation to work-related and family-related uncertainties, Studies 1 and 3 also support the model's proposition that psychosocial resources moderate the linkage between perceived uncertainties and outcomes (with the qualification that stress-buffering and stress-exacerbating are both possible, at least for a complex resource like religiosity). These findings fill a long-standing empirical void, given that relatively little is known about factors that moderate the impact of social change on individual-level outcomes (Cheung & Leung, 2010; Pinquart & Silbereisen, 2004). Finally, by examining the linkage between religiosity and control strategies under

varying contextual conditions, Study 2 substantiates the idea that resources can fuel individuals' coping responses and highlighted the importance of the higher-order social ecology in the coping process, in line with earlier studies from Germany (Pinquart et al., 2010; Tomasik & Silbereisen, 2012a). In sum, results underscore the viability of the Jena model as a guiding framework for investigating the individual-level consequences of social change.

3.3 Limitations and directions for future research

The studies of this dissertation share three key limitations. The first is their exclusive reliance on cross-sectional data. In the absence of longitudinal data, no inferences concerning causality are warranted (although, strictly speaking, even longitudinal studies do not generally allow for causal inference; Singer & Willett, 2003, p. 177). As is true for the literature on religion and coping as a whole, future research on the role of religiosity in coping with uncertainties would benefit from more longitudinal studies scrutinizing the interplay of uncertainties, religiosity, and outcomes over time. Moreover, correlational studies could ideally be complemented by experimental research to resolve the issue of causality. As a multi-faceted and culturally embedded phenomenon, religiosity has proven somewhat difficult to open to experimental investigations. Nonetheless, researchers have meanwhile devised a number of ways in which religiosity can be fruitfully studied in the laboratory via priming paradigms. A mounting body of experimental evidence, for example, points to an important linkage between religious primes and various aspects of self-regulation (e.g., Inzlicht & Tullett, 2010; Kay et al., 2008; Laurin, Kay, & Fitzsimons, 2012; Sasaki & Kim, 2011; Ysseldyk et al., 2011). Although such research is, of course, subject to limitations of its own (e.g., external validity is often an issue), it could well provide important new insights into how religiosity helps or hinders effective self-regulation in the face of uncertainties.

A second limitation, or at least a particularity, shared by the studies is the specificity of the Polish context. As pointed out in section 2.2.1, Poland is particularly

suiting to the study of the intersection between religiosity and social change. This is because the country is witnessing social change of rapid pace and extensive scope and is, at the same time, still evincing high levels of religiosity. However, the high religious vitality and low pace of secularization, the extreme religious homogeneity of its population, and the prominent place of the church in the national identity that is rooted in its role in the resistance against the communist regime, make Poland a *special case* (Borowik, 2010; CBOS, 2009a; Zarzycka, 2008). Recent research provides a number of examples pointing to the importance of the national and religious context in studying the effects of religiosity. Several studies showed that the strength of the association between religiosity and subjective well-being depends on the country-level religiosity, with stronger associations typically emerging in more religious (Diener et al., 2011; Eichhorn, 2012; Okulicz-Kozaryn, 2010; Stavrova, Fetchenhauer, & Schlösser, 2013) and less religiously diverse countries (Okulicz-Kozaryn, 2011; Ellison, Burr, & McCall, 1997). In addition, some studies attest to possible denominational differences in the associations religiosity bears to outcomes such as mental health and well-being, which may be rooted in the specific theologies of these denominations (Alferi, Culver, Carver, Arena, & Antoni, 1999; Tix & Frazier, 2005). Extant evidence does not yet allow for a clear-cut statement as to the direction and magnitude of such denominational differences because it is largely limited to samples from the United States (A. E. Kim, 2003) and confined to the Judeo-Christian tradition, a bias that seems to plague the bulk of the literature (see Hood et al., 2009). Further research is needed to establish to what degree the findings of this dissertation generalize to other national contexts and to other religious traditions beyond the Judeo-Christian one.

Finally, the three studies inevitably left some questions unanswered and rose several interesting new questions to be explored in future research. As implied by the Jena model, subjective well-being is only one of many outcomes potentially affected by social change. Going beyond measures of subjective well-being, future research could explore religious influences on other domains of development in times of social change.

Outcomes with direct societal implications such as political attitudes, voting behavior, or civic engagement would present themselves as natural targets for future studies, given a burgeoning literature showing linkages between religiosity and attitudes towards redistributive politics (Stegmueller, Scheepers, Rossteutscher, & de Jong, 2011), moral attitudes (Scheepers, Te Grotenhuis, & Van Der Slik, 2002), political tolerance (Karpov, 2002), and social trust (Traunmüller, 2011). Furthermore, the religious landscape is itself subject to major social change, with especially European nations witnessing increasing secularization (Pickel, 2009; Voas, 2009). It can be speculated that living in progressively secularized and at the same time increasingly multi-religious societies may give rise to distinct strains for both believers and non-believers (Okulicz-Kozaryn, 2011). Interesting insights could be gleaned from examining the individual-level consequences of secularization and religious pluralism. This would lead to a more complete picture of religiosity as shaping individual development and being shaped in the course of coping with social change.

3.4 Practical implications

Given the novelty of both investigative lines that were joined together in the present thesis – research on religiosity as a resource in coping with uncertainty and research on the individual-level consequences of social change – this piece of research belongs to the realm of basic, not applied, research. Consequently, its practical implications may not be as obvious as its theoretical ones, and any conclusions based on the three studies are, by necessity, provisional. Nevertheless, several conclusions for social policy as well as clinical and counseling practice, albeit tentative and of a rather general nature, can be derived from the results obtained herein.

As regards social policy, the studies underscore the relevance of macrolevel societal changes for individual development; in particular, their potential impact on psychological adaptation. Although the issue of causality remains unresolved, the results of this dissertation dovetail with the existing body of qualitative (Burrell, 2011;

Reiter, 2010, 2012; Watson, 2006) and quantitative studies (Eiroá Orosa, 2013; J. Kim, 2008; Schröder & Scheuch, 1996; Schröder et al., 2011; Shteyn et al., 2003; Westerhof & Keyes, 2006) conducted in Poland and elsewhere demonstrating the relevance of changing societal conditions, broadly speaking, for various aspects of well-being. In fact, researchers have gone so far as to call subjective well-being a “collateral casualty of modernity” (Carlisle, Henderson, & Hanlon, 2009). Given that social policy can probably do little to change macrosocial trends such as globalization or demographic shifts, the shared mission of psychology and social policy would be to devise new ways of strengthening individuals’ armamentaria to successfully meet the new challenges posed by these macrosocial trends. The contribution of the present studies to this question is in pinpointing one possible factor that can influence coping with social change, namely religiosity. It is obviously not the task of psychological research to call for a “revitalization of faith”, and the results of this dissertation would not necessarily warrant such a call, given the dual role of religiosity as a resource and risk factor that emerged from these results. However, by revealing this dual role of religiosity, this dissertation can at least inform the current public discourse about religion with empirically grounded arguments. In many societies worldwide, especially those that are highly secularized, there is an intense and often fierce debate about church-state relations, the place of religion in public life and education, rights of religious minorities, and other related questions. Much of this debate revolves around whether religion “helps” or “harms” individuals and societies. Some have vociferously accused religion of being at best a delusion unnecessary to the good life (Dawkins, 2007) or even of being the root of a range of societal ills from racism to child abuse to bigotry (Hitchens, 2009). Perhaps a more balanced and impartial view would take into account the vast body of empirical evidence pointing to positive ramifications of religion for individual and societal well-being. Along this line, some have suggested treating religion as a rich cultural treasure from which even atheists rejecting religious dogmas can be inspired in their quest for the good life, knowing full well that some dangers can spring from

religion (De Botton, 2012). The present thesis would seem to undergird this latter, more balanced view.

As regards clinical/counseling practice, the results of the present thesis add to extant evidence demonstrating the significance of religiosity for mental health and for coping with life stress more generally, as well as the significance of religiosity as a unique source of distress (Pargament et al., 2005; Pargament, 2002). While religion's role in dealing with severe negative life events such as bereavement or illness (Hood et al., 2009; Park, 2005) is well established, the present studies demonstrate that religiosity can even play a role in developmental regulation in the face of social change. Taken as a whole, the existing body of evidence thus provides strong arguments for paying greater attention to religious issues in psychological practice. Whether or not to integrate religious issues into counseling and therapy is an old (Bergin, 1980; Ellis, 1980a) and ongoing debate in the clinical literature. The emerging consensus is that psychologists should, at the very least, take religious and spiritual issues of their clients seriously. Not doing so would mean ignoring an area of life that is of central importance of many clients and holds potential benefits as well as risks for their development (Bergin, 1980; Koenig, 2004). Recently, a group of psychological scholars and practitioners have therefore joined efforts to develop an extensive list of religious and spiritual competencies for psychologists (Vieten et al., 2013). These authors hoped that pinpointing these competencies could help psychologists, who are typically less religious than their clients, take a more pragmatic stance towards religious issues for the sake of their clients.

One concrete recommendation for counseling based on the results of this dissertation would be to explore possible conflicts in individuals who are "failing" their religious ideals in the realm of family life (see Vieten et al., 2013). Uncertainty concerning the stability of one's partnership, doubts about having a(nother) child, or tensions in late parent-child relationships could be explained to clients as normal consequences of current social change that arise not from the person's shortcomings but

rather from structural constraints. This may mitigate some of the distress that perceived discrepancies between religious ideals and life trajectories in modern societies can cause. Another recommendation concerns the realm of work life. Here, religiosity and spirituality could be explored as a potential source of strength in clients confronting uncertainties concerning work and occupation. Clients could draw on the rich body of empowering theological messages and religious imagery in order to engage with such uncertainties – or to find solace and comfort when little can be done to overcome these uncertainties. Recent work on the linkage between religion and career counseling may equip psychologists with the skills needed to dwell on such issues (e.g., Duffy, Reid, & Dik, 2010; Hernandez, Foley, & Beitin, 2011). Counselors unwilling to touch upon religious issues could encourage clients to explore these issues on their own or refer clients to religious institutions (Vieten et al., 2013). It stands to reason that clients would benefit from psychologists' attending to both the potential costs and benefits of their faith in counseling settings.

3.5 Conclusion

To conclude, the present dissertation reveals the importance of religiosity as a factor involved in dealing with uncertainties rooted in current trends of social change. Results bespeak the complexity of religiosity as a psychological phenomenon that can entail both positive and negative consequences for psychological adaptation. These bifurcated results underscore the importance of attending to the specific type of stressors (e.g., work-related vs. family-related) and outcomes (e.g., affective vs. cognitive well-being), as well as the contextual conditions (e.g., opportunity-rich vs. opportunity-deprived) when studying possible religious effects on coping and developmental regulation.

As social change continues to render life in modern societies rife with new uncertainties, individuals' endowment with psychosocial resources and self-regulatory skills will further gain currency (Baltes, 1997; Brandtstädter, 2009; Hobfoll, 2002; Wrosch

& Freund, 2001). In light of the result of this dissertation, the role of religiosity in dealing with these uncertainties, for better or for worse, are worthy of further scholarly attention.

4 Literature

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Study 1:

Religiosity Buffers the Association
Between Work-related Uncertainties and
Subjective Well-being

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Abstract

Religiousness has been found to act as a protective factor against the adverse effects of stressors originating from a variety of sources. Despite ample precedent in sociological theories of religion, however, the potential stress-buffering role of religiousness in relation to stressors arising from macrolevel societal trends has not received empirical scrutiny. Recent psychological conceptualizations of social and economic change (SEC) suggest that such change manifests itself in people's lives in the form of perceived demands that act as individual-level stressors and impinge on subjective well-being (SWB). Building on this line of research, we examined whether religious attendance and subjective religiosity buffered the negative association between perceived work-related demands of SEC and depressive symptoms, life satisfaction, and work satisfaction in a sample of 1,581 Polish adolescents and adults aged 16 to 46 years. Analyses revealed that both dimensions of religiousness were positively related to SWB and buffered the impact of work-related demands on depressive symptoms. Contrariwise, no buffering effect of religiousness on either life or work satisfaction was found. Taken together, results partly confirm religiousness as a protective factor for SWB in relation to SEC but underscore the importance of taking the multifaceted nature of the construct into account in evaluating the interplay of stressors and religiousness.

Modern societies are faced with a host of economic, political, and cultural transformations of unprecedented pace and global scope (Raab et al., 2008; Rudel & Hooper, 2005). Macro-structural trends such as globalization, individualization, or economic crises substantially alter the conditions of individual development by reshaping the opportunities and constraints of the proximate contexts in which human development takes place (Bronfenbrenner, 1979; Tomasik & Silbereisen, 2009). This is particularly evident in the post-socialist societies of Central and Eastern Europe (Tomasik & Silbereisen, 2012), which have undergone tremendous restructuring in recent years (e.g., Rakowska-Harmstone, 2006; White, Batt, & Lewis, 2007). Poland, which constitutes the focus of our present study, is a case in point. Within just two decades, the country has witnessed a host of economic and political transformations, such as the shift from a command economy to a free market economy, the development of democratic institutions, and the integration into the European Union (Balcerowicz, 1995; Góra & Zielińska, 2011; Wasilewski, 2003). Due to these processes, overlaid by more general trends of globalization, the Poles experienced profound changes in their personal circumstances in various life domains, arguably most prominently so in the sphere of work. To briefly illustrate, the privatization of formerly state-owned companies, the spread of new technologies, and the deregulation and flexibilization of the labor market led, among other things, to growing and unequally distributed unemployment risks, a polarization of incomes for different levels of formal qualifications, a higher relevance of self-reliance and soft skills, a growth of the informal sector that lacks legal protection and social security, and increasing migration pressure (Bukowski, 2010; Golinowska, 2005; Plessz, 2009).

Recent research suggests that such macrolevel societal changes manifest themselves in people's everyday lives in the form of individually perceived demands that index a new state of affairs relative to what the individual was accustomed to and require some form of reaction; these demands act as stressors that may impinge on subjective well-being (SWB; e.g., Grümer & Pinquart, 2011; Tomasik & Silbereisen, 2009). Yet, although

the significance of current social and economic change (SEC) for SWB is now widely acknowledged (Carlisle, Henderson, & Hanlon, 2009), there is still a surprising dearth of research that relates change on the societal level to individual-level outcomes. In particular, there is little research on moderating variables that increase or decrease the impact of SEC on the individual (Pinquart & Silbereisen, 2004). Stress research has long demonstrated that psychosocial resources can buffer the impact of stress on SWB (Lazarus & Folkman, 1987; Wheaton, 1985). Although it seems very likely that psychosocial resources exert a similar moderating function with respect to the impact of SEC on SWB, only very few studies have addressed this intersection (but see Grümer & Pinquart, 2011; Pinquart, Silbereisen, & Juang, 2004). Thus, to date, relatively little is known about precisely which of an individual's characteristics or resources (and to what extent) allow him or her to maintain good SWB in the face of the challenges posed by SEC.

The goal of this article is to contribute to closing this gap by addressing the potential stress-buffering role of religiousness, a psychosocial resource that has received growing attention in recent years. There is now ample evidence linking religiousness to better mental health and SWB (Moreira-Almeida, Neto, & Koenig, 2006). Even more importantly, there are strong indications that individuals, as suggested by insecurity theory (Norris & Inglehart, 2004), resort to religion for dealing with many of life's existential and economic insecurities, presumably because it offers them emotional benefits in dealing with these insecurities (Immerzeel & van Tubergen, 2011). A number of studies found that religiousness buffered the effect of a broad array of different stressors on mental health and SWB (e.g., Bjorck & Thurman, 2007; Bradshaw & Ellison, 2010; Shams & Jackson, 1993). Building on this precedent, we argue that religiousness may also act as a protective factor in relation to the challenges individuals face due to current SEC. More specifically, we follow the central hypothesis that religiousness buffers the negative association between perceived work-related demands of SEC and SWB. Given the profound change in the sphere of work and occupation, on the one

hand, and the continuing high religious vitality of its population despite an ongoing weakening of traditional patterns of Polish Catholicism (Bokser-Liwerant, 2002; Borowik, 2010), on the other, Poland constitutes a particularly apt and interesting case for this investigation. In the following, we first elaborate on the concept of perceived demands of SEC in some detail. After discussing research on the intersection of religiousness and SWB, we present our rationale for linking SEC, religiousness, and SWB.

Theoretical Background and Research Questions

Demands of SEC and their association with SWB

As mentioned at the outset, the joint effect of the transformation to a market economy since 1990, technological progress, and globalization have had a profound impact on the labor market in Poland (Golinowska, 2005). Although relatively robust economic growth and decreases in formerly very high unemployment in recent years (rates dropped from about 19.5% in 2004 to 9.8% in 2008) led to economic gains, the current situation on the Polish labor market is characterized by flexibilization and deregulation, increasing volatility and higher susceptibility to fluctuations and external shocks due to the growing interdependence with the global economy, and generally higher structural uncertainty (Bukowski, 2010; Erlinghagen, 2008; Golinowska, 2005; Plessz, 2009).

As Silbereisen and colleagues (e.g., Piquart & Silbereisen, 2004; Tomasik & Silbereisen, 2009) argue, such large-scale SEC in the macro-context does not affect all individuals alike. Rather, SEC becomes psychologically effective within the various microcontexts of individual development (such as the workplace or the family), where it *differentially* confronts individuals with new individually perceived demands that index situational imperatives to which the individual was not accustomed and needs to respond to; such demands thus represent the link between the macro- and microlevel.

