RELIGIOSITY, SPIRITUALITY AND NEGATIVE RELIGIOUS COPING: UNDERLYING ISSUES AND ASSOCIATIONS WITH HEALTH

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RELIGIOSITY, SPIRITUALITY AND NEGATIVE RELIGIOUS COPING:
UNDERLYING ISSUES AND ASSOCIATIONS WITH HEALTH

Thesis for the University in Groningen, the Netherlands - with a summary in Dutch and Czech.

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This study was supported by the Grant Agency of the Czech Republic (GA CR), under Contract No. 19-19526S and by the Sts Cyril and Methodius Faculty of Theology of Palacký University in Olomouc, internal projects IGA-CMTF- 2019-006, IGA-CMTF- 2020-006 and IGA-CMTF-2021–005.

The printing of this thesis was supported by the by the Olomouc University Social Health Institute (OUSHI), by University Medical Center Groningen (UMCG) and the University of Groningen.

Design and Layout: Alice Košárková
Cover background picture: Anna Přecechtělová
Language corrections: David L. McLean
Press: Properus, s.r.o., Olomouc

Religiosity, spirituality and negative religious coping: underlying issues and associations with health

PhD thesis

to obtain the degree of PhD at the
University of Groningen
on the authority of the
Rector Magnificus Prof. C. Wijmenga
and in accordance with
the decision by the College of Deans

and

to obtain the degree of PhD of
Palacký University Olomouc
on the authority of the
Rector Magnificus Prof. M. Procházka
and in accordance with
the decision by the College of Deans.

Double PhD degree

This thesis will be defended in public on

Wednesday 24 August 2022 at 9:00 hours

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Chapter 1

INTRODUCTION

Human life is complex and consists of several areas that overlap and influence each other. An integral part of many people's lives is religiosity and spirituality (R/S), which is positively associated with various aspects of life, e. g. physical and mental health or behavioural outcomes. However, a negative impact of R/S on these areas or associations with the use of maladaptive strategies can also be found (Pargament, Feuille, & Burdzy, 2011). Understanding the factors that influence the associations of R/S with health is vital for assessing possible underlying issues and pathways of mutual interaction. Assessing the type of R/S, their usage as a coping strategy and their further application may broaden our knowledge of this topic. Therefore, this thesis aims to assess the associations of various areas of R/S with their possible roots. Moreover, in the contemporary situation of the Covid-19 pandemic, a further aim is to explore the mental health, behaviour, and social pathways of R/S influence on health. This chapter offers the theoretical background for the study of R/S and religious coping and describes the research questions and the study's aims.

1.1 Religiosity and spirituality: a theoretical background

This section offers the theoretical background in regard to R/S. It describes R/S as different constructs, focuses on the God image, religious coping with its functions and forms, religious conspiracy theories and attachment, and outlines the association of R/S with health. It also introduces childhood traumas and adult relationship experience as possible roots of R/S attachment. Moreover, it mentions the associations of R/S with health and possible pathways of their interaction. Finally, this chapter outlines an understanding of R/S and negative religious coping in a secular context, specifically that of the Czech Republic.

1.1.1 Religiosity and spirituality as different constructs

Spirituality and religiosity are both multidimensional constructs with blurred boundaries. Therefore, they are also difficult to define unequivocally. Thus, in recent studies, a number of various definitions of the terms "religiosity" and "spirituality" can be found. This can lead to some inconsistencies in the findings presented in studies on R/S (Malinakova, Tavel, Meier,

van Dijk, & Reijneveld, 2020), which might result from only one or two specific dimensions being covered (Hooker, Masters, & Carey, 2014) or the fact that different indicators of these dimensions are used (Berggren & Ljunge, 2021).

Historically, spirituality was not distinguished from religion (Zinnbauer et al., 1997). The separation of the concepts and their distinction is connected to the second half of the 20th century, with the rise of secularism and disillusionment with religious institutions (Hill et al., 2000; Zinnbauer et al., 1997). Spirituality has begun to be experienced as distinct from religiosity, and the traditional concept of spirituality has been confused with mysticism, esotericism, Eastern religions or the New Age movement (Zinnbauer et al., 1997; Zinnbauer, Pargament, & Scott, 1999). This distinction was also closely linked to the rise of secularism and popular disillusionment with official religious institutions as a hindrance to the personal experience of the sacred. New spiritual practices have emerged that fall outside of traditional religious institutions, and spirituality began to be considered an individual phenomenon, identified with the experience of transcendent dimensions of life, supraconscious activities and meaningfulness (Spilka & McIntosh, 1996). A growing number of people started to call themselves spiritual-but-not-religious (Ammerman, 2013; Koenig, 2009). They understand spirituality from a purely secular and individual point of view and deny any connection to traditional religion, which may be perceived as an obstacle to subjective dynamic experience (Ammerman, 2013).

Additionally, both terms may differ according to the discursive contexts in which they are used. In the context of the continental European understanding, spirituality can continue to denote piety, part of the field of theology (Hollingsworth, 2013). At the same time, this term also refers to a personal relationship with God and the inner experience of faith, which is linked to a given religious environment and manifests itself in public practice, i.e., in participation in ceremonies and communities (Hagen, Roses, Reigber, & Fittkau-Tönnesmann, 2011). The Anglo-Saxon tradition understands spirituality as separate from the religious institution; the emphasis is on the personal relationship to the transcendent and the experience of the relationship to it (Spilka & McIntosh, 1996). Thus, to embody both concepts properly, one should consider even the era and the place.

For the purpose of our study, we will therefore define the two concepts as follows: Religiosity includes beliefs, practices and rituals associated with the sacred or divinity (Koenig, 2009). It is also related to the frequency of church attendance and being affiliated to a particular institution (Pargament, Sullivan, Balzer, Vanhaitsma, & Raymark, 1995; Zinnbauer et al., 1997). In contrast to this more external dimension, spirituality is perceived as more personal and free from the rules and responsibilities associated with religion (Koenig, 2012). As such, it is seen as a search for a sense of life and spiritual well-being and may involve individual connections with sacredness or the universe, attachment to oneself, others or nature, the search for harmony or transcendent consciousness (Ammerman, 2013; Scott, 2003).

1.1.2 Areas related to religiosity/spirituality

R/S have been characterised as dynamic processes that can be connected with various facets of human life (Zinnbauer et al., 1999). Given the complexity of both constructs, some areas which are connected to R/S may play an important role in an individual's values, behaviours and health outcomes throughout life (Pargament & Mahoney, 2005; VanderWeele, 2017).

1.1.2.1 Image of God

One of the key areas related to personal R/S is the image of God (Birgegard & Granqvist, 2004; Counted, 2015). Research has distinguished two different approaches to God representations that may affect human interaction (Davis, Granqvist, & Sharp, 2018; Rizzuto, 1979). The first is a God concept, which is formed by intellectual knowledge, religious education and community, and is expressed in verbal descriptions of God within a particular theology and integrates various aspects of the thinking of God at a conceptual and abstract level (Counted, 2015; Davis, Moriarty, & Mauch, 2013). The second is the God image, a subjective experience based on how a person unconsciously interacts with God and experiences the perceived relationship at an emotional, nonverbal and often implicit level (Davis et al., 2018; Hoffman, 2005; Rizzuto, 1979). Although both constructs develop close to one another, they may operate simultaneously and may affect each other (Zahl & Gibson, 2012). The God image is linked to what we feel in our attachment experience (Counted, 2015). As such, it is not only an intellectual reification within one's mind (Rizzuto, 1979) but involves the dynamics of aggregating memories from various sources and relationships and associating them with God. Furthermore, the God image is often related to psychological functioning, health and well-being (Exline, Grubbs, & Homolka, 2015; Pargament, Koenig, & Perez, 2000). Impersonal or hostile God images, i.e., distant, cruel or unconcerned, are associated with difficulties in finding meaning in life and comfort in difficult life situations (Kruizinga et al., 2017), anxiety and depression (Fitchett et al., 2004; Greenway, Milne, & Clarke, 2003) and greater neuroticism (Ano & Pargament, 2013; Grubbs, Exline, & Campbell, 2013).

1.1.2.2 Religion as a coping strategy

The general coping theory assumes that people play an active role in interpreting and responding to significant life stressors (Lazarus & Folkman, 1984). Coping can be seen as a process initiated when individuals appraise an event as threatening and try to manage the equilibrium between the demands of the situation and the available resources.

One source of coping can be religion (Abu-Raiya, Pargament, & Mahoney, 2011), which can be assessed by global indices, such as church affiliation, attendance or prayer. This can be useful for a quick scanning of the religiousness of the population in social surveys. However, it does not capture how religion expresses itself and how it may be linked to physical, psychological and social outcomes (Talik, 2013). In contrast, a part of religion's power lies in its

multifunctional character and its ability to offer diverse coping methods for various situations (Pargament et al., 2000). Pargament (Pargament et al., 1998) defined religious coping as efforts to understand and deal with life stressors in ways related to the sacred. The term sacred covers traditional notions of God, divinity or higher powers, as well as other life aspects associated with the divine or connected to divine-like qualities (Pargament & Mahoney, 2005). Although religious coping is a dynamic process that changes over time, context, and circumstances (Pargament et al., 2011), it represents a robust coping strategy for dealing with difficult life situations or illnesses (Chang et al., 2018; Duarte, Lucchetti, Teixeira, & Rigatto, 2020; Goudarzian et al., 2019). Many studies have shown that religious coping methods can predict indices of health (Lee, 2020; Paika et al., 2017; Pargament et al., 2000). Therefore, studying religion from a coping perspective can help understand how people use religion in specific life situations and contexts (Ano & Pargament, 2013) and may add vital information to its links to health and well-being.

Dimensions of religious coping

Religious coping is multidimensional and exceeds stereotypes about religion as simply a psychological defence or passive form of coping (Pargament & Park, 1995). It is a dynamic process that changes over time, context and circumstances, and comprises active, passive and interactive methods (Pargament et al., 2011). Thus, religious coping strategies can involve various dimension of human life, such as behaviour (e.g., changes in lifestyle, participation in church services or rites, request for divine intersession), emotions (e.g., feelings of love or anger toward God and other members of a community), relationships (interpersonal relations with God or others), cognitions and motivations (e.g., search for spiritual development, personal growth, the resolution of problems, closeness with others) (Pargament et al., 2011).

Functions of religious coping

Religious coping is a process of dealing with difficult situations that can cover multiple functions (Pargament et al., 2011; Pargament et al., 2000). First, religious coping methods play a role in the search for meaning. Difficult situations are reappraised, and the stressor redefined as an opportunity for growth, a punishment from God or as a work of the Devil (Pargament et al., 2000). Second, religious coping helps a person gain control through inviting God into the problem-solving in passive or active ways, e.g., by praying, dealing with God, individual initiative or waiting for a solution to be attributed to God (Pargament et al., 2000). Third, methods of religious coping can fulfil a desire to gain comfort or spirituality. This can be accomplished by searching for reassurance through God's love, expressing confusion or dissatisfaction with God's relationship to the individual or searching for spiritual cleansing (Pargament et al., 2000). Fourth, religious coping supports gaining intimacy with others and with God through the love and care of church members, providing spiritual support and comfort to others or expressing confusion or dissatisfaction with other church members (Pargament et al., 2000). Finally, religious coping helps achieve a life transformation in which religion offers a new direction, a life change or a shifting from negative emotions (Pargament et al., 2000).

Forms of religious coping

The concept of religious coping usually has positive connotations (Abu-Raiya, Pargament, Krause, & Ironson, 2015). However, it can also be ineffective or associated with greater distress or even lead to worsening health (Pargament, 2002). Thus, religious coping can be seen as a multivalent process leading to helpful or harmful outcomes; it acknowledges religious life's "bitter and sweet" (Pargament et al., 2011). The type of coping may play a crucial role in the relationship between religious coping and its outcomes. Therefore, two overarching forms were formulated – positive religious coping (PRC) and negative religious coping (NRC).

PRC reflects a secure relationship with God, a sense of spiritual connectedness with others and a benevolent worldview (Pargament et al., 2011). In general, it can be seen as a benevolent divine reappraisal – attempts to redefine the stressor as having spiritual benefits, being a part of that particular God's plan and an opportunity for spiritual growth (Abu-Raiya et al., 2011). PRC methods were found to be related to positive outcomes, e. g., better physical health (Harris et al., 2012), decreased levels of depression (Bjorck & Thurman, 2007), increased mental health status and fewer psychosomatic symptoms (Pargament et al., 2011). Moreover, PRC was found to be associated with positive health outcomes when dealing with cancer (Cigrang, Hryshko-Mullen, & Peterson, 2003), chronic pain (Dunn & Horgas, 2004), HIV (Cotton et al., 2006), domestic violence (Watlington & Murphy, 2006), psychiatric problems (Mohr, Gillieron, Borras, Brandt, & Huguelet, 2007), as well as with a terroristic attack (Abu-Raiya et al., 2011), a hurricane (Henderson, 2011) or the Covid-19 pandemic (Lee, 2020).

NRC reflects a spiritual tension and struggles within oneself, others and the divine (Pargament et al., 2011). It is connected to a punishing God's reappraisal and the reappraisal of God's power when dealing with negative and stressful life situations (Bjorck & Thurman, 2007). Methods of NRC can further include spiritual dissatisfaction, relationship problems within a religious group or attributing excessive influence to demonic action (Pargament et al., 2011). NRC has emerged to be a robust predictor of adverse health-related outcomes. It has been associated with more anxiety, paranoid thoughts (Giordano, Cashwell, Lankford, King, & Henson, 2017; McConnell, Pargament, Ellison, & Flannelly, 2006), somatisation or disordered eating pathology (Latzer, Spivak-Lavi, & Katz, 2015), posttraumatic stress disorder (Gerber, Boals, & Schuettler, 2011), suicidal tendencies (Currier, Smith, & Kuhlman, 2017) and a higher risk of mortality (Pargament, Koenig, Tarakeshwar, & Hahn, 2001). Furthermore, these coping methods were associated with worse quality of life (Nalini Tarakeshwar et al., 2006), lower life satisfaction (Paika et al., 2017), worse physical functioning (Taheri-Kharameh, Zamanian, Montazeri, Asgarian, & Esbiri, 2016) and a decline in health (Ghorbani, Watson, Tahbaz, & Chen, 2017).

1.1.2.3 Beliefs in religious conspiracy theories

R/S can help some people shape their worldview and in coping with difficult situations. However, in a similar vein, some studies showed the associations of R/S with conspiracy beliefs (Beller, 2017; Douglas, Sutton, Callan, Dawtry, & Harvey, 2016; Newheiser, Farias, & Tausch, 2011). R/S influences individual values, attitudes and worldviews. Such an individual's network

of beliefs can further play a role in endorsing conspiracies and may facilitate one's attraction to conspiracy (Douglas, Sutton, & Cichocka, 2017; Jasinskaja-Lahti & Jetten, 2019; Kim & Kim, 2020). This attraction may be exacerbated because some resemblance can be seen between religious beliefs and conspiracy beliefs (Robertson, Asprem, & Dyrendal, 2018).

In general, conspiracy beliefs can be defined as unsubstantiated and implausible beliefs involving a malevolent force in distressing societal events (Van Prooijen & Jostmann, 2013). Beliefs in conspiracy theories (CT) may arise from epistemic motives; they may be connected to an effort to provide a broad explanation for incomprehensible events and to understand environments (Douglas et al., 2019; Van Prooijen & Jostmann, 2013). Furthermore, they may arise from existential motives as a way to feel safe and secure, compensate for threatened needs and cope with feelings of anxiety and powerlessness (Abalakina-Paap, Stephan, Craig, & Gregory, 1999; Douglas et al., 2017). Finally, they may arise from social motives, because conspiracy theories may assist people in maintaining a positive image of the self and the in-group, in feeling unique to others or maintaining true and moral values against those perceived as powerful (Cichocka, 2016; Douglas et al., 2019; Imhoff & Lamberty, 2018).