To illustrate, working-age individuals in Poland, as a consequence of the macro-structural changes delineated at the outset, today more often face the demand of having to reckon with being laid off, having to work in atypical forms of employment and in jobs requiring lower qualifications than they possess, having to accept a job in the grey sector or having to look for a job abroad, and having to face a lack of security in career planning (e.g., Golinowska, 2005; Bukowski, 2008; Plesz, 2009). These *work-related demands*, as we will refer to them in the rest of this article, and in particular their accumulation over time, act as stressors and a risk factor for SWB for at least three reasons. First, they reflect increasing uncertainty about one's future prospect of success in the domain of work and occupation; uncertainty has often been shown to be a powerful stressor and to predict higher depression and anxiety in experimental research (Greco & Roger, 2003). Second, they represent a threat to the self (Obschonka, Silbereisen, & Wasilewski, 2012; Westerhof & Keyes, 2006). Third, a high load of work-related demands may overburden individuals' adaptive capacities and thus endanger the successful mastery of important developmental tasks of young and middle adulthood, such as finding stable employment with a secure income and building a career (Tomasik & Silbereisen, 2009). According to Hobfoll (1989, 2002), however, stable employment, a stable income, and the formation of a career, represent valued resources that individuals seek to acquire in the course of negotiating these developmental tasks; a perceived threat to a valued resource or a lack of resource gain after investment of time and effort is assumed to produce stress.

Indeed, several studies have confirmed this view of demands as stressors. Grümer and Pinguart (2011) showed that an accumulation of perceived work-related, family-related, and public life-related demands was associated with higher depressive symptoms, controlling for a number of sociodemographic background variables. Other studies found demands of social change to be related to lower positive affect (Pinguart, Silbereisen, & Körner, 2009) and life satisfaction (Silbereisen & Tomasik, 2011) as well. We expected to replicate in our sample of Polish adolescents and adults the well-

established association between higher loads of perceived work-related demands of social change and lower SWB. However, as will become clear in the following, in view of research on religion as a protective factor, there is good reason to assume that religious individuals will be less severely affected by these demands than their less-religious counterparts.

Religiousness and SWB

In the past two decades, researchers have become increasingly interested in the linkage of religiousness – variously measured as religious practice (e.g., religious attendance), commitment and motivation, specific beliefs (e.g., the belief in an afterlife), or religious coping behaviors (e.g., pleading for divine intervention) – to psychosocial adaptation. While results are not always unequivocal, the vast majority of the several hundred empirical studies conducted in the field point to salutary effects of religiousness on a broad range of health-related and SWB-related outcomes (Moreira-Almeida et al., 2006; Pargament & Cummings, 2010). For example, Smith, McCullough, and Poll (2003) found a negative correlation between religiousness and depression of $r = -.096$ in their meta-analysis across 147 independent studies. A similar result of $r = .10$ was obtained in another meta-analysis on the association between religiousness and psychological adjustment (e.g., life-satisfaction, self-actualization) by Hackney and Sanders (2003). Myers (2000) reported from the General Social Survey with data from 34,706 respondents that life satisfaction was related to frequency of church attendance; 47% of those attending church weekly, but only 28% of those attending less than monthly, reported being “very happy”.

It is important to note that religiousness is a complex, multifaceted phenomenon comprising a cognitive, affective, behavioral, and social dimension, which may be differentially related to mental health and SWB (Hackney & Sanders, 2003), and perhaps also mediated through different pathways (e.g., social ties or active coping efforts). At times, specific manifestations of religiousness, such as spiritual struggles or religious

doubts, may also have their downsides for some people in terms of SWB (Pargament, 2002). By and large, however, the above results, among many others, clearly speak to a small but reliable positive association between religiousness and SWB. Whereas the linkage between religiousness and SWB has mostly been examined in samples of U.S. Protestants, and often on samples of older people or in clinical samples, more recent research conducted in Europe demonstrates that the salutary effects of religion hold across denominations and national contexts and tend to be stronger in more religious nations than in less-religious ones (Gebauer, Sedikides, & Neberich, 2012; Nicholson, Rose, & Bobak, 2009). Thus, we expected to find a positive association between religiousness and SWB in our Polish sample as well.

Buffering effects of religiousness

A key tenet of stress research is that psychosocial resources, in addition to having a direct effect, can protect health and SWB against the adverse effects of stressors – a circumstance called “buffering effect” (Wheaton, 1985). Technically speaking, this means that resources act as moderators in the relation between stressors and these outcomes. There is mounting evidence that religiousness can exert such a buffering effect against the adverse consequences of stressors as diverse as physical illness (Wink, Dillon, & Larsen, 2005), negative life events (Bjorck & Thurman, 2007), unemployment (Shams & Jackson, 1993), discrimination (Bierman, 2006), and financial hardship (Bradshaw & Ellison, 2010; Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998). The benefit religiousness offers in dealing with strains appears to be greater for more severe stressors that imply a loss of control (e.g., bereavement) but also applies to milder and more controllable types of stressors (Mattlin, Wethington, & Kessler, 1990).

Prior research has detailed mechanisms that may explain these stress-buffering effects of religiousness. First, religious beliefs, for example, the conviction that God helps the faithful, may allow individuals to reappraise stressors in a more benevolent fashion (Maltby & Day, 2003) and provide a larger meaning for stressful events and

personal circumstances, which in turn is associated with higher levels of SWB (Park, 2007). Second, religiousness encourages the cultivation of complex positive emotions, such as gratitude and forgiveness (Krause, 2009), and reduces worry and rumination (James & Wells, 2003). Recent experimental evidence even points to measurable biological markers of religiousness, namely reduced reactivity in the anterior cingulate cortex, a cortical system involved in the experience of anxiety and in self-regulatory processes (Inzlicht, McGregor, Hirsh, & Nash, 2009), and reduced cortisol levels in response to laboratory stressors (Tartaro, Luecken, & Gunn, 2005). Third, religiousness may reduce the impact of stressors because it is itself associated with a number of other resources relevant to overcoming strains, such as social support, self-esteem, or sense of mastery (Hill, 2010). Fourth, religiousness may foster active coping efforts and thus contribute to better psychological adaptation (Canada et al., 2006; Pargament & Park, 1995).

Although direct investigations of stress-buffering effects of religiousness by testing interactions between stressors and religiousness are rare (Wink et al., 2005), and although religiousness may at times exacerbate, rather than mitigate, the impact of certain stressors, such as family-related stressors that conflict with values promoted by the church (Strawbridge et al., 1998), these findings suggest, overall, that religiousness is a widely, if not universally, applicable coping resource that offers benefits in dealing with virtually all kinds of stressful events and conditions (Hood, Hill, & Spilka, 2009). This conclusion would be in line with the centerpiece of insecurity theory originally proposed by Norris and Inglehart (2004) – that individuals turn to religion when confronted with life's myriad insecurities and uncertainties, be they economic or existential, and individual or contextual in nature, because religion offers them emotional benefits in dealing with these stressors (Immerzeel & van Tubergen, 2011).

In view of these findings, our most important research question is whether the benefits of religiousness apply to the challenges posed by SEC as well. We argue that when confronted with a high load of work-related demands, religious individuals may

have a resource at hand that inoculates them against the detrimental impact of these demands, so that a given level of perceived work-related demands should diminish their SWB less strongly compared to non-religious individuals. We expected to find an interaction effect of demands and religiousness, such that religiousness buffers the negative effect of the demands on SWB. The perceived work-related demands in this study differ in their nature from stressors examined in earlier studies on the stress-buffering effects of religiosity in relation to other economic stressors in two important respects. First, they comprise subjectively perceived negative changes, rather than discrete events that were the focus of most prior research. Second, they are rooted in changes at the societal macrolevel. The potential stress-buffering role of religiousness in relation to such a type of stressor has not been investigated in any prior research.

Hypotheses

Taken together, we tested the following three hypotheses:

Hypothesis 1: Higher religiousness is related to higher SWB.

Hypothesis 2: A higher load of perceived work-related demands of SEC is inversely related to SWB.

Hypothesis 3: Religiousness buffers the negative effect of work-related demands on SWB.

Method

Sample

Data used in this study stem from “Sociological and Psychological Determinants of Coping With Rapid Social Changes” (Jacek Wasilewski, Principal Investigator), a large-scale multitheme survey on adult development and adjustment in times of SEC conducted as part of the international collaboration of, and with financial support by, the Jena Study on Social Change and Human Development (Rainer K. Silbereisen, Principal Investigator; for details, see Silbereisen et al., 2006). Throughout the spring of

2009, trained interviewers from a professional survey institute conducted a total of 3,078 standardized computer-assisted personal interviews (CAPI) with 16- to 46-year-old respondents from two West Polish (Pomerania and Lower Silesia) and two East Polish administrative districts (Lublin and Subcarpathia). The age range was chosen because it comprises the transitional stage to adulthood in which major developmental tasks such as forming a stable career are negotiated (Silbereisen et al., 2006). The initial sampling frame, stratified by community size, age, and gender, was drawn from the Universal Electronic System for Registration of the Population (PESEL), run by the Polish Ministry of the Interior and Administration. Interviewers initially approached the target individuals from the sampling frame, which contained 600 addresses of specific individuals. If the target person was not available, the interviewer looked for eligible individuals in the neighborhood following a random route procedure. Each address was approached only once. Less-educated, unemployed, and single individuals were slightly overrepresented in this sample compared with official registry data. Because our present analysis focused on work-related demands, we only included participants who were gainfully employed at the time of the interview and excluded all those who were either unemployed, in school, or outside the labor market (e.g., housewives, people incapacitated for work). The resulting sample comprised $n = 1,581$ adolescents and adults between the ages of 16 and 46 years ($M = 35.6$; $SD = 7.61$), of which 56.0% were male ($n = 886$; female, 44.0%, $n = 695$). Almost half of the sample 44.4% ($n = 702$) had completed only elementary or basic vocational education, whereas 55.6% ($n = 879$) had completed secondary or tertiary education. Most were employed full-time (84.5%, $n = 1336$), 11.8% were self-employed ($n = 187$), and only 3.7% ($n = 58$) were employed part time. As to marital status, 61.2% of the respondents ($n = 968$) were married or cohabiting, while 38.8% ($n = 613$) were single, divorced, or widowed.

Measures

Religiousness. We measured two different dimensions of religiousness. *Religious attendance* (i.e., organizational religious practice) was measured with one item asking respondents to indicate how frequently they attended masses and church services on an 8-point ordinal scale ranging from *never* to *several times a week*. For the purpose of analyses, we computed two dummy variables signifying moderately frequent (*once a month to two or three times a month*) and frequent (*every week to several times a week*) attendance. Sporadic or nonexistent attendance (*never to few times a year*) served as the reference category. In the selected subsample, 44.9% ($n = 710$) respondents were frequent churchgoers, 26.6% ($n = 421$) were moderately frequent churchgoers, and 28.5% ($n = 450$) were in the reference group. As Hall, Meador, and Koenig (2008) reported, salutary effects of attendance are most consistently apparent when the measure is dichotomized between those who attend religious services at least once a week and those who do so less frequently, but there are some indications of a dose-response-relationship. Therefore, using three categories seemed sufficiently parsimonious while still allowing the detection of possible dose-response-relationships. *Subjective religiosity* was measured with one item asking respondents to identify themselves on a 4-point scale as *non-believer, having doubts in matters of faith, believer, or deep believer* ($M = 3.03$, $SD = .54$). We treated this measure as a continuous variable. The two measures of religiousness were only moderately correlated ($r = .50$, $p < .001$), substantiating the claim that they tap different dimensions.

Perceived work-related demands. Following past research on SEC (Tomasik & Silbereisen, 2009), we employed an established scale for measuring the individual-level manifestation of current SEC in the form of perceived work-related demands. Against the backdrop of a host of official statistics and current sociological literature on major trends of SEC affecting the majority of the working-age population, as well as qualitative and quantitative pretests, we devised an 8-item scale to capture the work-related demands that accrue from these trends. The topics concerned growing

uncertainty with regard to career planning, increasing risks of job loss, and various negative changes in the quality of the workplace. Six of these items were originally constructed in the context of research in Germany but, as the sociological and economic literature (e.g., Bukowski, 2008; Bukowski, 2010; Golinowska, 2005; Plessz, 2009; Rakowska-Harmstone&Dutkiewicz, 2006) and recent comparative research (Obschonka et al., 2012) on the topics show, the trends captured therein equally apply to Poland; the other two items reflect trends specific to the Polish national context (growth of informal employment and increasing migration pressure; see Golinowska, 2005).

Table 1

Mean Endorsement of all Single Items in the Work-related Demands Scale

When considering the past five years...	<i>M</i>	<i>SD</i>
...it has become more difficult to plan my career path.	4.30	1.85
...today, I have to be prepared more for the possibility of reluctantly only working part time instead of full time.	3.80	2.05
...the risk of losing my job has increased.	3.96	2.02
...my career plans were often hindered by unforeseen events and circumstances.	3.65	1.96
...it is now more likely that I will be forced to accept a job requiring lower qualifications than those I have.	3.91	1.98
...there are currently fewer job opportunities for me.	4.12	1.97
...I have to be prepared for the possibility of looking for a job abroad.	3.55	2.05
...I have to be prepared for the possibility of taking a job in "gray sector".	3.67	2.12

Table 1 shows the wording, mean endorsement, and standard deviations of each of the eight items. The interviewers first read the following introduction: "We are living in a period of rapid change. Globalization, new technologies, and other developments modify our everyday life in a variety of different ways. Many of these changes have both positive and negative aspects." Participants were then prompted to "consider the past five years" and asked to rate each demand on a scale ranging from 1 (*does not apply at all*) to 7 (*fully applies*). The 5-year interval was chosen in order to focus on a time span during which significant change could occur and to minimize memory bias. By deliberately drawing on subjective perceptions of SEC, the concept of demands permits

the assessment of interindividual variation in the degree to which people are exposed to the consequences of major trends at the societal level. The mean endorsement of the full scale was $M = 3.87$ ($SD = 1.56$; Cronbach's alpha = .91).

SWB. The three outcome measures selected for this study referred to the affective and the cognitive-evaluative dimension of SWB. Affective measures of SWB reflect relatively spontaneous and transient states, whereas cognitive-evaluative measures represent relatively stable aspects of various domains of life experience (Diener, 1994). As an indicator of the affective component, we used a Polish adaptation of the Depressive Symptoms Scale from the Brief Symptom Inventory (Derogatis, 1993). The scale consisted of six items asking respondents to indicate on a 7-point Likert scale (1 = *does not apply at all*, 7 = *fully applies*) to what degree they had suffered from depressive symptoms (feeling hopeless, worthless, blue, lonely; feeling no interest in things; having thoughts of suicide) within the past month. Higher mean values on the scale indicate higher depressive symptomatology, and, hence, lower SWB. As is to be expected for a sample from the normal population, the scale mean in the selected subsample was rather low ($M = 2.06$, $SD = 1.18$). Cronbach's alpha was satisfactory ($\alpha = .91$).

The cognitive-evaluative dimension of SWB was measured with two single items. Using single item measures is common in well-being research, and these items have been found to have satisfactory reliability and validity (Sandvik, Diener, & Seidlitz, 2009). The first of the items referred to *general life satisfaction* (7-point Likert scale; 1 = *very dissatisfied*, 7 = *very satisfied*) and asked respondents to indicate how satisfied they were at present with their life in general. On average, respondents turned out to be rather satisfied, with $M = 5.48$ ($SD = 1.22$). The other, domain-specific item referred to *work satisfaction* and asked respondents to indicate how satisfied they were at present with their work (7-point Likert scale; 1 = *very dissatisfied*, 7 = *very satisfied*). The mean endorsement of this item was $M = 5.34$ ($SD = 1.28$).

Sociodemographic controls. Control variables included age in years, gender, educational attainment, employment type, and marital status. These variables were

included because they are typically correlated with both religiosity and SWB. Therefore, they may act as possible confounders of the association between religiosity and SWB that have to be adjusted for. Table 2 shows the bivariate associations between all study variables.

Analytic strategy

To test our hypotheses, we set up a series of hierarchical ordinary least square regression models. In the first step, we tested Hypotheses 1 and 2 on the main effects of religiousness and work-related demands, respectively. In the second step, we added the Demands \times Religiousness interaction in order to test whether, as predicted by Hypothesis 3, religiousness buffered the association between work-related demands and SWB. A significant interaction with a coefficient in the opposite direction of the demands' main effect would be indicative of a stress-buffering effect of religiousness (Wheaton, 1985). In the final step, we added the covariates to check whether the associations remained significant after controlling for possible third variables. We decided to run separate models for the two religiousness measures because, as outlined, they tap different dimensions of religiousness that may have independent linkages with different dimensions of SWB (Greenfield, Vaillant, & Marks, 2009), and mutually controlling the religiousness measures might disguise potentially meaningful associations. In each of the models, the three outcome measures were regressed simultaneously on the predictors using structural equation modeling with AMOS 19 for Windows in order to avoid multiple testing. To reduce multicollinearity, all continuous variables were mean-centered prior to the analyses. Because the depressive symptoms scale was strongly skewed ($g = 1.34$), we checked whether using a logarithmically transformed scale would alter the pattern of results. As this was not the case, we proceeded with the original, untransformed scale.