However, although religiosity was found to be associated with greater beliefs in CT (Jasinskaja-Lahti & Jetten, 2019; Robertson et al., 2018), it was not the self-categorisation as a believer but the strong attachment to a particular way of religion that was linked to higher beliefs in CT (Jasinskaja-Lahti & Jetten, 2019; Kim & Kim, 2020). More concretely, greater beliefs in CT among some religious groups are associated with uncritical reading of scriptures (Keeley, 2007), teleological and apocalyptical thoughts (Bezalel, 2019), beliefs in being elected or having a special revelation understood only by the chosen people (Sturm & Albrecht, 2020), stronger conservatism and traditionalism (Van Der Linden, Roozenbeek, & Compton, 2020), beliefs that evil is ubiquitous and plotting (Robertson et al., 2018) and seeing difficulties, even the Covid-19 pandemic, as a call for deeper faith (Rosenberg, 2020). Moreover, where religious groups feel their position is threatened or victimised, CT beliefs about the out-groups may be easily awakened and used to strengthen their own identity (Douglas et al., 2017; Robertson et al., 2018). Thus, religious conspiracy theories (RCT) can be formed which assimilate R/S attitudes and worldviews into secular narratives (Sturm & Albrecht, 2020). These RCT help a person find a religious explanation for phenomena that are difficult to understand or incorporate them into one's broader belief system (Newheiser et al., 2011) and thus reinforce their own beliefs, values and positions (Cichocka, 2016; Sturm & Albrecht, 2020).

Belief in CT can have adverse effects, including negative attitudes toward health recommendations (Abaido & Takshe, 2020; Douglas et al., 2019; Imhoff & Lamberty, 2020) and vaccination (Jolley & Douglas, 2014; Sallam et al., 2021), as well as increased feelings of powerlessness, depression and anxiety (Chen et al., 2020; Sallam et al., 2020). Therefore, the nature of one's R/S and the type of religiosity used is essential in understanding the foundations of worldviews that support the forming of RCT. In addition, feelings of being undermined and threatened can facilitate the development of CT that serve to justify a group's disadvantaged position (Uscinski, Klofstad, & Atkinson, 2016). Thus, assessing beliefs in religious CT in a secular country seems important.

1.1.3 Influence of adverse life experiences and attachment on R/S

The way people incorporate R/S into their lives and a framework for understanding perceptions of God may be associated with the individual's attachment style (Granqvist, Mikulincer, & Shaver, 2010; Kirkpatrick, 1992) and the experience of childhood trauma (Reinert & Edwards, 2009; Waldron, Scarpa, & Kim-Spoon, 2018). According to Bowlby (Bowlby, 1969, 1979), attachment is a bio-social behavioural system, including emotional, cognitive, contextual, and behavioural elements that influence interpersonal relations thorough life and protect the individual against danger. An attachment figure can be seen as someone who provides a safe haven in times of threat and stress and serves as a secure base to explore the environment and develop human skills (Bowlby, 1982). Through interactions with an attachment figure, emotional bonds develop (Ainsworth, 1989; Bartholomew, 1990; Bartholomew, 1990) that generate in later adulthood attachment relationships (Hazan & Shaver, 1987) and can form generalised attachment representations (Shaver & Mikulincer, 2002).

1.1.3.1 Childhood trauma

Attachment theory (Bowlby, 1979) has offered a deeper understanding of the relationship dynamics between the caregiver and the child and the impact their secure bond has throughout life. However, experiences of child maltreatment can negatively influence the relationship to caregivers and foster the development of insecure attachment (Styron & Janoff-Bulman, 1997; Waldinger, Schulz, Barsky, & Ahern, 2006).

Following Bernstein (Bernstein et al., 2003), childhood trauma can be defined as any of the 5 types of maltreatment derived from the definitions of abuse and neglect. Sexual abuse is defined as "sexual contact or intercourse between a child under the age of 17 and an adult or older person (at least five years older than the child)". Physical abuse is "a physical assault on a child by an adult or the elderly who posed a risk or resulted in injury". Emotional abuse is seen as "verbal attacks reducing the child's self-esteem or well-being or any degrading behaviour of an adult or elderly person towards the child". Physical neglect is defined as "the failure of carers to provide the child with basic physical needs including food, shelter, clothing, safety and health care". Finally, emotional neglect is seen as "the failure of caregivers to meet children's basic emotional and psychological needs, including love, belonging, upbringing, and support" (Bernstein, Fink, Handelsman, & Foote, 1998).

The negative consequences of adverse childhood experiences were reported in the area of secure relationships (Waldinger et al., 2006) and connected to the later occurrence of psychopathology, including anxiety (Fernandes & Osório, 2015; Kisely et al., 2018). Childhood traumas were associated with worse physical and mental health (Davis, Luecken, & Zautra, 2005; Felitti et al., 1998; Murphy et al., 2014) and risky behaviour (Norman et al., 2012). Moreover, as childhood was found to be a critical time for the development of the God image influenced mainly by one's experience with caretakers (Rizzuto, 1979), the violation of the emerging self through any form of maltreatment may have an impact on the victim's image of

God and R/S development (Reinert & Edwards, 2009; Waldron et al., 2018; Walker, Reid, O'Neill, & Brown, 2009). A negative relationship exists between childhood maltreatment, where many childhood abuse victims tend to view God rather negatively, such as unloving or distant (Bierman, 2005; Kennedy & Drebing, 2002).

1.1.3.2 Adult relationship experience

The attachment relationship does not finish in childhood but is a crucial component of human experience throughout the lifespan (Bowlby, 1979; Kirkpatrick & Shaver, 1992). Behaviour in close adult relationships is probably continued and shaped by working models of attachment developed from early caregiving experiences (Hazan & Shaver, 1987; Zeifman & Hazan, 2008).

The theory of experience in close relationships assumes that people form mental representations or working models of themselves and others based on the occasion of interactions with close people (Hazan & Shaver, 1987). In addition to individuals with a secure relationship style, who are characterised by a positive model of self and others (Bartholomew & Horowitz, 1991), some individuals have an insecure style. This can be further characterised by two dimensions – relationship anxiety and avoidance (Mikulincer, Shaver, Bar-On, & Ein-Dor, 2010). Anxiety is associated with a strong desire for closeness and protection, but at the same time with an increased vigilance concerning rejection, the availability of a loved one and one's own value. In a situation of danger and stress, the hyperactivation of the attachment system can occur (Mikulincer et al., 2010). Avoidance can be characterised as a measure of human distrust in goodwill and intentions of other people, a preference for independence and emotional distance from others. These people tend to have difficulty with and do not feel well when they are supposed to be intimate with others and when they look up to them, rely on and trust them (Bartholomew & Horowitz, 1991; Brennan, Clark, & Shaver, 1998).

Research on associations between adult relationship experience and a wide array of biopsychosocial phenomena, including social functioning, coping, stress response, mental states, emotion regulation or mental health and morbidity, is a common subject in many contemporary studies (Ciocca et al., 2020; Fonagy & Campbell, 2015; Stevenson, Millings, & Emerson, 2019).

1.1.3.3 God as an attachment figure

Kirkpatrick proposed (Kirkpatrick, 1999; Kirkpatrick, 2005) that a believer's perceived relationship with God tends to meet the defining criteria for an attachment relationship and hence functions psychologically like other attachments. Even though in many ways one's attachment to God is thought to be unique, for example, when God is perceived as omnipotent or omnipresent (Rowatt & Kirkpatrick, 2002). Central to the application of attachment theory to religion is the idea that for many people God may function psychologically as an attachment figure (Kirkpatrick, 1999). Whereas an individual's God concept can be influenced by many factors, including family, religious community or education (Counted, 2015; Lawrence, 1997),

an implicit image of God may be seen as the way one interacts with God at an emotional, relational and nonverbal level (Noffke & Hall, 2007). Therefore, the development of personal R/S may be conceptualised in terms of attachment processes, and the God image might be strongly affected by the childhood experiences of maltreatment or adult attachment experience (Granqvist, 2002; Reinert & Edwards, 2009).

Moreover, a relationship towards God may in some sense be functionally equivalent to a normal human attachment relationship (Kirkpatrick & Shaver, 1992). If believers' perceived relationships with God qualify as attachment relationships, then something analogous in the security versus insecurity to God's attachment should exist. That is, some individuals should be able to rely on God as a safe haven and have a secure base to a larger extent than others (Granqvist et al., 2010). A vast number of studies have been conducted to examine the links between attachment to God and providing security, comfort, and well-being in times of significant difficulty and in general (Gall & Bilodeau, 2020; Giordano et al., 2017; Limke & Mayfield, 2011; Schottenbauer et al., 2006). Generally, secure attachment was associated with more positive images of God and feelings towards God (Granqvist, Mikulincer, Gewirtz, & Shaver, 2012; Reinert & Edwards, 2009), and insecure attachment was related to the image of God as controlling or unavailable (Granqvist et al., 2012; Pollard, Riggs, & Hook, 2014).

Just as individual differences in a human relationship can modulate the attachment system between people, they may also affect the attachment processes in the context of the perceived relationship with God (Granqvist & Kirkpatrick, 2013). Two general theories are proposed, which are seen as delineating two distinct pathways to how attachment to God may develop and function, a correspondence theory and a compensational theory.

Correspondence theory

The first theory proposes that one's relationship with God corresponds to or reflects his or her relationship with human attachment figures. Correspondence between internal working models of the self and others affects whether God is conceptualised as loving or harsh, distant or close, controlling or compassionate (Granqvist, 2002; Granqvist & Hagekull, 1999). Based on this expectation, securely attached individuals are expected to develop their perceived relations with a God that exhibit security attributes (Kirkpatrick & Shaver, 1992). In contrast, individuals who have experienced a negative relationship might experience a similar negative attachment to God. God would be viewed as punishing, wrathful, distant and conditional, while individuals can see themselves as unworthy of love, guilty and deserving of punishment (Kirkpatrick & Shaver, 1992).

Compensational theory

The second view proposes that the relation with God may operate in a compensatory manner (Granqvist & Hagekull, 1999; Granqvist et al., 2012). Individuals who experienced difficult attachments among humans may develop a positive relationship with God, who would serve as a safe haven, provide an attachment substitute and a secure base from which to approach the world. In this view, individuals with an insecure personal attachment tend to turn to God and religion in times of distress more often than those securely attached (Hall, Fujikawa, Halcrow,

Hill, & Delaney, 2009). Although individuals with insecure attachment history cannot rely on God for security to the same extent as people with a secure history can (Birgegard & Granqvist, 2004), God and religion, in general, can be used as compensation for the absence of a secure human relationship. Research has shown that participants after a threat to an essential interpersonal relationship or with a history of maltreatment, found their relationship to God to be a source of security (Counted, 2015; Davis et al., 2013) and help in the process of coping and recovery (Gall, Basque, Damasceno-Scott, & Vardy, 2007; Reinert & Edwards, 2009).

1.1.3.4 Attachment to God in a coping process

In distress situations, i.e., in stressful events, threats or illness, the attachment system is activated. In eliciting attachment behaviour, some individuals may turn to God, because this relationship meets their need for companionship, security and emotional support (Granqvist & Kirkpatrick, 2013; Granqvist et al., 2012). Studies focusing on the relationship between attachment to God and religious coping styles revealed that attachment style could serve as a source of coping and even predict the extent to which people utilise different coping types (Belavich & Pargament, 2002). Secure attachment to God is associated with positive religious coping, including accessing God as a source of strength, engaging in good deeds and fewer expressions of discontent (Cassibba et al., 2014; Cooper, Bruce, Harman, & Boccaccini, 2009; Gall & Bilodeau, 2020). In contrast, insecure attachment styles are related to a more negative religious coping style, characterised by a less positive relationship to God and a desire to keep God at a distance (Cooper et al., 2009; Gall & Bilodeau, 2020; Pollard et al., 2014). Moreover, people with a negative God image were found to prefer negative coping methods (Maynard, Gorsuch, & Bjorck, 2001).

Therefore, there is a need to understand the underlying processes of forming one's implicit image of God and related attachment issues because that may further influence choosing either PRC or NRC.

1.1.4 R/S associations with health

R/S are frequently referred to as protective factors regarding physical and mental health (Koenig, 2012; Zimmer et al., 2019). Numerous studies have linked R/S factors to health, and this relationship was commonly found to be positive (Oman, 2018; VanderWeele, 2017). However, some studies show either mixed or no health outcomes (Koenig, 2012; Levin, 2001; Mishra, Togneri, Tripathi, & Trikamji, 2017; VanderWeele, 2017). One possible source of discrepancies could be the type of R/S, i.e., the way R/S is used when dealing with difficult life situations or stressors (Goudarzian et al., 2019; Ironson, Kremer, & Lucette, 2016). Therefore, considering how people experience their R/S and understanding the mechanism through which R/S could influence health seems essential and helpful.

While associations between R/S and health are quite established, the mechanisms linking various aspects of R/S to health outcomes are less known (George, Ellison, & Larson, 2002; Underwood & Teresi, 2002). Some pathways were proposed to indirectly affect health outcomes (George et al., 2002; Koenig, 2012; Park, 2007). The most commonly mentioned include psychological factors, social support and behaviour (Malinakova, 2019). In addition, another pathway for a direct effect of R/S on health through physiological processes was proposed (Masters, 2008); however, this is difficult to be examined empirically.

1.1.4.1 Psychological pathway

The first pathway through which R/S can interact with health regards the influence of psychological factors. R/S can lead to a higher sense of the meaning of life (Peres, Kamei, Tobo, & Lucchetti, 2018), increased well-being (Lun & Bond, 2013) and positive self-appraisal (Oates, 2016).

Regarding personality traits, R/S persons were found to have lower scores of psychoticism and neuroticism, yet scored higher on extraversion, conscientiousness and openness (Koenig, 2012). Moreover, a role of R/S in dealing with difficult life situations or stressors was found to be associated with positive (Goudarzian et al., 2019; Ironson et al., 2016) as well as negative results (Bjorck & Thurman, 2007; Paika et al., 2017). Therefore, assessing the nature of spirituality seems essential.

1.1.4.2 Behavioural pathway

The second pathway through which R/S can influence health is related to the regulation of behaviour. R/S are connected to personal values (Hooker et al., 2014). There is "a denominational effect" (George et al., 2002) by which some religious traditions promote health habits or have norms and obligations that can lead to expected behaviour or prevention of diseases (Tarakeshwar, Pargament, & Mahoney, 2003). Thus, both R/S have also been found to be a protective factor in risk behaviour (Koenig, 2012; Pearce, Jones, Schwab-Stone, & Ruchkin, 2003), including a lower alcohol and substance use (Good & Willoughby, 2014; Haug, Nunez, Becker, Gmel, & Schaub, 2014), a reduction of smoking occurrence or postponing its onset (Kovacs, Piko, & Fitzpatrick, 2011; Nonnemaker, McNeely, & Blum, 2006) and risky sexual behaviour (Harakeh, de Looze, Schrijvers, van Dorsselaer, & Vollebergh, 2012).

In addition, R/S were found to be influential factors shaping individuals' decisions regarding health protection (Reindl Benjamins & Brown, 2004) and vaccination (Best et al., 2019; Costa, Weber, Darmstadt, Abdalla, & Victora, 2020; Thomas, Blumling, & Delaney, 2015). Although the majority of religions emphasise the importance of preserving health, protecting life and taking care of "the temple of a body" (Grabenstein, 2013; Pelcic et al., 2016), R/S have also been associated with anti-vaccination behaviour and the spread of conspiracy theories (Ruijs et al., 2012; Sturm & Albrecht, 2020).

1.1.4.3 Social pathway

The third pathway of interaction between R/S and health concerns is based on social group membership and social support. Identification with individuals sharing the same worldviews and beliefs may satisfy the need for belonging by offering confidence in the midst of uncertainty and increasing self-esteem (Ysseldyke, Burns, Scholin, & Parker, 2010) (Yssedlyk et al. 2010). In addition to participation in liturgy and spiritual support, religious institutions usually offer church-related social support and contacts (Diener, Tay, & Myers, 2011). Furthermore, affiliation to a religious group thus can buffer the negative effect of stress (George et al., 2002), serve as a positive coping strategy (Pargament et al., 2011) or be a source of self-identity (King, 2003).