Table 2
Correlations of the Study Variables

Variables	1	2	3	4	5	6	7	8	9	10
1. Work-related demands	1									
2. Religious attendance	-.10***	1								
3. Subjective religiosity	-.16***	.50***	1							
4. Depressive symptoms	.26***	-.15***	-.08**	1						
5. Life satisfaction	-.19***	.18***	.17***	-.27***	1					
6. Work satisfaction	-.27***	.17***	.17***	-.20***	.52***	1				
7. Age	-.11***	.05*	.11***	.03	-.08**	-.08**	1			
8. Gender ^a	.03	-.14***	-.10**	-.09**	-.01	-.07**	.00	1		
9. Education ^b	-.04	-.03	-.12**	-.05*	-.01	.04	-.05*	-.18***	1	
10. Marital status ^c	-.13***	.15***	.11***	-.13***	.10***	.02	.48***	-.07**	-.02	1
11. Occupational status ^d										
Part time	.06*	-.07**	-.08**	.09**	-.05*	-.07*	-.02	-.09**	.05*	.02
Self-employed	-.14**	.03	.08**	.00	.14**	.15**	.06*	.02	-.03	.08*

Note. N = 1,581.

^a 1 = male. ^b 1 = secondary vocational or higher. ^c 1 = married. ^d Reference: employed full-time.

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

Results

Table 3 and Table 4 provide the results of the multivariate models. Cell entries represent standardized regression coefficients (β). In the following, we will present the results in the order of the hypotheses.

Our first hypothesis predicted that religiousness would be linked to better SWB. This was fully confirmed for our first measure of religiousness, religious attendance (Table 3, Model 1). Specifically, frequent attendance (i.e., once a week or more) was associated with lower depressive symptoms and higher life and work satisfaction. Moderately frequent attendance (i.e., once a month to two or three times a month) was also associated with lower depressive symptoms and higher work satisfaction but not with higher life satisfaction. Similar results emerged with regard to our second religiousness measure, subjective religiosity (Table 4, Model 1), which was significantly associated with higher life satisfaction and higher work satisfaction, but not with lower depressive symptoms. In sum, results provided strong support for Hypothesis 1.

Our second hypothesis stated that a higher load of perceived work-related demands would be associated with lower SWB. Results fully supported this expectation for all three outcome measures. Associations were similar in size but, as could be expected due to the theme of the demands, were somewhat lower for general life satisfaction than for the domain-specific measure of work satisfaction.

Table 3

Associations of Religious Attendance and Work-related Demands With SWB

Variable	Depressive symptoms			Life satisfaction			Work satisfaction		
	M1	M2	M3	M1	M2	M3	M1	M2	M3
Perceived work-related demands	.252***	.338***	.321***	-.165***	-.085	-.071	-.252***	-.240***	-.227***
Religious attendance									
Moderately frequent ^a	-.078**	-.080**	-.074**	.031	.035	.028	.074**	.076**	.072*
Frequent ^b	-.119***	-.121***	-.122***	.177***	.178***	.163***	.151***	.152***	.142***
Demands × Moderately frequent attendance	.000	.000	.003	-.032	-.032	-.031	-.017	-.017	-.016
Demands × Frequent attendance	-.120**	-.105*	-.105*	-.089*	-.089*	-.091*	-.006	-.006	-.013
Education ^c									
Age									
Gender ^d									
Marital status ^e									
Occupational status ^f									
Part time									
Self-employed									
Adjusted R ²	.079	.086	.132	.061	.064	.104	.088	.088	.132

Note. *N* = 1,581.

^a Attendance “once a month” to “two or three times a month”. ^b Attendance “every week” to “several times a week”. ^c Reference:

elementary or basic vocational. ^d Reference: female. ^e Marital status “married”; reference: “single,” “widowed,” and “divorced”.

^f Reference: employed full time.

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

Table 4
Associations of Subjective Religiosity and Work-related Demands with SWB

Variable	Depressive symptoms			Life satisfaction			Work satisfaction		
	M1	M2	M3	M1	M2	M3	M1	M2	M3
Perceived work-related demands	.268***	.288***	.279***	-.165***	-.158***	-.144***	-.246***	-.245***	-.235***
Subjective religiosity	-.014	-.044	-.055*	.144***	.133***	.130***	.132***	.130***	.128***
Demands × Subjective religiosity		-.097***	-.078**		-.035	-.036		-.008	-.014
Education ^a			-.078*			-.001			.031
Age			.134***			-.194***			-.135***
Gender ^b			-.122***			.019			-.045
Marital status ^c			-.167***			.150***			.026
Occupational status ^d									
Part-time			.069**			-.028			-.044
Self-employed			.070**			.100***			.108***
Adjusted R ²	.073	.081	.128	.056	.057	.100	.089	.089	.121

Note. N = 1,581.

^aReference: elementary or basic vocational. ^bReference: female. ^cMarital status “married”; reference: “single”, “widowed” and “divorced”. ^dReference: employed full-time.

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

Our third and central hypothesis concerned the interactive influence of work-related demands and religiousness on SWB. We started by looking at the results for our first measure of religiousness, religious attendance, in Table 3 (Model 2). In line with the hypothesis, there was a significant interaction on depressive symptoms, suggesting that when confronted with a high load of perceived work-related demands, the most frequent churchgoers reported fewer depressive symptoms than did individuals who attended sporadically or never. No such buffering effect emerged for the group of moderately frequent churchgoers. This pattern is displayed graphically in Figure 1. Post-hoc probing of the interactions revealed that the most frequent churchgoers differed significantly in depressive symptoms from the group of moderately frequent churchgoers, $t = 3.04$, $p < .05$, and the group of non-attendees, $t = 4.40$, $p < .001$, at the maximum value of 7 on the perceived demands scale, but not at the minimum value of 1 ($t = -.52$, *ns*; $t = -1.93$, *ns*). That is, religious attendance made a difference in terms of depressive symptoms at high, but not at low, levels of perceived demands, as implied by the buffering hypothesis.

Regarding the second outcome, life satisfaction, there was also a significant Demands \times Frequent attendance interaction, which was, however, in the direction opposite to our hypothesis, as depicted in Figure 2. Post hoc probing revealed that the most frequent churchgoers had significantly higher levels of life satisfaction than either the group of moderately frequent churchgoers, $t = 2.97$, $p < .01$, or the group of non-attendees, $t = 4.62$, $p < .001$, at the minimum value of perceived demands, but not at the maximum value ($t = -1.21$, *ns*; $t = -.80$, *ns*). In other words, the salutary effect of frequent attendance on life satisfaction disappeared as individuals were confronted with high levels of perceived work-related demands. Also contrary to Hypothesis 3, no significant buffering effect of religious attendance was evident on work satisfaction.

Turning to our second measure of religiousness, subjective religiosity (Table 4, Model 2) significantly buffered the impact of the demands, confirming Hypothesis 3. Because the pattern was identical to the one reported above for religious attendance, we

did not depict this result graphically. There was no significant Demands \times Religiousness interaction with respect to the other two outcomes – life satisfaction or work satisfaction. In sum, we found buffering effects of frequent religious attendance and subjective religiosity on depressive symptoms but not life or work satisfaction, providing partial support for Hypothesis 3.

Entering the sociodemographic control variables in the third step of the models did not substantially alter any of the above associations, demonstrating that the associations between demands and lower SWB, and religiousness and better SWB, did not merely reflect the influence of basic demographic factors. The share of variance explained by work-related demands, religiousness, and their interaction was relatively moderate overall, ranging up to about 9% for depressive symptoms and work satisfaction in the models with religious attendance, and being slightly lower for subjective religiosity as a measure of religiousness.

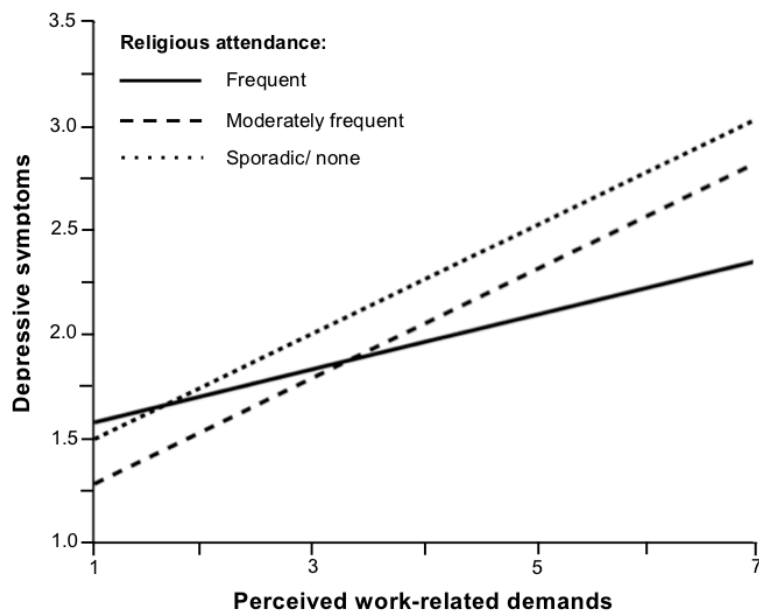


Figure 1. The interactive influence of work-related demands and religious attendance on depressive symptoms.

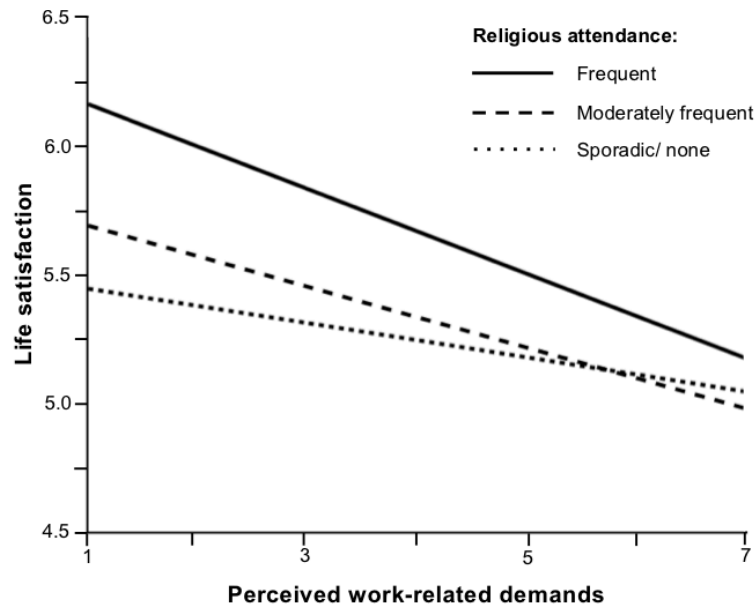


Figure 2. The interactive influence of work-related demands and religious attendance on general life satisfaction.

Discussion

Religiousness has been receiving growing interest in research on health and SWB as a protective factor against the adverse effects of stressors originating from a variety of sources (e.g., Pargament & Cummings, 2010). Despite burgeoning interest in the individual-level consequences of SEC, however, to our knowledge no study to date has addressed the potential stress-buffering role of religiousness in relation to stressors that arise from macrolevel societal trends. This is surprising, given that much of contemporary social scientific theory ascribes to religion an important role in coping with all kinds of economic and existential insecurities and maintains that religiousness is particularly salient and beneficial to individuals facing economic or social precariousness (Nicholson et al., 2009; Norris & Inglehart, 2004; Stark & Bainbridge, 1996). The present study addressed this empirical lacuna. Building on recent psychological conceptualizations suggesting that macrolevel SEC manifests in the everyday life of individuals in the form of individually perceived demands that act as stressors and may impinge on SWB (Grüner & Pinquart, 2011; Tomasik & Silbereisen,

2009), we set out to examine whether religiousness, in addition to having a positive direct effect on SWB, buffered the negative association between perceived work-related demands and SWB.

Several findings of our study are noteworthy. First, in line with previous research, we found that both of the dimensions of religiousness we assessed (i.e., religious attendance and subjective religiousness) were positively related to multiple dimensions of SWB (i.e., lower depressive symptoms, higher general life satisfaction, and higher work satisfaction). There were also some indications of a dose-response relationship between religious attendance and SWB; in particular, those who attended every week, and to a lesser extent those who attended on a monthly basis, had higher SWB than sporadic or non-churchgoers. Importantly, whereas most research in this area has been conducted in the United States, predominantly on samples of Protestants and older people (Flannelly, Ellison, & Strock, 2004), we surveyed a sample of young to middle-aged Polish Catholics. We thus added to findings from more recent studies conducted across the globe suggesting that the salutary effects of religiousness hold across societal contexts and religious denominations, despite cross-national variations in effect size (Diener, Tay, & Myers, 2011; Gebauer et al., 2012; Nicholson et al., 2009). The beneficial relation of both measures of religiousness to the cognitive-evaluative measures of SWB (i.e., life and work satisfaction) was slightly stronger in size than to the affective measure (i.e., depressive symptoms), which is in line with findings from Hackney and Sander's (2003) meta-analysis. The domain-specific outcome of work satisfaction has rarely, if at all, been considered in research on the linkage of religion and SWB. A possible explanation for our finding that the salutary effects of religion also pertain to such a domain-specific outcome is that religiousness encourages the cultivation of positive emotions, such as gratitude and forgiveness (Krause, 2009) and provides other psychosocial resources, such as optimism or social support (Hill, 2010), which promote SWB very generally and across life domains.

Second, our analyses confirmed that perceived work-related demands, capturing the perceived changes in personal circumstances that arise from current SEC, act as individual-level stressors that impinge on SWB (Tomasik & Silbereisen, 2009). Specifically, individuals who reported a higher load of work-related demands had higher depressive symptoms, lower life satisfaction, and lower work satisfaction; all these associations were about equally strong. Thus, we were able to replicate in Poland earlier findings obtained with the same theoretical concept and almost identical assessment instruments in Germany (Grüner & Pinguart, 2011; Pinguart et al., 2009). The size of these associations was very similar to what was found in Germany, with β reaching up to .27 for depressive symptoms; this is quite substantial, given that SWB is a complex phenomenon with multiple determinants. Due to the correlational nature of our findings, we could not rule out the alternative explanation that individuals low in SWB tend to evaluate their situation more negatively in general and hence perceive more of the negatively connoted work demands; however, a longitudinal investigation from Germany established that there are bidirectional influences of demands and SWB, and vice versa, both of which are about equal in size (Körner, Silbereisen, & Cantner, 2010). In terms of conservation of resources theory (COR; Hobfoll, 1989; 2002), the negative relationship the work-related demands bear on SWB can be understood in terms of the threat they pose to certain valued resources such as having stable employment and income or forming a career, which individuals seek to establish in the course of negotiating the central developmental tasks of young and middle adulthood in the domain of work (Tomasik & Silbereisen, 2009); in COR, a perceived threat to a valued resource, or a lack of resource gain after investment of time and effort is assumed to produce stress. In the context of studying the consequences of SEC, the concept of perceived demands seems especially valuable as it allows assessing interindividual variation in the degree to which people are affected by such threats to valued resources that accrue from SEC.

It is important to note at this point that although the work-related demands refer to negatively connoted changes, this is not to convey that SEC is entirely negative. Quite the contrary, SEC may also open up new opportunities and offer opportunities for personal growth; e.g., the transformation in Poland from socialist rule to pluralistic democracy brought with it a dramatic increase in personal freedom and political rights. However, our focus here was on negatively connoted changes because they are perceived as threatening (Obschonka et al., 2012) and constitute non-ignorable risk factors for SWB (e.g., Grümer & Pinquart, 2010).

The most novel finding of our study concerns the moderating effects of religiousness. In short, our analyses revealed that, even after controlling for a number of sociodemographic variables, both religious attendance and subjective religiosity buffered the impact of work-related demands on depressive symptoms. In other words, highly religious individuals experienced lower depressive symptoms than their less-religious counterparts when confronted with a high load of work-related demands, meaning that religiousness acted as a protective factor against the effects of the demands. This result is in line with several earlier reports of buffering effects of religious involvement in relation to diverse stressors (e.g., Bjorck & Thurman, 2007; Shams & Jackson, 1993), although it differs from prior research in that the work-related demands which we considered as a stressor do not refer to specific events but primarily touch on perceived uncertainty. Hence, our finding adds to the few existing investigations showing that religiousness may not only moderate the impact of severe health-related stressors and negative life events – such as physical illness or the death of a spouse, which have largely been the focus of research so far – but may also fortify SWB against economic and social stressors that do not pose an existential threat, as for instance perceived financial hardship (Bradshaw & Ellison, 2010) or perceived discrimination (Bierman, 2006).

Against our expectations, religiousness did not buffer the negative effect of demands on the cognitive-evaluative measures of SWB, namely general life satisfaction

and work satisfaction. Quite the contrary, the beneficial effect of religiousness on SWB diminished with a higher load of demands. That is, religious attendance contributed to a higher life satisfaction only as long as individuals faced no or only few demands in the domain of work. With a high load of demands, those who attended church no longer differed in terms of life satisfaction from those who did not attend. The beneficial effect of religiousness was no longer present here, although it is worth noting that religiousness did no harm to SWB either.