However, some adverse effects of social support were found within religious groups, including constraints, criticism or pressure (Krause, Pargament, & Ironson, 2017). Moreover, a strong sense of group identity may lead to an intergroup conflict (van Prooijen & Douglas, 2018; Ysseldyke et al., 2010). Out-groups may be perceived as threatening (Marchlewska, Cichocka, Łozowski, Górska, & Winiewski, 2019; Sturm & Albrecht, 2020); thus, some in-group members may feel underappreciated by others (Cichocka, 2016), anxious or powerless (Abalakina-Paap et al., 1999; Jolley & Douglas, 2014). Therefore, social identity within a religious group with a shared network of beliefs and spirituality may play a role in the endorsement of conspiracy theories (Newheiser et al., 2011) and fundamentalism (Savage & Liht, 2008) with their adverse effects (Imhoff & Lamberty, 2018; Swami et al., 2014; van Prooijen & Douglas, 2018).

1.1.5 The secular setting of the Czech Republic

To see R/S as a solely personal phenomenon experienced out of a particular society is to overlook the cultural context in which these constructs have emerged and formed (Zinnbauer et al., 1999). According to some sources, the Czech Republic is one of the most secular countries globally, with the highest percentage (78.9%) of religiously unaffiliated people (Pew Research Centre, 2014). Moreover, the Czech Republic is also a specific case in Central and Eastern Europe (CEE), as most adults in the CEE believe in God or report identifying with a religious group (Pew Research Centre, 2016). However, 66.0% of the Czechs say they do not believe in God (Pew Research Centre, 2016; Evans, 2017).

The reasons for the high percentage of Czechs being unaffiliated may lie in history, where some patterns of the Czech opposition toward religious authorities can be tracked. The affiliation to the church, especially the Roman Catholic, which was connected to the ruling Austro-Hungarian monarchy, was associated with their hostility towards the Czech nation (Froese, 2005; Hamplova & Nespor, 2009). Therefore, at the time of the formation of an independent Czechoslovakia state after World War I, the idea of the Czech reformation from the 15th century, the Hussite movement (Froese, 2005), was renewed and created an almost nationwide opposition towards the church. The ideal of a modern Czech nation was connected to liberal values, which perceived the prevailing Catholicism as formal, unworldly and outdated, a religion inappropriate to an independent nation. The country's Catholic population of that

time declined by an estimated 1.5 million people, half of whom did not join another denomination (Hamplova, 2013).

This development was followed by the establishment of the communist regime after the World War II. The officially atheistic regime furthered the disaffiliation from the church, which started with the nationalist movement after creating an independent federal Czechoslovakia (Hamplova, 2013; Spousta, 2002). Unlike neighbouring countries, such as Poland, where being a believer emerged as a significant element of national identity, in the Czech lands being non-religious was connected to an integral part of being a progressive and modern citizen. Moreover, the church was seen as political power and organisation, bringing together opponents of the communist regime, and actively belonging to the church was often officially associated with hostility to the Czech nation (Hamplova & Nespor, 2009). Even after the fall of communism, the share of Czechs who claim to be religiously affiliated continued to decrease, and the retreat of traditional Roman Catholic religion has continued (Hamplova, 2013).

Although even among religiously non-affiliated Czechs those who believe in fate, the existence of the soul or the idea of “something above” can be found (Evans, 2017); but these concepts do not usually contain the features of religion or traditional theology. This certain apathy to religion (Václavík, Hamplová, & Nešpor, 2018), which is often accompanied by solid, anti-church feelings (Luzny & Navratilova, 2001), can be attributed to the aforementioned historical reasons for Czech church-lessness (Hamplova, 2013) and to a contemporary individualisation of Czech religiosity, as represented by the high levels of religious syncretism and ambivalent position of religion in everyday life (Václavík et al., 2018). However, Czech non-believers should be seen as somewhat religious sceptics who prioritise their spiritual needs without belonging to traditional religion, rather than complete atheists (Furstova, Malinakova, Sigmundova, & Tavel, 2021).

1.1.5.1 Assessing negative religious coping and religious conspiracy theories in a secular environment

Although people are more likely to use positive than negative religious coping (Cotton et al., 2006; Pargament et al., 2011), the prevalence of NRC varies from 7 to 50% in various populations (Grossoehme & Fitchett, 2013). This variation might be explained by differences in situational or clinical factors or by the variability of criteria employed to determine the presence of NRC (George Fitchett & Risk, 2009). Other explanations could involve differences in the cultural and societal context. Most studies on NRC have been conducted outside Europe (e.g., (Abu-Raiya et al., 2015; Ghorbani, Watson, Tahbaz, & Chen, 2017; Trevino et al., 2010) and only some within a European context (e.g., (Paika et al., 2017; Talik, 2013; Winter et al., 2009).

Furthermore, studies on religious coping in societies with varying levels of religiousness are not easily comparable (Hvidtjørn, Hjelmborg, Skytthe, Christensen, & Hvidt, 2014). Studies in Europe have tended to focus on religious people (Paika et al., 2017; Talik, 2013), and only a few studies have explored religiousness and their related coping strategies in a secular society (Ahmadi & Ahmadi, 2017; Hvidtjørn et al., 2014). As NRC, rather than PRC, predicts important adverse health outcomes (Pargament et al., 2011), inquiring about NRC in a secular country and minimising it may be beneficial.

In addition, studies have shown associations of conspiracy beliefs with R/S way of thinking (Beller, 2017; Douglas et al., 2016; Newheiser et al., 2011). R/S may facilitate one's attraction to conspiracies (Beller, 2017; van Prooijen & Douglas, 2018), and RCT may provide an explanation for phenomena that are difficult to understand or help incorporate things from even non-religious environment into one's wider belief system (Newheiser et al., 2011). However, the studies on association between R/S and conspiracy theories in secular environment, particularly studies on RCT, are lacking. Thus, the Czech Republic represents a unique setting to assess R/S. This study could contribute to studies on NRC and RCT in very secular countries and may help understand the underlying motives.

1.2 Aims of the study and research questions

The general aim of the thesis is to examine the area of R/S and religious coping and to broaden the understanding of their connections with each other and with human health. A further aim is to explore whether childhood trauma and insecure adult attachment are associated with the image of God and thus are possible roots of R/S and NRC. Finally, this thesis explores the associations of religiosity, spirituality and NRC with worsened mental health during the Covid-19 pandemic and the willingness to be vaccinated.

Five main research questions were formulated based on the previously stated aims.

Research question 1
Is there a connection between childhood trauma experiences and R/S in adulthood? Is this connection different in various combinations of religiosity and spirituality? Does an association exist between childhood trauma experience and the adult experience of religious conversion? (Chapter 3)

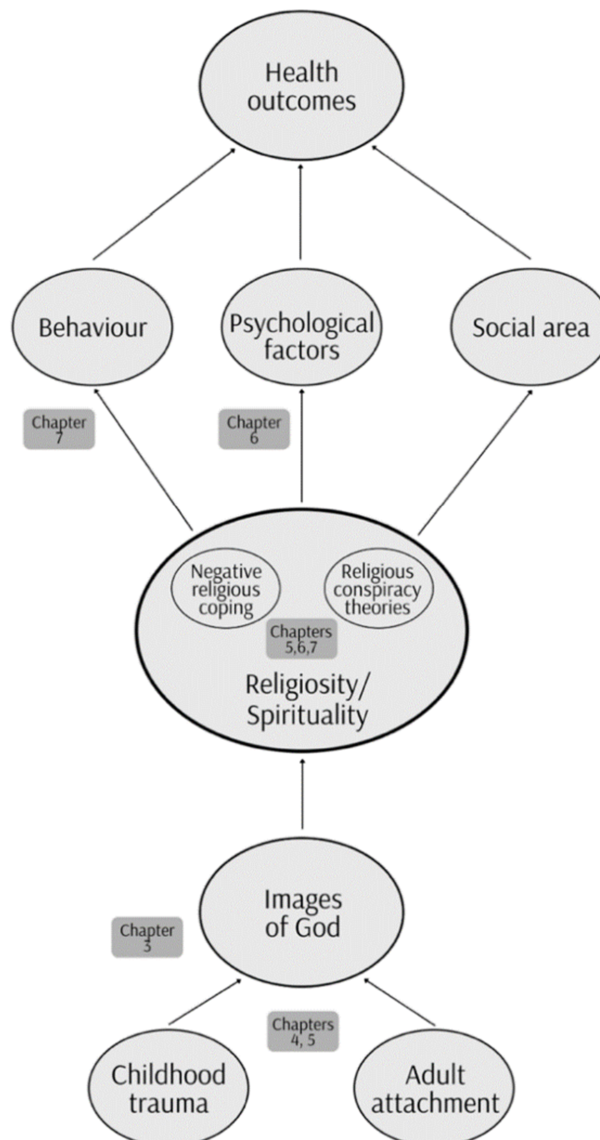
Research question 2
Could childhood trauma and insecure relationships in adulthood be one of the roots of the God image? Do the associations between various images of God and insecure attachment differ according to religiosity? (Chapter 4)