This diverging pattern of interaction effects for the affective and cognitive-evaluative measures of SWB may at first glance seem puzzling. Two explanations can, however, be derived from the existing literature. First, research has shown that affective and cognitive-evaluative SWB have different precursors and set points (Diener, Lucas, & Scollon, 2006) and bear differential relations to external circumstances and life events (Luhmann, Hofmann, Eid, & Lucas, 2012). Even more importantly, affective SWB seems to be more strongly influenced by variables such as personality traits, coping strategies, mood regulation, or social support, than are cognitive-evaluative measures (Diener et al., 2006; Luhmann et al., 2012). The same may be true for the mechanisms that purportedly underlie the buffering effects of religiousness which we discussed earlier, namely the cultivation of positive emotions such as gratitude and forgiveness through religious rituals and teachings (Krause, 2009), active coping (Canada et al., 2006) and psychosocial resources such as optimism or social support (Hill, 2010). Due to the higher malleability of affective SWB, these mechanisms may be able to counteract the negative affective consequences of the perceived demands but fail to do so as regards more global (and generally more stable; see Luhmann et al., 2012) judgments of life satisfaction; in other words, there may be less traction for the mechanisms linking religiousness to better stress outcomes in the case of cognitive-evaluative well-being. A second explanation of the differential interactions focuses on the high life satisfaction of religious individuals at low levels of perceived demands: At low levels of perceived demands, positive emotions, high optimism, and especially social support perceived in

abundance but not actually required or activated to deal with the demands of life may boost the evaluation of one's life circumstances, maybe even to some unrealistic degree. When facing a high load of demands, however, positive emotions may lead to an increased awareness of one's "miserable" situation and of the risks associated with it (see Aspinwall, 1998), optimistic people may become increasingly realistic (see Schneider, 2001), and the detrimental aspects of received social support (in terms of feeling shame and being dependent on someone who is better off (Rook, Sorkin, & Zettel, 2004) may outweigh the benefits of higher perceived social support. All these factors contribute to a lower cognitive-evaluative SWB but are not necessarily related to its affective aspects. As we were not able to test these interpretations on an empirical basis, further research is needed in order to do so and to ascertain whether these interpretations are specific to the stressors we examined. At any rate, our results underscore the importance of taking into account the multidimensionality of religiousness and SWB in evaluating the interplay of stressors and religiousness.

Limitations and future directions

Three key limitations of our study bear mentioning. First and foremost, the cross-sectional nature of the data precludes any form of causal interpretation of the reported associations. However, longitudinal studies on the association of religiousness and SWB have typically yielded results similar to cross-sectional studies (Flannelly et al., 2004), and our measure of demands referred to perceived negative changes in personal circumstances that had occurred over the past five years, which, even though it is not a prospective longitudinal assessment, comes closer to the idea of assessing the interplay of stressors and resources as a process evolving over time. Second, because we were interested in whether religiousness buffered work-related demands, we restricted our sample to employed individuals, and our sample covered a limited age range of 16 to 46 years. Because these restrictions were by design, we believe they do not call into question the main conclusions of our study, but our findings regarding the associations

of social-change-related demands and religiousness with SWB may not apply in the same way to individuals who are not actively participating in the labor market, and to older individuals. Third, although one strength of our study is that we employed multiple measures to tap different dimensions of both religiousness and SWB, we had to rely partly on single item indicators, as the desire for more comprehensive assessment had to be balanced against limitations of questionnaire space and interview time. However, single-item measures of SWB have been shown to have satisfactory reliability and validity (Sandvik et al., 2009). It is also common practice to use single item measures of religious attendance, and these measures even seem to yield the most consistent associations with health outcomes (Hall, Meador, & Koenig, 2008), even though we cannot rule out the possibility that the higher measurement error of our single items measure limited our chances of finding more than three out of six significant interactions.

These caveats notwithstanding, our study makes several contributions to the literature on religiousness and SWB. First, we extended the findings on the linkage between religiousness and SWB to Poland, which is special with regard to the continuing high religious vitality of its population and which has seldom been considered by research in the field. Second, we tested not only direct but also moderating effects of religiousness, which is still rarely done in research on religion and constitutes a more rigorous test of the claim that religiousness is a resource for health and SWB. Third, for the first time, we examined the potential stress-buffering role of religiousness in relation to stressors that accrue from macrolevel SEC.

Future research should seek to generalize our findings to other societal contexts as well as other religious denominations. Although this study focused on Poland, with its particular economic situation, people from other nations around the globe are facing similar economic challenges due to the impact of globalization or the recent financial crises (Buchholz et al., 2009; Kalleberg, 2009). Given that the strength of the association between religiousness and SWB seems to be higher in more-religious countries (e.g.,

Diener et al., 2011), it remains to be seen whether the pattern of results we found also holds in less-religious and more religiously diverse countries. Furthermore, to the extent that SEC is a diverse and ubiquitous phenomenon, and we focused exclusively on its work-related aspects, it would be interesting to examine the purported stress-buffering/exacerbating role of religiousness in relation to demands in other life domains. Finally, future studies should elucidate the possible mechanisms behind the salutary effects of religiousness in relation to stressors in general and SEC specifically. As mentioned earlier, active coping might be one such mechanism that has received relatively little attention, and focusing on it would allow integrating the study of religion into a broader stress-coping framework (Pargament & Park, 1995).

Conclusion

Overall, the answer to the question of whether religiousness acts as a protective factor for SWB in times of SEC is a qualified “yes.” Religiousness did indeed bear a salutary relationship to all measures of SWB and buffered the association of work-related demands of SEC on depressive symptoms. However, it did not buffer the impact of these demands on the cognitive-evaluative measures of SWB, that is, life and work satisfaction. Clearly, as SEC continues to pose new challenges for individuals in various domains of life that may overtax their resources and impinge on health and SWB, the role of religiousness as a foundation of strength and resilience – both individually and collectively – warrants further scrutiny. Understanding how religiousness helps individuals to cope with the many challenges they face may provide an important pathway toward promoting adaptive development in the future.

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Study 2:

Religiosity Fosters Opportunity-congruent Coping With Work-related Uncertainties

Note. This study is currently under review as:

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Abstract

This study examined the role of religiosity in coping with work-related demands (i.e., growing uncertainties concerning important developmental goals in work-life) that arise from current social change. Drawing on a sample of $N = 2,089$ Polish adults aged 20 to 46 years, we investigated how religiosity relates to *goal engagement* (i.e., investing time and effort; overcoming obstacles) and *goal disengagement* (i.e., self-protection of self-esteem and motivational resources against failure experiences; distancing from unattainable goals) control strategies in coping with these demands. We hypothesized that religiosity expands individuals' capacities for both engagement and disengagement. Moreover, we expected that the associations between religiosity and these control strategies vary according to the economic opportunity structure (as measured by the regional net migration rate), with religiosity promoting engagement especially under favorable opportunities for goal striving and facilitating disengagement especially under unfavorable opportunities. The results supported these predictions for goal engagement. For goal disengagement, the results were more mixed, but also largely in line with predictions. Overall, the results suggest that religiosity can foster a pattern of opportunity-congruent engagement and, to some extent, disengagement, in coping with work-related demands. This pattern is likely to be adaptive.

Is religiosity the “opiate of the people,” leading them into avoidance and withdrawal when encountering stressful circumstances; or is it a form of empowerment, prompting people to actively engage with stressors to overcome them? Scholars and laypeople have long debated this issue and arrived at very different conclusions (Pargament & Park, 1995). Using data from Poland, one of the most religious of the industrialized nations (Zarzycka, 2008), the present study investigated how religiosity relates to *goal engagement* (i.e., investing time and effort; overcoming obstacles) and *goal disengagement* (i.e., self-protection; distancing from unattainable goals) in coping with work-related demands (see Tomasik & Silbereisen, 2009). Such demands refer to growing uncertainties concerning important developmental goals in work life that arise from current social change. Religiosity buffers the impact of these demands on depressive symptoms (Lechner, Tomasik, Wasilewski, & Silbereisen, 2013). It is unclear, however, whether it may do so by promoting engagement, disengagement, or both. Below, we discuss prior research on coping with social change and develop our hypotheses concerning the linkage between religiosity, and engagement and disengagement.

Coping with Social Change in the Context of Lifespan Development

Work-related demands as a risk factor for development

Similar to other industrialized nations (Kalleberg, 2009) and despite robust economic growth, the Polish labor market has recently witnessed growing and unequally distributed unemployment risks, the spread of atypical employment (e.g., fixed-term contracts, temporary work, and involuntary part time employment), as well as the growth of a shadow economy that lacks social protection (Golinowska, 2005). Psychological research suggests that such labor market changes confront individuals with perceived growing uncertainties concerning important goals and developmental

tasks in their work-lives (Tomasik & Silbereisen, 2009). For example, people currently face increasing risks of job loss, having to work in atypical forms of employment, having to look for work abroad, and a lack of security in career planning. These uncertainties index new situational imperatives that require a response from the individual; hence, they function as new demands. A high load of such perceived *work-related demands*, as we will refer to them in the remainder of this article, can overtax individuals' adaptive capacities and interfere with central developmental goals of young and middle adulthood, such as forming and maintaining a stable career. From this developmental perspective, work-related demands constitute stressors that can impinge on well-being (Lechner et al., 2013; Pinguart, Silbereisen, & Körner, 2009).

Conceptualizations of coping in the motivational theory of life-span development

The motivational theory of life-span development (MTD; Heckhausen, Wrosch, & Schulz, 2010) offers a framework to investigate how individuals cope with developmentally relevant stressors, such as the abovementioned work-related demands. Building on a lifespan perspective, MTD focuses on longer-term developmental regulation in the face of biological or societal constraints, rather than on reactions to acute and circumscribed stressors. However, MTD shares the basic distinction between goal engagement and disengagement with classical coping theories and other lifespan models of developmental regulation (Haase, Heckhausen, & Wrosch, 2013). *Goal engagement* refers to behaviors and cognitions directed towards changing stressors in order to master a given goal (e.g., investing time and effort, recruiting external support). *Goal disengagement* comprises behaviors and cognitions that protect one's self-esteem and motivational resources in the case of failure or loss experiences (e.g., self-serving causal attributions), as well as behaviors and cognitions aiming at temporary or final distancing from goals that no longer seem attainable (e.g., devaluing chosen goals, enhancing the value of other goals).

Central to MTD is the notion that engagement and disengagement are not equally adaptive under all conditions. Rather, it is the *congruence* of goals and the opportunities provided by the social ecology that determines whether engagement or disengagement is most adaptive in terms of maximizing primary control capacity across different life domains and the life span, which is the key criterion for adaptive development according to MTD (Heckhausen et al., 2010). Under favorable conditions for goal striving, engagement is typically most adaptive; conversely, under unfavorable conditions, further engagement is unlikely to yield successful outcomes and may waste resources, rendering disengagement from goals and demands the more adaptive strategy. Successful development, thus, depends on individuals' ability to adjust engagement and disengagement to situational opportunities and constraints. A growing body of evidence supports this congruence theorem (see Heckhausen et al., 2010), including studies investigating engagement with, and disengagement from, work-related demands as a function of the economic opportunity structure in the social ecology (e.g., Tomasik & Silbereisen, 2012).

Religiosity as a Predictor of Engagement and Disengagement

How might religiosity relate to coping with work-related demands? Leveraging literature on psychological functions and correlates of religion, we will argue, first, that religiosity expands individuals' capacities for *both* engagement and disengagement. Second, we will propose that religiosity may foster an opportunity-congruent pattern of engagement and disengagement, which may account for its salutary potential.

Religiosity and goal engagement

Although goal engagement depends on a range of individual and situational factors, two key predictors are individuals' endowment with psychosocial resources and perceptions of control (Brandtstädter & Rothermund, 2002). Religiosity may influence both. First, religiosity can enhance basic psychosocial resources. Specifically,

involvement in supportive religious communities and participation in uplifting religious rituals can foster the experience of positive emotions and bolster feelings of self-esteem, hope, and optimism (Ellison & Levin, 1998). These, in turn, enhance individuals' capacity for goal engagement in negotiating work-related goals and demands (e.g., Haase, Poulin, & Heckhausen, 2012; Pavlova & Silbereisen, 2013). Religious participation also grants access to church-based social support networks on which members can draw for advice and assistance, and church-based support may even be more effective than support received in secular settings (Krause, 2006).

Second, the Christian faith holds that a benevolent God intervenes in human affairs and can be asked for support and guidance. Rather than passively relying on God to solve their worldly problems, many religious individuals establish a "collaborative" relationship in which God is viewed as a partner in problem-solving (Pargament & Park, 1995). Such an empowering sense of divine control can foster engagement-coping (Umezawa et al., 2012).

Given its linkages to psychosocial resources and control perceptions, religiosity may foster engagement with work-related demands. Hypothesis 1, therefore, predicted that higher levels of religiosity are associated with higher levels of goal engagement in coping with work-related demands.

Religiosity and goal disengagement

Goal disengagement is contingent on the availability and accessibility of palliative cognitions, the perceived importance of the respective goal, and the availability of meaningful alternative goals (Brandtstädter & Rothermund, 2002; Wrosch, Scheier, Carver, & Schulz, 2003). Religiosity may influence these factors. First, religious belief is a prime example of a system of meaning that can help individuals identify benefits in challenging situations and allows for benign reattributions and reappraisals (e.g., Park, 2005; Sasaki & Kim, 2011). For example, individuals encountering stressful circumstances may feel reassured by the conviction that life ultimately unfolds

according to a larger plan of a benevolent God or the prospect of an afterlife. Such palliative cognitive content may also ease disengagement (see Brandtstädter & Rothermund, 2002).

Second, religious communities often encourage members to focus not on occupational attainments or material success, but on their inherent worth as unique persons, their service to others, or their spiritual qualities (Ellison & Levin, 1998). Evidence indeed suggests that Catholics, including Polish Catholics, place less emphasis on values of power (e.g., wealth, status), but endorse benevolence (e.g., forgiveness, helpfulness) and tradition (e.g., humbleness, devoutness) more strongly (Roccas & Schwartz, 1997). Moreover, religious individuals can focus on alternative goals, such as contributing to their faith community or developing a deeper relationship with God – a powerful type of goal that Emmons (2003, p. 102) termed *spiritual strivings*. In addition to serving as an end in itself, religion may imbue other goals (e.g., being a good parent) with sacred significance (*sanctification*; Emmons, 2003, p. 107). The availability of meaningful alternative goals is a key factor in determining whether disengagement is possible and turns out to be adaptive (Wrosch et al., 2003).

By providing palliative cognitive content, reducing the importance of work-related goals and providing alternative goals, religiosity may facilitate disengagement from futile struggles with work-related goals and demands. Hypothesis 2, therefore, predicted that higher religiosity is associated with higher goal disengagement in coping with work-related demands.

The moderating role of the economic opportunity structure

Thus far, we have argued that religiosity is associated with *both* higher engagement and disengagement. However, whether religiosity fosters engagement or disengagement may partly depend on the opportunities for goal striving provided by the social ecology. By social ecology, we mean the geographic region where an individual lives, which represents a relatively homogeneous economy and labor market.

In coping with work-related demands, the economic opportunity structure of the region is a key determinant of coping and coping effectiveness (Pinquart et al., 2009; Tomasik & Silbereisen, 2012).

Favorable economic conditions typically provide sufficient opportunities for engaging with work-related goals and demands, such as looking for a more secure job or investing in advanced training. It is especially under such conditions that individuals, given that they have adequate resources and feel that they have high levels of control, can be expected to engage with goals and demands (see Heckhausen et al., 2010). Hence, religiosity's potential to foster engagement with work-related goals and demands, by enhancing psychosocial resources and providing a sense of control, should be particularly relevant under favorable opportunities for goal striving.

Conversely, unfavorable economic conditions leave little opportunity for engagement and can pose significant contextual barriers that render further engagement with work-related goals and demands futile (Tomasik & Silbereisen, 2012). It is especially under such conditions that individuals, given that palliative cognitive content and alternative goals to pursue are available, can be expected to disengage from work-related goals that are temporarily blocked or no longer attainable (see Heckhausen et al., 2010). Hence, religiosity's ability to facilitate disengagement from work-related goals and demands by providing palliative cognitive content and meaningful alternative goals can be expected to be particularly salient under unfavorable opportunities; whereas, these functions should be less relevant under favorable opportunities.

Thus, religiosity may promote the coping response that, according to the congruence theorem in MTD intimated earlier, is most adaptive under the respective condition: fostering engagement with work-related demands, especially in the presence of respective economic opportunities; and facilitating disengagement, especially when opportunities are poor. Accordingly, we predicted that religiosity is more strongly related to engagement under favorable than under more unfavorable opportunities

(Hypothesis 3a) and more strongly related to disengagement under unfavorable than under favorable opportunities (Hypothesis 3b).

Method

Sample and procedure

Data came from the project “Sociological and psychological determinants of coping with rapid social changes” (PI: Jacek Wasilewski). In spring 2009, a professional survey institute conducted 3,078 standardized computer-assisted personal interviews with 16 to 46-year-old respondents from two Western Polish (Pomerania, Lower Silesia) and two Eastern Polish provinces (Lublin, Subcarpathia). To sample respondents, 600 addresses – stratified by community size, age, and gender – were randomly drawn from the registrar's office. Interviewers initially approached the target individuals at these addresses and, after conducting the interview or if the person was unavailable, recruited eligible individuals in the neighborhood following a random route procedure. In this manner, five interviews were conducted at each sampling point. Compared against official registry data, the sample represented the population in the age-bracket adequately in terms of age, gender, and household size, although unemployed individuals (14% vs. 10% in registry data) were slightly overrepresented.