Research question 3
Does NRC reflect an insecure relationship in childhood and adulthood even in a secular environment? Which items show the most robust associations? (Chapter 5)

Research question 4
Is there an association between R/S and beliefs in religious conspiracy theories during the Covid-19 pandemic? Are religious conspiracy beliefs and negative religious coping linked to worsened mental health during the pandemic? (Chapter 6)

Research question 5
Does an association exist between R/S and beliefs in religious conspiracy theories about vaccination? Could R/S be one of the underlying issues in motivation to avoid vaccination against Covid-19? (Chapter 7)

Figure 1.1 Model of the relationships of attachment, R/S, negative religious coping and health with the research questions examined within this thesis.



1.3 Structure of the thesis

Chapter 1 contains general information and the scientific background on the theoretical constructs of the thesis: religiosity, spirituality and their associations with health. It focuses on the area of negative religious coping and the role of attachment in shaping it. The particular research questions, together with the study's main aims, are formulated in this chapter.

Chapter 2 describes the data sources and measures used. It also contains information on the particular study design and statistical analyses.

Chapter 3 focuses on childhood trauma and its associations with the adult experience of religiosity and spirituality.

Chapter 4 explores whether childhood trauma and adult relationship experiences may represent the roots of the image of God.

Chapter 5 focuses on the negative religious coping that can reflect a difficult childhood and adulthood relationship.

Chapter 6 explores religious conspiracy theories around Covid-19 and their associations with negative emotions and mental health.

Chapter 7 focuses on religious conspiracy theories around Covid-19 vaccination and their possible links to R/S and influence on the decision to get vaccinated.

Chapter 8 summarises and discusses the main findings of this thesis. It also explores the strengths and limitations of the study and its implications for further practice, policy and research.

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Chapter 2

DATA SOURCES

This chapter describes the study samples (2.1), measures (2.2) and statistical analyses (2.3) that are used in the thesis.

2.1 Study samples and procedures

This thesis is based on four different samples. An overview of the samples is provided in Table 2.1. Sample 1 was collected in 2016 as a nationally representative sample of the Czech adult population and was used in Chapters 3 and 4. Sample 2 is a sample of religious respondents derived from the nationally representative Sample 1 and was used in Chapter 5. Sample 3 was collected as an online sample and was used in Chapter 6. Sample 4, used in Chapter 7, was collected as an online sample in 2021.

For Sample 1, a national representative sample of the Czech population aged fifteen and older was used. The sample was acquired using a two-step procedure. As a part of the pre-research, 206 respondents verified the research tools and wording of the questions. The data was collected by professionally trained administrators in September and October 2016 using a structured face-to-face interview with the respondents. A total of 2,184 randomly selected participants were chosen with the help of quota sampling and were asked to participate in a study on the problems of health, life experiences, attitudes and lifestyle. Of these respondents, 384 (17.6%) refused to participate in the survey; most of them were men of a younger age. The main reasons for rejection were lack of time (39.2%), lack of interest or indifference and distrust in research in general (24.0%), unsatisfactory research topic and the personal nature of the questions (17.2%) and the length and complexity of the questionnaire (11.2%). The final research group, consisting of 1800 participants from the population of the Czech Republic, meets the characteristics of a representative group in terms of gender (48.7% men), age composition (aged 15 to 88 years, with an average value of 46.61 years), education (primary 7.8%, secondary 72.0% and university 20.2%), and finally, in terms of regional affiliation to the 14 regions of the Czech Republic, with a proportional representation according to the number of inhabitants in particular regions.

Sample 2 is derived from representative sample 1. For the study in Chapter 5, only respondents who reported themselves as religious were selected. Thus, this sample consisted of 531 participants.

For Sample 3, we obtained data from the Czech population aged 18 to 97. The data was collected in April 2020 through an anonymous online survey aimed at depicting the actual situation through the most critical time of the first wave of the Covid-19 pandemic. The survey was prepared at the researcher's institution, and a professional agency ensured its distribution in order to achieve a balanced sample regarding age and gender. To ensure the high quality of the data, the following exclusion criteria were applied: 1) extremely short time filling in the survey (i.e., less than 10 minutes for a survey that lasted around 45 minutes), which would not allow respondents to fill in the survey thoughtfully; 2) a unified pattern of responses, i.e., responding to the most of the items in the survey in the same way. After exclusion of these problematic subjects (n=13), the final sample consisted of 1273 respondents (mean age=47.5, SD=16.4; 51.5% male).

For Sample 4, data from an online survey were obtained. The survey was conducted in April 2021 during the vaccination process, when nearly 10 percent of a Czech population was already fully vaccinated (MZČR online, 2021). The online survey was prepared at the researcher's institution and distributed by a professional agency to achieve a balanced sample regarding age and gender. The obtained data contained 1662 participants, but to ensure the high quality of the data, low quality respondents (i.e., with a very short period of time filling in the survey and responding inconsistently to control questions regarding years, weight and height) were excluded. The remaining sample consisted of 1492 respondents (mean age=51.46, SD=16.05; 49.9% male). The final sample consisted of 459 participants, because beliefs in religious conspiracy theories (RCT) and religious fundamentalism (MDFI) were assessed only among the respondents who reports themselves as religious.

At the beginning of the surveys, participants were informed about the anonymised handling of data, about the possibility of leaving the study at any time before or during the survey without giving reasons and they had to explicitly express their informed consent with participation before starting the study. Respondents also received written information on the aim of the study and were made familiar with the system. The study designs were approved by the Ethics Committee of the Faculty of Physical Culture, Palacký University in Olomouc (No. 2016/3; Samples 3, 4 and 5), by the Ethics Committee of the Faculty of Theology, Palacký University in Olomouc (No. 2020/06) and by the Ethics Committee of the Faculty of Theology, Palacký University in Olomouc (No. 2021/06).

Table 2.1 Basic characteristics of the samples

Sample	Origin	Participants	Chapter
1	Adult representative sample 2016	1800	3, 4
2	Adult sample 2016	531	5
3	Online sample 2020	1273	6
4	Online sample 2021	459	7

2.2 Measures

This section provides an overview of the variables used in this study. Brief information on the measures and their short descriptions are summarised in Table 2.2

Table 2.2 Overview of the variables used in this thesis

Measure	Source	Role in analyses	Chapters	Indicator of
Daily Spiritual Experience Scale	Adult representative sample 2016	dependent and independent	3, 6, 7	spirituality
Religiosity	Adult representative sample 2016	dependent and independent	3, 4, 6, 7	religiosity
Brief RCOPE	Adult representative sample 2016	dependent and independent	5, 6	negative religious coping
Image of God	Adult representative sample 2016	dependent	4	image of God
Experiences in Close Relationships-Revised	Adult representative sample 2016	independent	4, 5	relationship anxiety and avoidance
Childhood Trauma Questionnaire	Adult representative sample 2016	independent	3, 4, 5	childhood trauma
Conversion experience	Adult representative sample 2016	dependent	3	religious stability
Brief Symptom Inventory	Adult representative sample 2016	dependent confounder	5, 6	anxiety, depression, paranoia
Overall Anxiety Severity and Impairment Scale	Online sample 2020	dependent	6	mental health
Overall Depression Severity and Impairment Scale	Online sample 2020	dependent	6	mental health
Negative feelings impairment	Online sample	dependent	6	mental health
Religious conspiracy theories around Covid-19	Online sample 2020	dependent and independent	6	beliefs in religious conspiracy theories about Covid-19

Table 2.2 (continued)

Measure	Source	Role in analyses	Chapters	Indicator of
Religious conspiracy theories around Covid-19 vaccines	Online sample 2021	dependent and independent	7	beliefs in religious conspiracy theories about Covid-19 vaccines
Vaccine intentions	Online sample 2021	Dependent	7	acceptance, hesitancy and refusal of a Covid-19 vaccine
Religious fundamentalism	Online sample 2021	Independent	7	fundamentalism

2.3 Statistical analyses

Several statistical methods were used across this study. All analyses were performed using the statistical software packages IBM SPSS version 21 and 25 (IBM Corp., Armonk, NY, USA) and R version 3.4.0 (R Core Team, 2020). Each chapter provides detailed information on the statistical methods used.