Focusing on coping with work-related demands, our present analyses included only respondents who were actively participating in the labor market and excluded those still in education or outside of the labor market (e.g., students, housewives, people incapable of working due to a disability). Further, we excluded individuals below age 20 because work-related demands were measured as perceived changes over the last 5 years (see below); these demands and the corresponding developmental tasks are unlikely to be salient in childhood and early adolescence. The resulting subsample comprised $n = 2,089$ respondents aged 20 to 46 years ($M = 32.3$; $SD = 7.68$), of which 54.0% ($n = 1129$) were male (female: 45.6%, $n = 960$). Roughly half had completed

elementary or basic vocational education (47.1%; $n = 983$) and secondary or tertiary education (52.9%; $n = 1,106$). Most were employed (84.0%, $n = 1,755$), while 16.0% ($n = 334$) were unemployed according to the criteria of the International Labor Office, i.e., actively searching for work in the last four weeks and ready to begin working within two weeks.

Measures

Religiosity. Our theoretical focus in the present study was not on specific religious beliefs or practices, but rather on the motivational function of religiosity. In keeping with this focus, we used two items ($\alpha = .94$) from the Munich Motives for Religiosity Inventory (Grom, Hellmeister, & Zwingmann, 1998) to capture individuals' proclivity to draw on their faith for dealing with difficulties without suggesting a specific way in which religiosity is utilized (i.e., for engagement or disengagement). Both items ("My religious faith allows me to survive the most difficult situations"; "My religious faith gives me a sense of self-confidence") were rated on a 7-point Likert scale (1 = *does not apply* to 7 = *fully applies*). Mean endorsement of the scale was $M = 4.64$ ($SD = 1.63$).

Work-related demands. Work-related demands, the stressors to which the control strategies referred, were assessed with eight items ($\alpha = .91$), rated on a 7-point Likert scale (1 = *does not apply* to 7 = *fully applies*). Items asked respondents about perceived negative changes concerning work and occupation over the past five years (e.g., "When considering the past five years, it has become more difficult for me to plan my career path"; for a complete item list, see Lechner et al., 2013). The 5-year interval was chosen to represent a time-span in which significant change can occur while minimizing the risk of memory bias. Items were derived from a host of official statistics and current sociological literature, as well as extensive qualitative and quantitative pretests, and represent the individual-level manifestation of major trends of social change affecting the majority of the working-age population in Poland in recent years. Topics thus identified comprised growing uncertainty with regard to career planning, lack of job

opportunities, increased risk of job loss, having to work in atypical forms of employment, having to accept jobs below one's qualifications, and having to look for work abroad. Items administered to employed and unemployed respondents differed slightly in terms of wording (e.g., "The risk of losing my job // not finding a new job has increased"), but were equivalent in content. Studies conducted in Germany (e.g., Pinquart et al., 2009) and Poland (Lechner et al., 2013) confirmed the validity of this scale. Mean endorsement was $M = 4.21$ ($SD = 1.62$).

Control strategies. Drawing on a taxonomy defined by MTD (Heckhausen et al., 2010), we measured four generic control strategies that individuals may use to cope with these work-related demands. *Selective Primary Control* (SPC) refers to the active investment of time and effort in order to overcome a stressor (e.g., "I am prepared to make a major effort in order to find a good solution."). *Compensatory Primary Control* (CPC) describes the mobilization of external resources and support when the investment of one's own resources turns out to be insufficient (e.g., "If I get stuck, then I take advantage of all of the help that I can get to make progress."). Whereas the aforementioned two scales represent goal engagement, *Compensatory Secondary Control* (CSC) represents goal disengagement, two aspects of which we measured. The first, CSC I, refers to self-protective strategies, such as self-serving attributions in the case of failure (e.g., "If I can't handle these changes, then I search for reasons not to have to blame myself."); the second, CSC II, represents final distancing from barren commitments (e.g., "If I can't handle these changes at all, then I don't concern myself with them any longer."). Each strategy was measured by three items ($.76 < \alpha < .79$), rated on a 7-point Likert scale (1 = *does not apply* to 7 = *fully applies*), that were administered to participants immediately after the items assessing perceived work-related demands. The validity of the scale was demonstrated by several earlier studies on coping with social change in Poland and Germany (e.g., Pavlova & Silbereisen, 2013; Tomasik et al., 2013). A measurement model with the hypothesized four factors evinced

good fit ($\chi^2_{(48)} = 199.13, p < .001$; RMSEA = .038; SRMR = .024; CFI = .983; standardized factor loadings were all above .67).

Economic opportunity structure. As a parsimonious, yet powerful, indicator of the opportunities and constraints for coping with work-related demands of social change, we used the regional net migration rate (NMR), which relates rates of immigration and emigration to and from a region to the region's average population size. Studies on the determinants of net migration in economics (Cebula & Alexander, 2006; Rebhun & Raveh, 2006) demonstrated that NMR is a function of the regional differential of economic factors, such as per capita income, changes in unemployment rates, school expenditures, etc. In our own data, obtained from the Local Data Bank of the Central Statistical Office of Poland (GUS), the regional NMR was substantially correlated with the unemployment rate ($r = -.34, p < .01$), share of long-term unemployed (>1 year; $r = -.31, p < .01$), number of job offers per person ($r = .46, p < .001$), and investment outlays in enterprises per capita ($r = .23, p < .05$) in the preceding year, as well as the growth in the value of fixed assets in enterprises over the past five years ($r = .25, p < .05$). Accordingly, NMR can be used as a proxy to differentiate regions providing favorable opportunities to cope with work-related demands in an engaged fashion from regions offering fewer such opportunities (Tomasik & Silbereisen, 2012).

NMR was measured at the level of administrative districts (LAU-2 statistical units in the European Union's geocode standard), which constitute the broader social ecology relevant for development and represent an important territorial context in coping with work-related demands (Pinquart et al., 2009). Respondents came from 81 districts (average population: 103,848; average area: 974 square kilometers). For each district, NMR was calculated as the difference in the total number of registrations for permanent residence and departures, divided per 1,000 inhabitants; raw values ranged from -5.04 to 19.52 ($M = -.33$; $SD = 4.28$), where higher values reflect more favorable opportunities. For the purpose of the analyses, the indicator was z-standardized. As there is often a time lag between labor market conditions and changes in migration flows, we used the

2009 NMR, even though our individual data had only been gathered in the spring of that year; due to the high stability of the indicator, however, the results were virtually identical when using, for example, the five-year average NMR.

Sociodemographic controls. We controlled for age in years, gender (0 = female; 1 = male), educational attainment (0 = elementary/basic vocational; 1 = secondary/tertiary), and employment status (0 = unemployed; 1 = employed). Given their likely associations with both religiosity and control strategies, these variables may act as possible third variables that have to be adjusted for in order to exclude the possibility of spurious relationships.

Results

Because our research questions involved two levels of analysis, individuals and administrative districts, we used multilevel modeling in Mplus 7.11 (Muthén & Muthén, 2013) to test our hypotheses. Design effects reaching from 3.31 (intraclass correlation coefficient [*ICC*] = .09) for SPC to 3.93 (*ICC* = .11) for CSC I underscored the need for a multilevel approach for all four control strategies. The design effect quantifies the effect of independence violations on standard error estimates and is calculated by $1+(n_c-1)\times ICC$, where n_c is the average cluster size ($n_c = 26$ in our sample); values above 2.0 are considered indicative of non-trivial clustering in the data that should be met with multilevel modeling to avoid biased standard error estimates (Peugh, 2010, p. 92).

Building hierarchical models, we first regressed each control strategy on the group-mean centered level-1 predictors (religiosity and covariates) to test Hypotheses 1 and 2, with religiosity modeled as a random effect and all other variables as fixed effects (Model 1). We then added the NMR as a level-2 predictor and examined the Religiosity \times NMR cross-level interaction to test Hypotheses 3a and 3b (Model 2). Maximum likelihood estimation was used in all models.

Table 1
Zero-order Correlations Between Study Variables

Variables	1	2	3	4	5	6	7	8	9	10
1. Age	–									
2. Gender ^a	.010	–								
3. Employment ^b	.131***	-.063**	–							
4. Education ^c	-.116***	.139***	.121***	–						
5. Work-related demands	-.127***	-.006	-.362***	-.072**	–					
6. NMR	-.018	.010	.078***	-.065**	-.031	–				
7. Religiosity	.131***	.186***	.124***	-.048*	-.128***	.061**	–			
8. SPC	-.037	.015	.070**	.096***	.012	.018	.077***	–		
9. CPC	-.063**	.017	.043	.048*	.092***	.042	.095***	.899***	–	
10. CSCI	-.098***	-.017	-.033	-.139***	.224***	.112***	.105***	.148***	.370***	–
11. CSC II	-.080***	-.076***	-.046*	-.115***	.212***	.066**	.011	-.156***	.035	.722***

Note. ^a Female; reference = male. ^b Currently gainfully employed; reference = unemployed. ^c Secondary or tertiary education; reference = elementary or basic vocational education.

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

Table 2 shows the results of these models (for zero-order correlations, see Table 1). In line with Hypothesis 1, religiosity was significantly positively related to both aspects of goal engagement (SPC and CPC) above and beyond the effect of the covariates in Model 1. Religiosity was also significantly related to the self-protective component of disengagement (CSC I), but unrelated to goal-distancing (CSC II), yielding only partial support for Hypothesis 2. Specifically, more religious individuals reported using more active efforts in coping with the demands and using more self-protective strategies, but not more readily distancing themselves from goals and demands.

Hypothesis 3a maintained that religiosity is more strongly related to engagement under favorable than under unfavorable opportunities, and Hypothesis 3b predicted that religiosity is more strongly related to disengagement under unfavorable than under favorable opportunities. Significant Religiosity \times NMR cross-level interactions for both SPC and CPC indicated that religiosity was indeed more strongly associated with goal engagement under relatively favorable opportunities. We note that the respective random slopes of religiosity did not have significant level-2 variance, and the likelihood ratio tests comparing Model 2 with the level-2 predictor and interaction did not fit better than Model 1 ($\Delta \chi^2(2) = 4.85, p = .09$, for SPC; $\Delta \chi^2(2) = 5.14, p = .08$, for CPC). However, as Snijders and Bosker (2011, p. 106) convincingly argued, researchers should, in such cases, focus on the significance test of the interaction effect, not the variance component, because the probability of a type-1 error is known (.05); whereas, that of a type-2 error is unknown and can be quite high due to a lack of power. Hence, we tentatively concluded that Hypothesis 3a was supported.

Contrary to Hypothesis 3b, no significant Religiosity \times NMR interaction emerged for CSC I. The interaction was, however, significant in regard to CSC II, indicating that religiosity was more strongly related to goal-distancing under unfavorable opportunities. A likelihood ratio test comparing Model 2 against Model 1 showed that Model 2 fit the data better than the more parsimonious model ($\Delta \chi^2(2) = 7.43, p < .05$). Thus, Hypothesis 3b was partly confirmed.

Table 2

Multilevel Models Predicting Goal Engagement and Goal Disengagement Control Strategies

	SPC		CPC		CSC I		CSC II	
	M1	M2	M1	M2	M1	M2	M1	M2
<i>Fixed effects</i>								
Intercept	5.425***	5.426***	5.212***	5.213***	4.228***	4.232***	3.926***	3.928***
Religiosity	.036*	.037**	.044**	.045**	.056**	.056**	.012	.011
NMR		.011		.034		.116*		.076
Religiosity × NMR		.032*		.032*		.001		-.041*
Work-related demands	.032*	.031*	.082***	.082**	.167***	.167***	.144***	.143***
Age	-.004	-.004	-.006*	-.006*	-.011***	-.011***	-.007**	-.007*
Gender ^a	-.009	-.008	-.007	-.005	-.050	-.050	-.146**	-.147**
Employment ^b	.127**	.129**	.124*	.126*	.073	.073	.056	.054
Education ^c	.200***	.200***	.141**	.142**	-.179***	-.179***	-.187***	-.187***
<i>Random parameters</i>								
L1 Residual	.727***	.727***	.811***	.811***	.987***	.987***	.936***	.936***
Intercept	.074***	.074***	.089***	.087***	.135***	.135***	.133***	.127***
Religiosity (slope)	.001	.001	.001	.001	.009*	.009*	.009*	.008*
covariance w/ intercept	-.006	-.007	-.003	-.005	-.008	-.008	.004	.006
Estimated parameters	11	13	11	13	11	13	11	13
Deviance	5373.427	5368.581	5604.638	5599.501	6054.084	6047.529	5946.497	5939.065
Akaike Information Criterion (AIC)	5395.427	5394.581	5626.638	5625.501	6076.084	6073.529	5968.497	5965.065

Note. Cell values are unstandardized regression coefficients. M1, M2 refer to Model 1 and 2.

^a Female; reference = male. ^b Currently gainfully employed; reference = unemployed. ^c Secondary or tertiary education; reference = elementary or basic vocational.

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

To more closely examine this pattern of interactions, we computed model-implied simple slopes of the regression of the control strategies on religiosity at the minimum, mean, and maximum *z*-values of NMR using Kristopher Preacher's online tools (available at <http://www.quantpsy.org/interact/index.html>). As Figure 1 shows, religiosity was more strongly related to both engagement strategies under favorable (NMR = Max) than under average (NMR = mean) or unfavorable (NMR = Min) opportunities. Furthermore, religiosity was positively related to goal-distancing under unfavorable opportunities, but unrelated under average opportunities and even inversely (although only marginally significantly so, $p = .06$) related to goal-distancing under favorable opportunities. Thus, the results were largely in line with expectations, even though we had not expected the association between religiosity and goal-distancing to even turn negative under favorable opportunities.

Regarding the covariates, higher perceived demands predicted higher engagement and disengagement, reflecting the fact that higher stressor exposure prompts higher coping activities overall (e.g., Tomasik et al., 2013). Higher education and employment were related to higher engagement and lower disengagement, and higher education was also related to lower disengagement. Given our focus on the interplay between religiosity and opportunity structure, we had no hypothesis concerning NMR's possible main effects, and only one was significant: Higher economic opportunities were related to higher self-protection. Finally, we obtained pseudo- R^2 as a global effect size measure by squaring the correlation between observed and predicted scores from Model 2 (Peugh, 2010, p. 97). Pseudo- R^2 was .15 for SPC, .16 for CPC, .24 for CSC I, and .23 for CSC II.

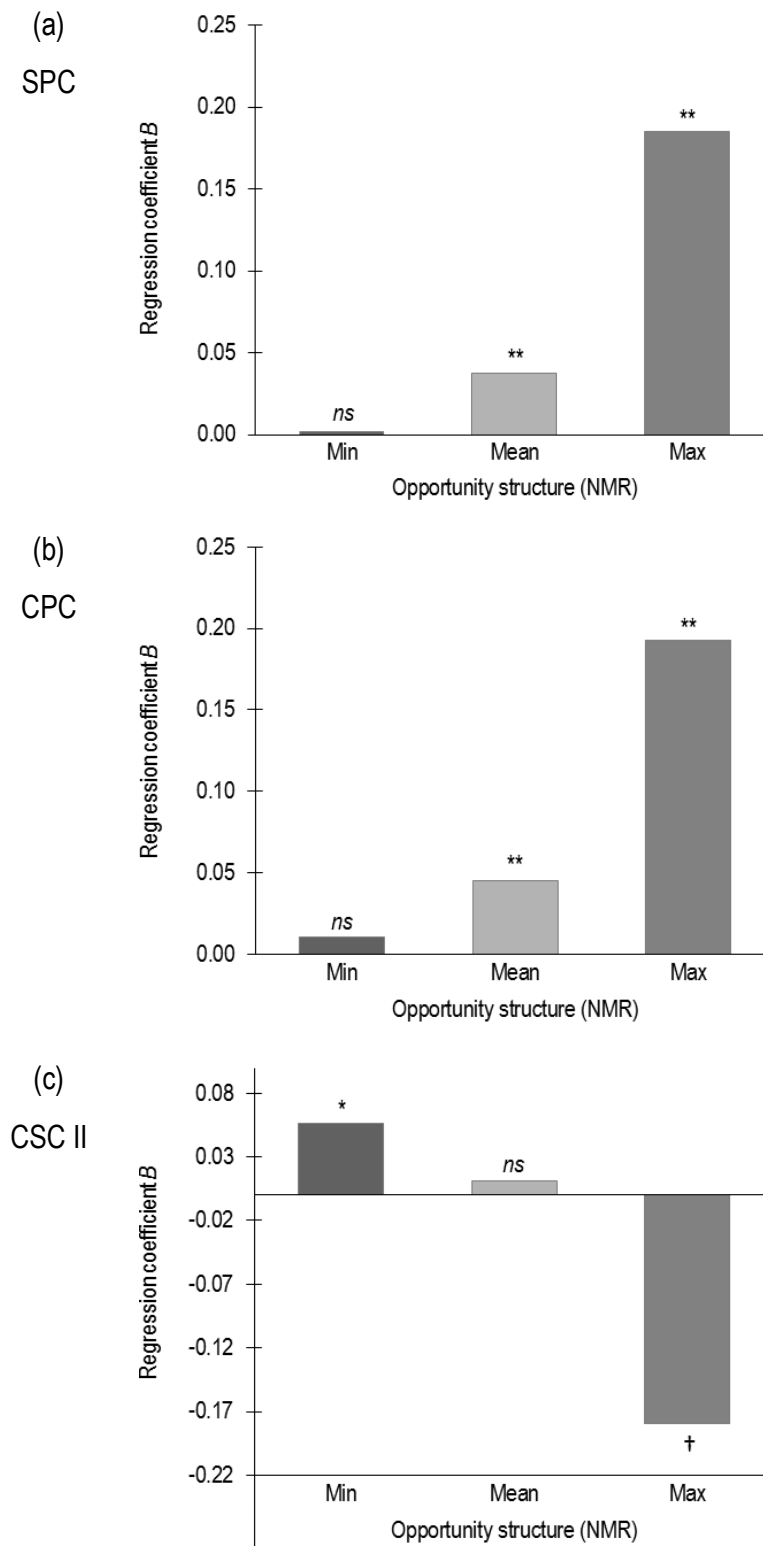


Figure 1. Strength of the association between religiosity and SPC (a), CPC (b), and CSC II (c) under varying opportunity structures. The full range of observed values of NMR is shown.

† $p < .10$. * $p < .05$. ** $p < .01$.

Discussion

The present study aimed to elucidate the role of religiosity in coping with new work-related demands that arise from current social change and confront a growing part of the working-age population in industrialized nations (Tomasik & Silbereisen, 2009; see also Kalleberg, 2009). Against the backdrop of the literature on psychological functions and correlates of religion, we hypothesized that religiosity expands individuals' capacities for both goal engagement and disengagement control strategies as conceived in MTD (Heckhausen et al., 2010). However, we proposed that the associations between religiosity and these control strategies vary according to the economic opportunity structure in the social ecology (as indicated by the regional net migration rate), with religiosity fostering engagement with work-related demands, especially in the presence of opportunities for goal striving, and facilitating disengagement, especially when opportunities for goal striving are poor.

The results were largely in line with these predictions. Even after controlling for an array of sociodemographic variables, religiosity was positively associated with both of the aspects of goal engagement that we assessed: selective primary control (i.e., investing time and effort) and compensatory primary control (i.e., recruiting external support when one's own resources do not suffice). As predicted, these associations were stronger under relatively favorable than under unfavorable economic opportunities. Religiosity was also positively associated with the self-protection aspect of disengagement (i.e., strategies to protect motivation and self-esteem, such as self-serving reattributions); however, this association was independent of the opportunity structure. Contrary to expectations, religiosity was related to higher goal-distancing only under unfavorable opportunities; whereas, it was even negatively related to goal-distancing under favorable opportunities (although not significantly so).

This pattern of findings broadly supported our novel idea that part of religiosity's salutary potential in coping with work-related demands (Lechner et al., 2013), and

perhaps life stress more generally (Smith, McCullough, & Poll, 2003), may stem from its ability to foster engagement and disengagement in a way that is congruent with the opportunities provided by the social ecology. Overall, the picture that emerges from our analyses suggests that religiosity acts as a form of empowerment, encouraging opportunity-congruent engagement with work-related goals and demands, and helping individuals protect their self-esteem and motivational potential when stressors threaten to overtax their resources – but not leading them to distance themselves from goals and demands more readily. Only under the most unfavorable opportunities did religiosity predict higher goal-distancing, which is likely to be adaptive (Tomasik & Silbereisen, 2012).

With zero-order correlations of around $r = .10$, the associations between religiosity and control strategies were smaller than those between religion and coping strategies reported in studies on health-related stressors, corroborating the idea that religion's role is most significant in coping with existential stressors. For example, Biegler et al. (2012), reported a correlation of $r = .43$ between religiosity and engagement in men awaiting surgery for genitourinary cancer, and Umezawa et al. (2012) a correlation of $r = .32$ between belief in divine control and positive reframing in women with breast cancer. To put this into perspective, however, the associations that we found were exactly the size of the relationship between religiosity and mental health that has received much attention in recent years ($r = -.096$ in the meta-analysis by Smith et al., 2003). Moreover, even small associations can produce important differences in developmental outcomes over time (see Rosenthal, 1990).

Limitations and future directions

Several limitations of our study bear mentioning. First and foremost, its correlational nature precludes any causal interpretation of the associations. Although it seems unlikely that using certain coping strategies would predispose individuals to score higher on a dispositional measure of religiosity, rather than religiosity promoting

these strategies, longitudinal research is needed to better establish the directionality of effects.

Second, although Poland is a particularly valuable case for studying the intersection of religiosity and coping with work-related demands due to the rapid and profound labor market changes, and the high level of religiosity of the Polish population compared to other industrialized nations, it also is a *special* case given the high level of religiosity and religious homogeneity of its population (95% of Poles are Catholic, and 53% engage in religious practices on a regular basis; Zarzycka, 2008). Differences in theological messages and religious practices between religious denominations, and even between the same denomination in different national contexts, might result in differential relationships between religiosity and coping strategies in these denominations (Sasaki & Kim, 2011). An important goal for future research is, therefore, to establish to what degree our findings generalize to other denominations and national contexts.

Third, although the present study deliberately used a functional measure of religiosity to capture its motivational properties, substantive measures may yield interesting further insights. For example, different religious orientations (e.g., extrinsic vs. intrinsic) and ways of viewing God's role in problem-solving (e.g., a deferring approach, hoping for divine intervention vs. a self-directive approach, conceiving of God as a distant figure who does not intervene) might bear differential associations with goal engagement and disengagement (see Pargament & Park, 1995). Future research could establish whether different forms of religiosity relate differently to coping strategies.

Conclusion

Our study contributes to the literature by addressing the hitherto understudied role of religiosity in developmental regulation in the face of social change. Contrary to stereotypical views of religion as leading individuals into passivity or denial, our study

suggests that religiosity fosters an opportunity-congruent pattern of engagement and disengagement that is likely to be adaptive. Thus, rather than asking whether religiosity encourages engagement *or* disengagement, researchers might be advised to examine under what conditions religiosity fosters which type of coping activity.

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Study 3:

Religiosity Reduces Family-related Uncertainties but Exacerbates Their Association With Distress

Note. This study has recently been published as:

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Abstract

The present study investigated the role of religiosity in dealing with family-related uncertainties (e.g., uncertainty concerning fertility decisions or the stability of family relationships) that arise from current social change in industrialized nations. We hypothesized that religiosity, because it is a central source of family values and norms, reduces individuals' perceived load of family-related uncertainties. At the same time, because perceiving family-related uncertainties may conflict with religious values and norms concerning the family, we expected that religiosity exacerbates the association of these uncertainties with psychological distress. Structural equation modeling (SEM) with latent interactions in a sample of $N = 2,571$ Polish adolescents and adults aged 20 to 46 years supported these predictions. Although modest in magnitude, these associations held after controlling for potential sociodemographic confounders. Our study reveals the complex role of religiosity in dealing with family-related uncertainties and underscores the importance of attending to potential downsides of this otherwise beneficial resource.

Across the globe, recent years have witnessed marked change in family life. Trends such as increasing divorce rates, the spread of nontraditional family forms, declining fertility rates, a weakening of familial bonds, and shifts in familial roles are part and parcel of social change in industrialized societies (Georgas, 2006). As a consequence, individuals today face growing uncertainties concerning family-related developmental tasks such as partnership formation, fertility decisions, or the maintenance of intergenerational bonds (Pinquart, Silbereisen, & Körner, 2010). Such family-related uncertainties may negatively affect individuals' relationship quality and well-being (Pinquart & Fabel, 2009; Pinquart et al., 2010; see also Knobloch, 2008).

Given that many of the above cultural and demographic changes, such as increasing divorce rates, out-of wedlock births, or childless households, are at odds with traditional Christian family ideologies (Wilcox, Chaves, & Franz, 2004), what role may religiosity play in dealing with these uncertainties? Burgeoning evidence suggests a complex role of religiosity. On the one hand, religion is a central source of family values and norms that is associated with a lower incidence of certain stressful risks in family life (e.g., divorce, abuse, infidelity) (Mahoney, 2010); on the other hand, there is some evidence that religiosity can exacerbate family-related stressors when they do occur (Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998). However, this investigative line has largely focused on discrete life events such as divorce or abuse and has not directly addressed the intersection of social change in the realm of family life and religiosity. Using data from Poland, the present study addressed this gap by investigating the interplay of perceived family-related uncertainties arising from social change, religiosity, and psychological distress. We expected that religiosity reduces family-related uncertainties but exacerbates their association with distress. Below, we discuss the most important trends of family change in Poland before outlining the rationale for these hypotheses.

Social Change and the Family: The Case of Poland

The family plays a central role in Polish people's value system (Bojar, 2005; Ciecuch, 2007). The significance of traditional family values in Poland is deeply rooted in Polish Catholicism, to which 95% of Poles subscribe (CBOS, 2009). For many Poles, faith is an important source of family values, and the Catholic Church acts as a strong promoter of traditional family values and norms (Ciecuch, 2007; Sabatier, Mayer, Friedlmeier, Lubiewska, & Trommsdorff, 2011); in turn, the family is the primary institution for the transmission of religious values (Bojar, 2005). Thus, family and religion are closely interwoven institutions.

Despite much continuity in religiously cherished family values and the traditional family model (e.g., high significance of marriage, low divorce rate, low incidence of extramarital childbirth), Poland has in recent years witnessed substantial change in family life that strongly resembles trends observed in other industrialized societies. The pace of change was, however, particularly rapid because more general trends of globalization and modernization have intertwined with radical political changes such as Poland's shift from a command economy to a free market economy or the integration into the European Union (Ornacka & Szczepaniak-Wiecha, 2005). Mainly in response to increasing labor market insecurity, one could observe a postponement of marriage and parenthood, with the mean age at first marriage increasing from 22.8 to 24.7 for females and 25.1 to 26.7 years for males between 1989 and 2004 and the mean age at first birth increasing from 23.3 years in 1989 to 25.6 years in 2005 (Kotowska, Józwiak, Matysiak, & Baranowska, 2008). Concomitantly, total fertility rates dropped from 2.1 in 1989 to 1.27 in 2007 (Mishtal, 2009). The incidence of informal cohabitation increased from 12% of all newly formed unions in the early nineties to almost 30% between 2004 and 2006 (Matysiak, 2009). Widespread labor migration rendered family planning more difficult and family relations less reliable; the number of Poles working abroad for at least two months within the last year tripled to 540,000 between 2004 and 2007 (Kaczmarczyk &

Okólski, 2008). The number of separations, a legal alternative to divorce introduced in 1999, increased from 1,300 to 11,600 between 2000 and 2005, and the total divorce rate rose from 16% in 1997 to 23% in 2005 (Kotowska et al., 2008). As regards intergenerational relations and kinship ties, qualitative research suggests that the relevance of parents' experiences and values for their adult children is waning due to the rapidly changing economic and technological environment (Bojar, 2005), and the average number of family members to which Poles have close and amicable contacts dropped from 7.90 in 1999 to 6.65 in 2007 (CBOS, 2008). At the same time, youth are often financially long-term dependent on their parents, as evidenced by a late departure from the parental home due to material difficulties (in 2008, 55% of Polish adults aged 18-34 still lived in their parents' home, one of the highest numbers in Europe; Choroszewicz & Wolff, 2010).

According to recent psychological theorizing (Pinquart & Silbereisen, 2004; Tomasik & Silbereisen, 2009), the prime way in which such macrolevel societal changes affect individuals in their everyday lives is by giving rise to growing uncertainties concerning important goals and developmental tasks in the realm of family life. For example, individuals may perceive their partnerships are less stable, mirroring the increasing divorce rates, and they may perceive increasing ambivalence about having a child, reflecting the postponement of childbearing observed at the macrolevel; likewise, individuals may perceive their parents' experiences as providing less direction in life, reflecting the individualization and pluralization of the society. Such perceived *family-related uncertainties* have been shown to be potent stressors that may produce distress (Pinquart et al., 2010; see also Knobloch, 2008). Not only is uncertainty generally an aversive state (Greco & Roger, 2003), but perceived uncertainties may overtax individuals' adaptive capacities and thus hinder the successful mastery of family-related developmental tasks of the transition to adulthood, such as leaving the parental home, union formation, or entry into parenthood (e.g., Buchmann & Kriesi, 2011; Pinquart & Fabel, 2009).

The Role of Religiosity in Dealing with Family-related Uncertainties

Given the close linkage between religion and family, what role may religiosity play in dealing with these family-related uncertainties? Previous research points to a complex role of religiosity in coping with family-related stressors. On the one hand, religiosity is associated with a lower exposure to certain family stressors. Studies have found, for example, that more frequent church attendance is associated with lower marital conflict, a lower risk of divorce, and less frequent domestic violence and child physical abuse (Mahoney, 2010). An explanation for these stress-deterrent effects lies in the value system held by religious communities. Many religious traditions offer a large and diverse system of theological messages, beliefs, and practices pertaining to the family. The teachings of the Catholic Church, for example, abound with prescriptions regarding diverse aspects of family life such as spousal roles, childrearing, relationships to parents including filial obligations and assistance to family members (Onedera, 2008). Not surprisingly, religious individuals have a higher family orientation and endorse traditional family values more strongly than their less-religious counterparts, especially in highly religious cultures (Sabatier et al., 2011). For many, the family even takes on a sacred quality, a phenomenon termed *sanctification* (Mahoney & Tarakeshwar, 2005; Mahoney, 2010).

On the other hand, researchers have cautioned that the very same religiously cherished family values and norms, although often shielding individuals from family-related stressors, might actually be a source of heightened distress when such stressors eventually do occur (e.g., Mahoney, 2010; Strawbridge, Shema, Cohen, Roberts, & Kaplan, 1998). Indeed, there is some evidence – albeit still scarce and largely limited to samples of U.S. Protestants – that religiosity can exacerbate the impact of family-related stressors. Strawbridge et al. (1998) found that although religiosity buffered the impact of several non-family life-events on depression, it exacerbated the effect of family-related

life-events such as marital problems or abuse. Brown, Caldwell, and Antonucci (2008) found that among African American grandmothers, mother-daughter conflict was associated with higher depressive symptoms for highly religious but not for less-religious individuals. Sullivan (2001) reported that higher religiosity was related to lower marital satisfaction of newlywed couples if husbands were emotionally fragile and negative (which possibly led to heightened marital conflict). An explanation for such findings is that stressors such as conflicts within families, or divorce, violate family-related values and norms in individuals who closely identify with their religious faith and a religious community endorsing these values and norms. This spiritual conflict, in turn, adds to the distress caused by the stressors themselves. To the extent that religious meaning systems provide fundamental assumptions about appropriate, "God-given" family values and processes, circumstances that violate these assumptions may be especially stressful for highly religious individuals because they experience feelings of shame and (spiritual) guilt and perceive a sacred loss and desecration (Mahoney & Tarakeshwar, 2005, p. 187; Strawbridge et al., 1998). Thus, the same characteristics of religiosity that partially shield religious individuals from exposure to family-related stressors can turn out to be problematic when such stressors eventually do occur.

The Present Study

Against the above evidence on the role of religiosity in dealing with discrete family stressors, the goal of the present study was to test if this complex role also pertains to dealing with the more subjective family-related uncertainties that arise from current social change in Poland. The first two hypotheses of our study prepared the ground for our focal hypotheses. Hypothesis 1 predicted that family-related uncertainties are associated with higher psychological distress, as has previously been found in Germany (Pinquart et al., 2010). Hypothesis 2 predicted that religiosity is associated with lower

distress, a well-established relationship that is typically stronger in more religious countries (e.g., Diener, Tay, & Myers, 2011; Smith, McCullough, & Poll, 2003).

Our focal hypotheses concerned the possible stress-deterrent and stress-exacerbating effects of religiosity. We expected that religion, by promoting religiously imbued traditional family values and norms, shields believers from the increasing uncertainties that arise from current societal trends such as pluralization or individualization. To the extent that individuals identify themselves with their religious faith and their religious community, they may have internalized a set of clear values and norms regarding family matters. These values and norms should provide clear guidance in family-related matters and guard individuals against the experience of family-related uncertainties. Hypothesis 3, therefore, predicted that religiosity is associated with fewer perceived family-related uncertainties.

Conversely, religiosity may make feelings of uncertainty concerning the stability of one's partnership, uncertainty regarding one's relationship to parents, or ambivalence about having a child harder to bear. Inasmuch as they conflict with traditional family values and norms promoted by Catholic faith communities (see Onedera, 2008; Wilcox et al., 2004), perceiving such uncertainties may prompt feelings of not living up to their cherished values and norms in highly religious individuals, further aggravating the distress associated with these uncertainties. Hypothesis 4, therefore, predicted that religiosity exacerbates the association between family-related uncertainties and distress.