In general, in the first step, the background characteristic of the sample and the observed categorical variables were described. Because of the parameters' unspecified distribution of the data, nonparametric methods were used to compare different sociodemographic groups. Further analyses reflected the aims of particular articles. To assess the psychometric properties of the measurement tools, the calculation of the internal consistency indicator, Cronbach's alpha (α), was used. Associations between the observed variables are analysed using binary logistic or multinomial linear regression models, both crude and adjusted for potential confounders. Independent variables were usually assessed separately and then in an interaction.

Chapter 3

CHILDHOOD TRAUMA IS ASSOCIATED WITH THE SPIRITUALITY OF NON-RELIGIOUS RESPONDENTS

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Published in International Journal of Environmental Research and Public Health, 2020, 17, 1268.

Abstract

Background: Childhood trauma experience (CT) is negatively associated with many aspects of adult life. Religiosity/spirituality (R/S) are often studied as positive coping strategies and could help in the therapeutic process. Evidence on this is lacking for a non-religious environment. The aim of this study was to assess the associations of different types of CT with R/S in the secular conditions of the Czech Republic.
Methods: A nationally representative sample (n = 1800, mean age = 46.4, SD = 17.4; 48.7% male) of adults participated in the survey. We measured childhood trauma, spirituality, religiosity and conversion experience.
Results: We found that four kinds of CT were associated with increased levels of spirituality, with odds ratios (OR) ranging from 1.17 (95% confidence interval 1.03–1.34) to 1.31 (1.18–1.46). Non-religious respondents were more likely to report associations of CT with spirituality. After measuring for different combinations of R/S, each CT was associated with increased chances of being "spiritual but non-religious", with OR from 1.55 (1.17–2.06) to 2.10 (1.63–2.70). Moreover, converts were more likely to report emotional abuse OR = 1.46 (1.17–1.82) or emotional neglect with OR = 1.42 (1.11–1.82).
Conclusions: Our findings show CT is associated with higher levels of spirituality in non-religious respondents. Addressing spiritual needs may contribute to the effectiveness of psychotherapeutic treatment of the victims.

Keywords: childhood trauma; abuse; neglect; spirituality; religiosity; conversion

3.1 Introduction

Religiosity and spirituality (R/S) represent for many people important dimensions of their everyday lives, and they are also increasingly associated with human health. Spirituality is nowadays seen as an individual's contentedness towards a Higher Power, a search for harmony, a sense of the meaning of life and spiritual well-being (Ellison, 1983; Koenig, 2009), whereas religiosity can be described in terms of church attendance, institutional beliefs and rituals and theology prescribed by a particular institution (Zinnbauer et al., 1997) . Studies mostly show a positive impact of both R/S on healthy attitudes and behaviour (Aldwin, Park, Jeong, & Nath, 2014; Rew & Wong, 2006). Moreover, associations can also be found between R/S and self-rated health and life satisfaction as well as both physical and mental health (Dankulincova Veselska et al., 2018).

Specifically, in the area of mental health spirituality is connected with a lower occurrence of anxiety and depressive symptoms (Goncalves et al., 2018; Moon & Kim, 2013) and represents a strong coping strategy for dealing with serious illnesses or difficult life situations (Chang et al., 2018; Duarte, Lucchetti, Teixeira, & Rigatto, 2020; Goudarzian et al., 2019). However, research also shows negative associations of so-called religious and spiritual struggles with health (Ghorbani, Watson, Tahbaz, & Chen, 2017; Rosmarin, Pargament, Krumrei, & Flannelly, 2009). Furthermore, it shows the impact of negative religious coping on worse quality of life, lower life satisfaction (Paika et al., 2017), worse physical functioning (Taheri-Kharameh, Zamanian, Montazeri, Asgarian, & Esbiri, 2016) and a decline in health (Ghorbani, Watson, Sahar Tahbaz, & Chen, 2017). These findings highlight the need for understanding under what conditions people tend to use either positive or negative religious coping.

Research shows that R/S tends to be shaped by family arrangement, upbringing and peer attachment (Desmond, Morgan, & Kikuchi, 2010). It may also be partially influenced by personality traits, though no causality has thus far been proved (Koenig, 2015). Nevertheless, the experience of childhood trauma seems to be a strong factor associated with R/S development. R/S may be influenced by a traumatic event in a positive but also in a negative way (ter Kuile & Ehring, 2014). In some cases, trauma resulted in post-traumatic growth (Brooks, Lowe, Graham-Kevan, & Robinson, 2016) or led to the use of R/S as a coping strategy as a means of recovering through the use of prayer, Holy Scripture, dialogue with a middle-man or faith in a Higher Power's justice (Bryant-Davis, 2005). In a negative sense, some victims of abuse deny faith in a Higher Power or stop their religious attendance (Walker, Reid, O'Neill, & Brown, 2009). In these victims, a lower score in different spirituality dimensions, such as a reason for living, perceiving one's productivity or feeling peaceful after surviving a trauma, is also observed (Sansone, Kelley, & Forbis, 2013). Research shows that depressive symptoms are more likely to develop among those who have experienced abuse and that their R/S decreases after a traumatic experience (Van Dyke, Glenwick, Cecero, & Kim, 2009).

The Czech Republic, as one of the post-communist countries, is characterised by a high degree of secularisation, as most people do not report any religion affiliation or regular church attendance (Malinakova et al., 2018). Therefore, the aim of this study is to assess the associations

of different types of childhood trauma with R/S among Czech adults in a secular environment, taking into account different combinations of respondents' spirituality and religiosity status.

3.2 Materials and Methods

3.2.1 Participants and Procedure

We used a national sample of the Czech population aged fifteen years and older. We conducted a two-step process. The first step was a pilot procedure realised among 206 participants. This process led to the final version of the survey. The second step was the recruitment of another 2184 participants chosen randomly by a quota sampling and asked to participate in a study on the issues of health, life experiences and attitudes and lifestyle. Quota sampling is a sampling technique often used in research to imitate the known characteristics of the population in the sample, allowing relationships between subgroups to be observed. In this case the criteria that allowed the construction of a representative sample corresponding to the adult Czech population (aged 15 years and over) with regards to gender, age, education and religious affiliation were used. Of these participants, 384 (17.6%) refused to conduct the survey due to lack of time (39.2%), lack of interest in the research or distrust in general (24.0%) or the length and difficulty of questionnaire questions (11.2%).

Professionally trained administrators collected data in September and October 2016 using standardised face-to-face interviews. Participation in the survey was anonymous and voluntary. The final sample consisted of 1800 respondents. The study design was approved by the Ethics Committee of the Olomouc University Social Health Institute, Palacky University Olomouc (No. 2016/3).

3.2.2 Measures

Childhood trauma was assessed using the Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 2003). The CTQ is a standardised inventory consisting of 28 items, which was developed to assess the importance of five types of abuse and maltreatment experienced in childhood or adolescence. The CTQ corresponds to five subscales: Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect and Physical Neglect. Each of the subscales consists of five items rated on a 5-point Likert-type scale within the range from 'never' (1) to 'often' (5), resulting in scores from 5 to 25 for each subscale. The possibility of quantifying the degree of maltreatment and abuse makes this instrument unique (Bernstein et al., 2003). We used the CTQ validated for Czech conditions (Kascakova et al., 2018), which was introduced by the statement "The following questions are related to some of your childhood or adolescent experiences" in order to be sure that the trauma occurred in childhood/adolescence. Cronbach's alpha for the CTQ subscales in our sample ranged from 0.62 to 0.89.