Method

Sample and procedure

Data came from a Polish large-scale multi-theme survey on adult development and adjustment in times of social change ("Sociological and psychological determinants of coping with rapid social changes"; J. Wasilewski, Principal Investigator). Throughout spring 2009, trained interviewers from a professional survey institute conducted 3,078

standardized computer-assisted personal interviews with 16- to 46-year-old respondents from two West Polish (Pomerania, Lower Silesia) and two East Polish provinces (Lublin, Subcarpathia). To focus on an age range in which major family-related developmental tasks, such as leaving the parental home, union formation, and childbearing, are negotiated (Buchmann & Kriesi, 2011), we only included adults aged 20 and older ($N = 2,571$) in our present analyses because these developmental tasks and the corresponding family-related uncertainties we were interested in are not yet likely to be salient enough in adolescence.

To recruit respondents, addresses of 600 target individuals – stratified by community size, age, and gender – were drawn from the Universal Electronic System for Registration of the Population (PESEL) of the Polish Ministry of the Interior and Administration. Interviewers initially approached the target individuals at these addresses and, after conducting the interview or if the person was unavailable, recruited eligible individuals in the neighborhood following a random route procedure. This procedure consisted in visiting the household located to the right of the one they had just left until encountering a person who met the selection criteria. In this manner, five interviews were conducted at each sampling point. Compared against official registry data of the Polish Central Statistical Office, the sample represented the population in the respective age-bracket adequately in terms of age, gender, and household size, although unemployed individuals (14% vs. 10% in registry data) were slightly overrepresented.

Measures

Table 1 provides descriptive information and the bivariate correlations for all variables described in detail below.

Religiosity. Consistent with the reasoning behind our hypotheses, we used *religious identification* as a measure of religiosity. Because religious practice such as church attendance is highly normative in Poland, where around 50% of the population attend

church at least weekly (CBOS, 2009), measures of religious practice would be less informative as to whether individuals have actually incorporated religious teachings concerning the family into their value system (Ornacka & Szczepaniak-Wiecha, 2005). We measured two aspects of religious identification. One assessed religious self-identification by asking individuals to indicate their “attitude towards religion” on a four-point ordinal scale (1 = *non-believer* to 4 = *deep believer*); the other assessed identification with the religious community by asking individuals to indicate, on a 5-point Likert scale, how close they felt to their “religious community” (1 = *not at all* to 5 = *very much*). The latter item has been used as an indicator of religious social identity in a prior study in which religious social identity mediated the effect of religious attendance on well-being (Greenfield & Marks, 2007).

Family-related uncertainties. We used a seven-item scale ($\alpha = .71$) asking respondents about perceived negative changes concerning partnership and family relations over the last few years (Tomasik & Silbereisen, 2009) to assess family-related uncertainties. Interviewers first read the following introduction: “We are living in a period of rapid change. Globalization, new technologies, and other developments modify our everyday life in a variety of ways. Many of these changes have both positive and negative aspects.” Participants were then prompted to “consider the past five years” and asked to rate each of the following uncertainty items on a 7-point Likert scale (1 = *does not apply at all* to 7 = *fully applies*): “I now have to take more things into account when it comes to decisions concerning the relationship with my partner or family”; “It is more difficult to decide, given my present life circumstances, whether I want to have a(nother) child or not”; “It is now more likely that my partner could leave me”; “It is now more likely that my spouse/partner could leave for work abroad”; “The knowledge and experiences of my parents now provide less sense of direction in my life”; “It is more likely that I now have to reckon with being or once again becoming financially long-term dependent on my parents”; and “My personal contacts are now less reliable.” These items were devised to capture the psychologically effective

individual-level manifestations of the most significant macrolevel changes in the realm of family life in Poland in recent years (intimated earlier in the section on family-related uncertainties). These changes were identified by screening a host of official statistics and current demographic research, as well as through extensive qualitative and quantitative pretests. The 5-year interval was chosen because it represents a time-span in which significant change can happen while minimizing the risk of memory bias. Following Tomasik and Silbereisen (2009), we formed a composite index of the “load” of family-related uncertainties by summing the number of items each individual had highly endorsed (scores 6 or 7). We did this in order to obtain a measure similar to a critical life event scale, where it is typically an *accumulation* of severe stressors that has a negative impact on adaptation (Sameroff, 2000). Note, however, that our analyses yielded the same substantive conclusions when using the mean score instead.

Psychological distress. We used three indicators of distress: Depressive symptoms, anxiety, and lack of self-esteem. Items in each of these three scales were rated on a 7-point Likert scale (1 = *does not apply* to 7 = *fully applies*). Each scale was one-dimensional and had good internal consistency ($.84 \leq \alpha \leq .91$). *Depressive symptoms* were measured with a Polish adaptation of the Depressive Symptoms Scale from the Brief Symptom Inventory (Derogatis, 1993) which asks respondents whether they suffered from the following six depressive symptoms within the past month: feeling hopeless, worthless, blue, or lonely; feeling no interest in things; having thoughts of suicide. *Anxiety* was measured by five items from a Polish adaptation of the Spielberger state-trait anxiety inventory (Wrześniewski, Sosnowski, & Matusik, 2002): “I worry about possible misfortune”; “I worry about things that do not really matter”; “I lack self-confidence”; “I feel that difficulties are piling up so I cannot overcome them”; “I get in a state of tension or turmoil over recent concerns and interests”). *Lack of self-esteem* was measured with five selected items from a Polish adaptation of the Rosenberg self-esteem scale (Dzwonkowska, Lachowicz-Tabaczek, & Łaguna, 2008). Participants rated the following statements: “I think I am no good at all”; “I feel I do not have much to be proud of”; “I

certainly feel useless at times”; “I wish I could have more respect for myself”; and “All in all, I am inclined to feel that I am a failure.”

Control variables. To exclude the possibility of spurious relationships, we controlled for sociodemographic factors that were associated with religiosity, family-related uncertainties, and measures of distress in various earlier studies and in our own dataset: Age in years, gender (0 = male, 1 = female), educational attainment (0 = elementary or basic vocational; 1 = secondary or post-secondary), partnership status (two dummy variables for married and steady relationship but unmarried vs. single), employment status (1 = unemployed, 0 = employed, student or other), and community size (1 = more than 10,000 inhabitants, 0 = below 10,000 inhabitants).

Statistical analyses

We used structural equation modeling (SEM) in Mplus 7 (Muthén & Muthén, 2013) to test our hypotheses, which allowed us to form latent variables that have better reliabilities and more normal distributions than the manifest indicators and are measured on a continuous scale (Kline, 2010). We formed three latent variables: Religious identification was measured by identification with religious faith and religious community (standardized factor loadings: .72 and .67). Distress was measured by anxiety (.90), lack of self-esteem (.90), and depressive symptoms (.54); we used the mean of each scale as a manifest indicator. The two indicators of religiosity were highly correlated and had very similar associations to the other variables of interest (see Table 1), supporting the decision to combine them into latent variables; the same was true for the three indicators of distress. Family-related uncertainties were included as a single-indicator latent variable; we used Cronbach’s alpha of the raw sum scale ($\alpha = .71$) as an estimate of its unreliability and, accordingly, fixed the error variance to .29 times the variance of the manifest indicator. Following Kline’s (2010, p. 230) recommendations, we checked whether using lower (.20) and higher (.40) estimates of measurement error would alter the results, which was not the case. Information on religious community

identification was missing for 184 individuals; these individuals did not differ from the rest of the sample in terms of age ($t_{(2,569)} = 1.04$, *ns*), gender ($t_{(2,569)} = .06$, *ns*), education ($t_{(2,569)} = 1.79$, *ns*), employment status ($t_{(2,569)} = -1.46$, *ns*), or place of residence ($t_{(2,569)} = -.60$, *ns*), although they were more often married ($t_{(2,569)} = -2.54$, $p < .05$). Missings were handled using the full information maximum likelihood (FIML) approach.

We computed three hierarchical models: Model A, containing only the focal variables, was used to evaluate Hypotheses 1-3. In Model B, we added covariates and checked whether this affected any of the associations between the focal variables. In Model C, we added the latent interaction between family-related uncertainties and religious identification as a predictor of distress to test Hypothesis 4. We followed the latent moderated structural equations (LMS) approach (Klein & Moosbrugger, 2000) implemented in Mplus. In contrast to conventional moderated regression analyses, LMS allow correcting for measurement error and yield unbiased estimates of interaction effects between latent variables. All analyses used the MLR estimator that corrects test statistics and standard errors for non-normality.

Because traditional χ^2 -statistics are sensitive to sample size, we also employed the comparative fit index (CFI), standardized root mean square residual (SRMR), and root mean square error of approximation (RMSEA) to evaluate fit of our linear SEM, considering model fit acceptable for models with CFI > .90, RMSEA < .06, and SRMR < .09 (Kline, 2010). As conventional fit indices are insensitive to nonlinear misspecifications, they cannot be used to test the fit of models that include latent interactions (Mooijaart & Satorra, 2009). Hence, we reported fit indices for the linear SEM without the interaction and used the significance test of the latent interaction to compare the model with and without the interaction.

Table 1
Sample Means / Proportions and Zero-order Correlations of the Study Variables

Variables:	M (SD) or proportion	1	2	3	4	5	6	7	8	9	10	11	12
1. Age	32.01 (7.84)	–											
2. Gender = female ^a	.50	.01	–										
3. Educational attainment = higher ^b	.53	-.17***	.13***	–									
4. Employment status = unemployed ^c	.15	-.09***	-.03	-.08***	–								
5. Partnership status = married ^d	.57	.44***	.13***	-.04*	-.18***	–							
6. Partnership status = steady partnership ^d	.19	-.32***	-.08***	.05**	.12***	-.57***	–						
7. Community size = above 10,000 ^e	.50	.01	-.01	.11***	.05*	-.09***	.11***	–					
8. Family-related uncertainties	1.36 (1.52)	-.07**	.07***	.02	.09***	-.03	.10***	.06**	–				
9. Religious self-identification	2.99 (.52)	.10***	.12**	-.06**	-.09***	.13***	-.12***	-.11***	-.12***	–			
10. Identification w/ religious community	3.21 (1.06)	.08***	.13***	-.06**	-.12***	.16***	-.13***	-.15***	-.11***	.48***	–		
11. Anxiety	3.33 (1.41)	.09***	.10***	-.08***	.14***	-.05**	.06**	.05**	.20***	-.16***	-.18***	–	
12. Depressive symptoms	2.21 (1.28)	.02	.03	-.08***	.12***	-.11***	.08***	.07***	.17***	-.16***	-.19***	.81***	–
13. Lack of self-esteem	3.03 (1.40)	.07***	.09***	-.12***	.13***	-.13***	.01	.10***	.13***	-.11***	-.07**	.48***	.49***

Note. ^a Reference = male. ^b Secondary or tertiary; reference = elementary or basic vocational. ^c Reference = gainfully employed. ^d Reference = single. ^e Above 10,000 inhabitants; reference = below 10,000 inhabitants.

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

Results

Table 2 shows coefficients and standard errors for the paths from religious identification and covariates to family-related uncertainties. Table 3 provides the same information for the paths from family-related uncertainties, religious identification, and covariates to distress. Fit indices of our models with and without covariates suggested good fit of both Model A, the model without covariates ($\chi^2_{(7)} = 14.82, p < .05; CFI = 1.00; RMSEA = .021, 90\% C.I. = .005 - .036; SRMR = .01$), and acceptable fit of Model B including the covariates ($\chi^2_{(28)} = 212.80, p < .001; CFI = .96; RMSEA = .051, 90\% C.I. = .044 - .057; SRMR = .02$). In the following, we discuss results of these SEM in the order of our hypotheses.

Family-related uncertainties, religiosity, and psychological distress

Hypothesis 1 posited that a higher load of family-related uncertainties is related to higher distress. As shown in Table 3 (Model A), there was a significant positive path from family-related uncertainties to distress that remained significant even after controlling for all covariates in Model B. Thus, Hypothesis 1 was confirmed.

Hypothesis 2 predicted that religiosity is related to lower distress. In line with this hypothesis, there was a significant negative path from religious identification to distress (Model A, Table 3). Again, this association remained unchanged after adding covariates in Model B.

Stress-deterrent and stress-exacerbating effects of religiosity

Hypothesis 3 maintained that religiosity is associated with a lower load of perceived family-related uncertainties (stress-deterrent hypothesis). As expected, higher religious identification was negatively associated with the load of perceived family-related uncertainties (Table 2, Model A). This relationship remained virtually identical in size after adding the covariates in Model B.

To test Hypothesis 4 (stress-exacerbating hypothesis), we tested the latent interaction of religious identification \times family-related uncertainties (Table 3, Model C). The interaction was significant and in the expected direction, evincing the expected stress-exacerbating effect of religiosity in relation to family-related uncertainties. Figure 1 illustrates this pattern. Family-related uncertainties had a substantial association with distress at higher (+1 *SD*) levels of religious identification ($\beta = .31, p < .001$) but a much weaker association at lower (-1 *SD*) levels ($\beta = .10, p < .05$). However, it must be noted that due to the strong main effect of religious identification, individuals with higher (+1 *SD*) religious identification still had lower distress at +1 *SD* above the mean of family-related uncertainties than individuals with lower (-1 *SD*) religious identification. The estimated crossing point of the model-implied regression lines for these two levels of religious identification was at +2.2 *SD* above the mean of family-related uncertainties, a value that only very few participants in the sample actually achieved.

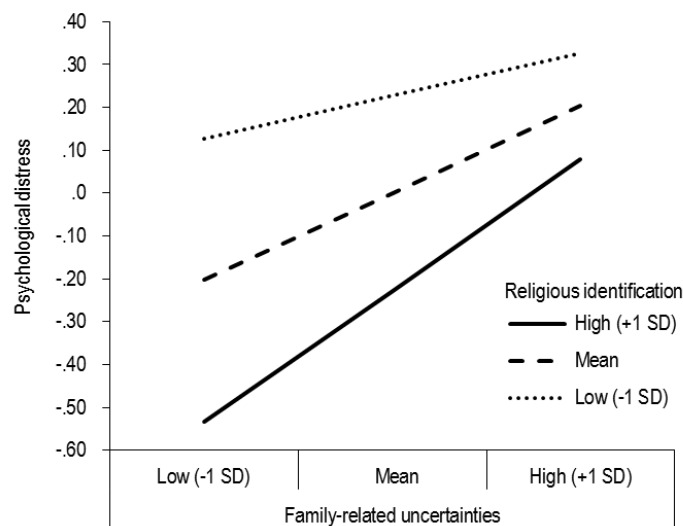


Figure 1. Strength of the association between family-related uncertainties and psychological distress at varying levels of religious identification (model-implied regression lines).

Table 2
Results of SEM: Predicting Family-related Uncertainties

	Model A			Model B		
	B	SE	β	B	SE	β
Focal predictor:						
Religious identification	-.34***	.06	-.20	-.32***	.06	-.19
Covariates:						
Age				-.01*	.00	-.05
Gender = female ^a				.31***	.06	.12
Educational attainment = higher ^b				-.04	.06	-.01
Employment status = unemployed ^c				.28**	.09	.08
Partnership status ^d						
steady relationship but unmarried				.37**	.10	.11
married				.23***	.08	.09
Place of residence = city ^e				.09	.06	.03
R^2			.04			.07

Note. ^a Reference = male. ^b Secondary or tertiary; reference = elementary or basic vocational. ^c Reference = gainfully employed. ^d Reference = single. ^e Above 10,000 inhabitants; reference = below 10,000 inhabitants.

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

Table 3
Results of SEM: Predicting Distress

	Model A			Model B			Model C		
	B	SE	β	B	SE	β	B	SE	β
Focal predictors:									
Family-related uncertainties	.19***	.03	.19	.18***	.02	.18	.21***	.04	.19
Religious identification	-.40***	.05	-.24	-.43***	.03	-.25	-.38***	.06	-.24
Religious identification \times Uncertainties							.14**	.05	.10
Covariates:									
Age				.02***	.00	.14	.02***	.00	.14
Gender = female ^a				.37***	.06	.15	.37***	.06	.14
Educational attainment = higher ^b				-.31***	.05	-.12	-.32***	.05	-.12
Employment status = unemployed ^c				.28***	.08	.08	.28***	.08	.08
Partnership status ^d									
steady relationship but unmarried				.01	.08	.00	.02	.08	.01
married				-.26***	.07	-.10	-.26***	.07	.08
Place of residence = city ^e				.04	.05	.02	.05	.05	.02
R ²			.11			.17			.18

Note. ^a Reference = male. ^b Secondary or tertiary; reference = elementary or basic vocational. ^c Reference = gainfully employed. ^d Reference = single. ^e Above 10,000 inhabitants; reference = below 10,000 inhabitants.

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

Effects of covariates

As to the effects of the covariates, younger age, female gender, unemployment and being in a steady partnership or marriage was related to a higher load of perceived family-related uncertainties. Higher age, female gender, and unemployment were related to higher distress, whereas higher education and marriage were associated with lower distress.

Although not of central interest to our investigation, we also explored possible moderating effects of age. To do so, we split the sample in two age groups, one comprising younger adults aged 20 to 29 years ($n = 1,103$) and one comprising adults aged 30 to 46 years ($n = 1,468$). After establishing the metric invariance of the measurement model across these two age groups by comparing a model with equal factor loadings with an unconstrained model ($\chi^2_{(3)} = 6.595, ns$), we constrained the paths from religiosity to family-related uncertainties, and from both religiosity and family-related uncertainties to distress, to be equal across the two age groups. Doing so did not significantly worsen model fit ($\chi^2_{(3)} = .650, ns$), indicating that age did not moderate any of these associations. The stress-exacerbating effect of religiosity was also significant and comparable in size in both age groups ($b = .119, p < .05; b = .158, p < .001$). Thus, we concluded that all associations reported above were robust across age groups.

Discussion

In many societies, family life is undergoing dramatic change (Georgas, 2006). As a consequence, individuals perceive growing family-related uncertainties, such as uncertainty concerning fertility decisions or the stability of family relationships, which can jeopardize important family-related developmental tasks and goals and thus cause distress (Pinquart et al., 2010; Tomasik & Silbereisen, 2009). The present study was the first to investigate the role of religiosity in dealing with these uncertainties. We hypothesized that religiosity, in addition to directly reducing distress, acts as a stress

deterrent that partly shields individuals from the experience of increasing family-related uncertainties that arise from current social change. At the same time, however, we expected that religiosity exacerbates the association between these uncertainties and distress. Analyzing a sample of adults from Poland, representing one of the most religious of industrialized nations and witnessing profound changes in family life, we found support for all our hypotheses.

As predicted by our first hypothesis, a higher load of family-related uncertainties was related to higher distress, replicating recent findings obtained with the same measure of family-related uncertainties in Germany (Pinquart et al., 2010). Although these authors used a more limited outcome measure (depressive symptoms), both the number of highly endorsed family-related uncertainties and the strength of their association with distress was very similar in our Polish sample ($M = 1.36$ and $\beta = .19$ vs. $M = 1.45$ and $\beta = .13$ in the German study). In line with our second hypothesis, religiosity – measured as religious identification – was related to lower distress, which attests to the robustness of this association, albeit modest in size, across religious denominations and national contexts, despite important variations in effect size (Diener et al., 2011; Smith et al., 2003).

Our third hypothesis predicted that religiosity reduces perceived family-related uncertainties. Our reasoning behind this hypothesis was that religiosity furnishes a set of values and norms (e.g., Mahoney, 2010; Onedera, 2008) that act as guidelines for family-related attitudes and behaviors and may thereby shield individuals from the family-related uncertainties that arise from current social change. Results corroborated this hypothesis. Even after controlling for a range of possible sociodemographic confounders, religious identification had a significant negative association with family-related uncertainties. It is important to note, however, that effect size was small, and religiosity alone explained only 4% of the variance in family-related uncertainties. This implies that even high religiosity cannot fully keep individuals from perceiving family-related uncertainties.

Perhaps the most novel and important finding of our study involved the interaction of religiosity and family-related uncertainties. Our fourth hypothesis maintained that religiosity exacerbates the association between family-related uncertainties and psychological distress. We derived this prediction from earlier studies on the role of religiosity in coping with family-related stressors such as divorce or conflict. These studies suggested that although religiosity buffers the impact of diverse stressors, it can exacerbate the impact of family-related stressors. Most likely, this is because these stressors raise a conflict with family-related values and norms upheld by faith communities that adds to the distress triggered by the stressor itself (e.g., Brown et al., 2008; Strawbridge et al., 1998). Indeed, we found that the association between family-related uncertainties and distress was markedly stronger at higher as opposed to lower levels of religious identification. Focusing on perceived uncertainties rather than discrete stressors such as divorce or abuse, our study thus adds to previous studies demonstrating that religiosity can aggravate distress in individuals confronting family-related stressors (e.g., Strawbridge et al., 1998).

The idea that religiosity is apt to reduce feelings of uncertainty features prominently in current theoretical accounts of religiosity in social psychology (e.g., Hogg, Adelman, & Blagg, 2010). Our results are partly in line with this idea but suggest that religiosity does not necessarily make it easier for believers to deal with uncertainties. Put simply, the content of uncertainty matters, and perceiving uncertainties that potentially raise a conflict with religiously cherished family-related values and norms appear to be a challenge especially for strong believers. Thus, the role of religiosity in dealing with uncertainties may be more complex than previously envisioned.

Limitations and future directions

Despite the advances made by our study, several limitations bear mentioning. A major limitation concerns the cross-sectional design of our study. Although we carefully

derived our hypotheses from prior theorizing and empirical research, we could not rule out the possibility of reverse relationships with the present data. It is possible that individuals facing family-related stressors gradually distance themselves from their religious faith and community in order to reduce the conflict between such stressors and the religiously imbued family values and norms they and their religious congregation hold (see Wilcox, 2006). Similarly, one could argue that in addition to being influenced by family-related uncertainties, the current distress level also influences the perception of uncertainties. Most likely, both directions of influence hold, but longitudinal research is needed to clarify this question.

A second limitation consists in our measure of religiosity, religious identification. Clearly, it is more specific than the widely used frequency of church attendance and thus gets closer to the proximal mechanisms linking religiosity to higher or lower distress. Nevertheless, we could not directly assess with the present data the potential conflict with family-related values and norms that we, in line with other authors (e.g., Strawbridge et al., 1998; Mahoney & Tarakeshwar, 2005), assume to be the crucial mechanism behind the stress-exacerbating role of religiosity in relation to family-related stressors. Future research would benefit from directly testing these possible mechanisms with more proximal measures such as religious coping, the sanctification of family relationships, or sacred loss and desecration (Mahoney, 2010).

Third, due to co-occurrence of rapid and profound change in family life on the one hand (Ornacka & Szczepaniak-Wiecha, 2005) and a highly religious population on the other, Poland represents a particularly valuable case for studying the intersection of social change and religiosity. It is, however, also a *special* case with regard to the high religious homogeneity of its population, with 95% of all Poles being Catholic. Although other Christian denominations promote similar family-related values and norms (Sabatier et al., 2011; Wilcox et al., 2004), the stress-deterrent and stress-exacerbating effects of religiosity in relation to family-related stressors may well hinge on the family discourse and pastoral practice of a religious community, as well as the overall

importance of religion in a country (e.g., Diener et al., 2011). Thus, replications are needed to clarify to what degree our results hold in other religious denominations and national contexts as well.

Conclusion

These limitations notwithstanding, our study makes a significant contribution to the literature by showing that religiosity can be both boon and bane when it comes to dealing with family-related uncertainties that arise from current social change. Although religiosity reduces such uncertainties, it exacerbates their association with distress, most likely because these uncertainties raise a conflict with religiously cherished family values and norms. We recommend that both church-based and secular counselors pay close attention to this potential downside of religiosity and help clients to draw on the positive, empowering aspects of their religious faith in order to prevent such stress-exacerbating effects from occurring.

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Appendix

Ehrenwörtliche Erklärung

Hiermit versichere ich, Clemens Lechner, geboren am 03.12.1985 in Benediktbeuern,

...das mir die geltende Promotionsordnung bekannt ist,

...dass ich die Dissertation selbst angefertigt habe, insbesondere die Hilfe eines Promotionsberaters nicht in Anspruch genommen habe, keine Textabschnitte eines Dritten oder eigener Prüfungsarbeiten ohne Kennzeichnung übernommen habe, und alle von mir benutzten Hilfsmittel und Quellen in der Arbeit angegeben habe,

... dass mich Prof. Dr. Rainer K. Silbereisen und Dr. Martin J. Tomasik bei der Auswahl und Auswertung des Materials sowie bei der Herstellung des Manuskripts als Betreuer unterstützt haben; und dass Prof. Dr. Rainer K. Silbereisen, Dr. Martin J. Tomasik und Prof. Dr. Jacek Wasilewski als Koautoren der hier präsentierten wissenschaftlichen Artikel fungieren,

...dass darüber hinaus Dritte weder unmittelbar noch mittelbar geldwerte Leistungen von mir für Arbeiten erhalten haben, die im Zusammenhang mit dem Inhalt der vorgelegten Dissertation stehen,

...dass ich die Dissertation noch nicht als Prüfungsarbeit für eine staatliche oder andere wissenschaftliche Prüfung eingereicht habe,

...dass ich keine gleiche, in wesentlichen Teilen ähnliche oder eine andere Abhandlung bei einer anderen Hochschule bzw. anderen Fakultäten als Dissertation eingereicht habe,

...dass ich nach bestem Wissen die reine Wahrheit gesagt und nichts verschwiegen habe.

Jena, 03.12.2013

Erläuterungen zur ehrenwörtlichen Erklärung

Diese kumulative Dissertation beruht auf den nachfolgend aufgeführten drei Studien:

Kapitel in Dissertation	Publikationsstatus	Vollständige Literaturangabe
Study 1: Religiosity buffers the association between work-related uncertainties and subjective well-being	Zur Publikation angenommen in <i>Psychology of Religion and Spirituality</i> Datum der Bestätigung über Annahme des Manuskripts: 14.09.2012	Lechner, C. M., Tomasik, M. J., Silbereisen, R. K., & Wasilewski, J. (2013). Exploring the stress-buffering effects of religiousness in relation to social and economic change: Evidence from Poland. <i>Psychology of Religion and Spirituality</i> , 5(3), 145–156. doi:10.1037/a0030738
Study 2: Religiosity fosters opportunity-congruent coping with work-related demands	In Begutachtung bei <i>International Journal of Psychology</i> Datum der Bestätigung über Einreichung des Manuskripts: 25.11.2013	Lechner, C. M., Silbereisen, R. K., Tomasik, M. J., & Wasilewski, J. (2013). <i>Getting going and letting go: Religiosity fosters opportunity-congruent coping with work-related demands of social change</i> . Manuscript submitted for publication.
Study 3: Religiosity reduces family-related uncertainties but exacerbates their association with distress	Zur Publikation angenommen in <i>The International Journal for the Psychology of Religion</i> Datum der Bestätigung über Annahme des Manuskripts: 19.09.2013	Lechner, C. M., Tomasik, M. J., Silbereisen, R. K., & Wasilewski, J. (2013). Religiosity reduces family-related uncertainties but exacerbates their association with distress. <i>International Journal for the Psychology of Religion</i> . Advance online publication. doi:10.1080/10508619.2013.847700

Alle drei Studien wurden von Clemens Lechner als Hauptautor angefertigt. Konzeption, Literaturrecherche, Datenanalyse, Berichtlegung und Revision oblagen hauptverantwortlich Clemens Lechner. Prof. Dr. Rainer K. Silbereisen und Dr. Martin Tomasik waren als Betreuer der Dissertation eng in jeden dieser Arbeitsschritte eingebunden. In dieser Rolle gaben sie dem Autor zu mehreren Zeitpunkten im Herstellungsprozess jedes der Manuskripte ausführliche Rückmeldungen. Sie fungieren auch als Koautoren der drei Studien. Weiterer Koautor ist Prof. Dr. Jacek Wasilewski als Leiter des Forschungsprojekts, aus dem die verwendeten Daten stammen.

Curriculum Vitae

Personal Data

Name	Clemens Martin Lechner
Date of birth	December 3, 1985
Place of birth	Benediktbeuern, Germany

Academic Education

09/2011 – 12/2013	Ph.D. student, Psychology University of Jena, Germany
10/2005 – 07/2011	Diploma (M.Sc. equivalent), Psychology (with distinction) Minor: Sociology University of Jena, Germany
09/2007 – 03/2008	Visiting undergraduate student, Psychology and Economics Warsaw School of Social Sciences and Humanities, Poland

Academic Positions

01/2014 – present	Postdoctoral fellow, <i>Pathways to Adulthood</i> Program Center for Applied Developmental Science University of Jena, Germany
10/2012 – 12/2013	Research Associate Center for Applied Developmental Science University of Jena, Germany
09/2011 – 09/2012	Research Associate Collaborative Research Center 580 (Project C6: “Psychosocial resources and coping with social change”) University of Jena, Germany

11/2010 – 07/2011	Research Assistant Center for Applied Developmental Science (Project “Culture-brokering as opportunity and risk for adolescent immigrants”) and Collaborative Research Center 580 (Project C6: “Psychosocial resources and coping with social change”) University of Jena, Germany
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Awards and Scholarships

04/2012 – 12/2013	Foundation of the German Economy, Ph.D. scholarship
11/2011	Rainer K. Silbereisen Award for the best diploma of the year
06/2011	Winner of the German Speaking Universities’ Debating Championship
05/2007 – 09/2011	Foundation of the German Economy, student scholarship
09/2007 – 03/2008	Foundation of the German Economy, study abroad grant
06/2008 – 01/2011	German National Academic Foundation, student scholarship

Publications in Peer-Reviewed Journals

- Lechner, C. M.,** & Leopold, T. (2014). *Religious attendance buffers the impact of unemployment on life satisfaction: Longitudinal evidence from Germany*. Manuscript submitted for publication.
- Lechner, C. M.,** Silbereisen, R. K., Tomasik, M. J., & Wasilewski, J. (2013). *Getting going and letting go: Religiosity fosters opportunity-congruent coping with work-related demands of social change*. Manuscript under revision.
- Lechner, C. M.,** Tomasik, M. J., Silbereisen, R. K., & Wasilewski, J. (2013). Religiosity reduces family-related uncertainties but exacerbates their association with distress. *International Journal for the Psychology of Religion*. Advance online publication.
- Tomasik, M. J., Silbereisen, R. K., **Lechner, C. M.,** & Wasilewski, J. (2013). Negotiating demands of social change in adolescents and young adults from Poland. *International Journal of Stress Management*, 20(3), 222–253.
- Lechner, C. M.,** Tomasik, M. J., Silbereisen, R. K., & Wasilewski, J. (2013). Exploring the stress-buffering effects of religiousness in relation to social and economic change: Evidence from Poland. *Psychology of Religion and Spirituality*, 5(3), 145-156.

- Tomasik, M.J., Pavlova, M. K., **Lechner, C. M.**, Blumenthal, A., & Körner, A. (2012). Changing contexts of youth development: An overview of recent social trends and a psychological model. *New Directions for Youth Development [Special Issue]*, 135, 14-25.

Conference Presentations

- Lechner, C. M.** (2013, November). *Religiousness: A resource and risk factor in coping with social change*. Paper presented at the 10th International PATHWAYS Workshop, London, England.
- Lechner, C. M.** (2013, October). *Religiosität als Ressource und Risikofaktor im Jugendalter [Religiosity as a resilience and risk factor across adolescence]*. Invited talk at the Fachtagung für religionsensible Erziehung des Bundesverbands katholischer Einrichtungen und Dienste der Erziehungshilfen e.V., Augsburg, Germany.
- Lechner, C. M.**, Obschonka, M., & Silbereisen, R. K. (2013, May). *Reaping the benefits of social change: The interplay of change-related exploration, life-stage, and social context*. Poster presented at the 9th International PATHWAYS Workshop, Tübingen, Germany.
- Lechner, C. M.**, Tomasik, M. J., Silbereisen, R. K., & Wasilewski, J. (2012, July). *“Anchored by faith”: Religiosity as a resource in coping with occupational uncertainty*. Paper presented at the 33rd Conference of the Stress and Anxiety Research Society, Palma de Mallorca, Spain.
- Lechner, C. M.**, Tomasik, M. J., Silbereisen, R. K., & Wasilewski, J. (2012, May). *“So help me God”: Religiosity predicts opportunity congruent coping with occupational uncertainty*. Poster presented at the 5th Annual Meeting of the Society for the Study of Motivation, Chicago, USA.

Teaching Experience

Courses taught

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| 2013 | Developmental counseling (seminar, BA level) |
| 2013 | Values, morality, and goals: A developmental perspective (seminar, BA level) |
| 2012/2013 | Motivational development (seminar, BA level) |

2012/2013	Developmental regulation (seminar, BA level)
2012	Applied methodology (seminar and data analysis tutorial, MA level)
2012	Religiousness as a developmental resource across the lifespan (seminar, BA level)
2008 – present	Extensive teaching experience as a trainer and coach for rhetoric and political communication skills for youth and young adults

Student theses supervised

DeTroy, S. (in preparation). *Religious development in adolescence: Precursors and consequences*.

Bachelor's thesis (Psychology), University of Jena.

Thumm, L. (2013). *Religiöse Entwicklung im Jugendalter: Der Einfluss familiärer Sozialisation und die moderierende Rolle autoritativer Erziehung [Religious development in adolescence: The influence of religious socialization and the moderating role of authoritative parenting]*.

Bachelor's thesis (Psychology), University of Jena.

Ou, L. (2013). *Perceived broadening lifestyle choice due to social change among German adolescents and adults: A longitudinal investigation*. Study project (Psychology), University of Jena.

Kishida, M. (2012). *Coping with activation demands. Identifying coping typologies in middle-aged adults*. Study project (Psychology), University of Jena.

Klinger, J. (2012). *Die funktionalen Vorzüge traditionaler Gemeinschaften in einer unsicheren Moderne [The functional advantages of traditional communities in an insecure modernity]*.

Bachelor's thesis (Sociology), University of Jena.

Membership in Societies

2014 – present	Society for the Scientific Study of Religion (SSSR)
2011 – present	Association for Psychological Science (APS)
2011 – 2013	Society for the Study of Motivation (SSM)
2011 – 2013	Stress and Anxiety Research Society (STAR)

Professional Qualifications

Languages

German (native)
English (fluent, oral and written)
Polish (intermediate)
French (intermediate)
Italian (basic)

Data Analysis Software

SPSS, AMOS (advanced)
MPlus (advanced)
MaxQDA (advanced)
R (basic)