Religiosity was measured with the question: "At present, would you call yourself a believer?" with possible answers: 'yes, I am a member of a church or religious society'; 'yes, but I am not a member of a church or religious society'; 'no'; 'no, I am a convinced atheist'.

Spirituality was measured using the Daily Spiritual Experience Scale (DSES) (Underwood, 2006). The scale measures the frequency of ordinary experiences of connection with transcendence in everyday life. In the present study an adapted 15-item version of the scale (Malinakova et al., 2018) was used. Each item was evaluated on a six-degree Likert scale graded according to the intensity of experiencing the observed phenomena, ranging from 'many times a day' (1) to 'never' (6). A higher intensity of experience corresponds to higher levels of spiritual experience. For the analysis we used the total score as a continuous variable. Cronbach's alpha was 0.96.

Religiosity and spirituality were further combined into four groups – 'religious/spiritual', 'non-religious/spiritual', 'non-spiritual/religious' and 'non-religious/non-spiritual' - in order to distinguish between spiritual experience and religious affiliation and to assess their interaction.

Conversion experience was assessed with the question "Have you ever experienced something that could be called a religious conversion (acceptance or change of denomination)?" with possible answers: 'yes'; 'no'. The term denomination means acceptance of a new religion, which is broader than just a change within the same religion. Those answering in a positive way were further considered as converts.

The background characteristics gender, age, education level, marital status and economic activity were obtained by means of a questionnaire. Education level was obtained by marking the highest educational level achieved from elementary, secondary vocational, secondary graduation and college education. The marital status question offered the possibility of choosing from living alone statuses or from living with a partner status. Economic activity assessed employment, unemployment, self-employment, being a student or retiree.

All instruments were available in the Czech language.

3.2.3 Statistical Analyses

In the first step, the background characteristics of the sample and the observed categorical variables were described, comparing the groups with four different R/S combinations. We then assessed the associations of different childhood trauma, standardised to z-scores, with spirituality using a binary logistic regression, first crude and consequently adjusted for gender, age, education and marital status. In the next step, the associations of different kinds of childhood trauma, assessed as a continuous variable standardised to z-scores, with non-religious/spiritual groups, religious/spiritual and religious/non-spiritual groups were analysed using a multinominal logistic regression. The models were assessed crude and adjusted for gender, age and educational level. Finally, the analyses were also repeated for the association of childhood trauma and experience of conversion. All analyses were performed using the statistical software package IBM SPSS version 25 (IBM Corp., Armonk, NY, USA).

3.3 Results

3.3.1 Description of the Population

The background characteristics of the sample are presented in Table 3. 1. The sample is representative of the Czech population aged 15 years and over (mean age 46.4, SD = 17.4; 95% CI = 45.60–47.21; 48.7% men). Of the whole sample, 349 respondents (19.4%) described themselves as religious but non-spiritual, and 182 respondents (10.1%) as both religious and spiritual. Furthermore, 60 participants reported having had a conversion experience.

Table 3.1 Description of the study population, total and by R/S

	Total		Religious spiritual		Religious non-spiritual		Non-religious spiritual		Non-religious non-spiritual	
	n	%	n	%	n	%	n	%	n	%
Gender										
Male	877	48.7	72	8.2	159	18.1	21	2.4	625	71.3
Female	923	51.3	110	11.9	190	20.6	19	2.1	604	65.4
Age										
15-29 years old	410	22.8	19	4.6	67	16.3	11	2.7	313	76.3
30-44 years old	449	24.9	35	7.8	70	15.6	11	2.4	333	74.2
45-59 years old	443	24.6	47	10.6	93	21.0	11	2.5	292	65.9
60-90 years old	498	27.7	81	16.3	119	23.9	7	1.4	291	58.4
Living arrangement										
With husband/wife	921	51.2	110	11.9	195	21.2	19	2.1	597	64.8
With unmarried mate	351	19.5	13	3.7	54	15.4	12	3.4	272	77.5
Alone	353	19.6	42	11.9	74	21.0	6	1.7	231	65.4
With parents/siblings	175	9.7	17	9.7	26	14.9	3	1.7	129	73.7
Marital status										
Single/ Divorced/ Widow(er)	730	40.6	64	8.8	135	18.5	18	2.5	513	70.3
Married/ Partner relationship	1070	59.4	118	11.0	214	20.0	22	2.1	716	66.9

Table 3.1 (continued)

	Total		Religious spiritual		Religious non-spiritual		Non-religious spiritual		Non-religious non-spiritual	
	n	%	n	%	n	%	n	%	n	%
Highest education achieved										
Elementary school	141	7.8	13	9.2	24	17.0	2	1.4	102	72.3
Secondary vocational school	442	24.6	57	12.9	93	21.0	11	2.5	281	63.6
Secondary school with graduation	854	47.4	74	8.7	160	18.7	17	2.0	603	70.6
College	363	20.2	38	10.5	72	19.8	10	2.8	243	66.9
Economic activity										
Employee	939	52.5	70	7.5	171	18.2	21	2.2	677	72.1
Self-employed	170	9.5	20	11.8	25	14.7	8	4.7	117	68.8
Household[a]/ Unemployed	83	4.6	8	9.6	19	22.9	0	0.0	56	67.5
Student	178	9.9	10	5.6	29	16.3	4	2.2	135	75.8
Disabled/Old-age pensioner	430	23.9	74	17.2	105	24.4	7	1.6	244	56.7
Religiosity[b]										
Believer, church member	170	9.4	107	62.9	63	37.1	0	0	0	0
Believer outside the church	361	20.1	75	20.8	286	79.2	0	0	0	0
Non-believer	1004	55.8	0	0	0	0	32	3.2	972	96.8
Convinced atheist	265	14.7	0	0	0	0	8	3.0	257	97.0
Total	**1800**	**100**	**182**	**10.1**	**349**	**19.4**	**40**	**2.2**	**1229**	**68.3**

Note: [a] including maternity leave
[b] independently of church attendance

3.3.2 Adult Spirituality

As the first step, we assessed the associations of religiosity with different children trauma experiences; however, the results were not significant. Nevertheless, assessing spirituality (see Table 3. 2) showed significant positive results, with ORs ranging from 1.17 (95% confidence

interval 1.03–1.34) to 1.31 (1.18–1.46) for the adjusted group. Furthermore, when respondents were divided according to their religiosity the ORs ranged from 1.55 (1.17–2.06) to 2.10 (1.63–2.70) for the non-religious adjusted group. For the whole sample, each kind of traumatic experience was associated with an increased level of adult spirituality, with the exception of emotional neglect. When the complete sample was split into religious and non-religious respondents, the associations in the religious group were statistically insignificant for any type of trauma, while there was an increase in the odds of spirituality for the non-religious group. Moreover, emotional neglect also showed a significant association with spirituality ($p < 0.01$) when assessed separately in the non-religious respondents.

Table 3.2 Associations of different childhood trauma experiences with adult spirituality (per standard deviation, scores standardised to z-scores): results of binary logistic regression crude and adjusted for gender, age and education level leading to odds ratios (OR) with 95% confidence intervals (95% CI).

		Adult spirituality crude **OR (95% CI)**	**Adult spirituality adjusted** **OR (95% CI)**
Emotional abuse	Complete sample	**1.15 (1.01-1.30)***	**1.17 (1.03-1.34)***
(per SD)[a]	NR	**1.61 (1.32-1.98)*****	**1.64 (1.33-2.02)*****
	R	0.99 (0.83-1.18)	1.01 (0.84-1.21)
Physical abuse	Complete sample	**1.29 (1.15-1.44)*****	**1.29 (1.16-1.45)*****
(per SD)[a]	NR	**1.72 (1.45-2.03)*****	**1.72 (1.45-2.04)*****
	R	1.15 (0.97-1.37)	1.14 (0.96-1.36)
Sexual abuse	Complete sample	**1.30 (1.18-1.47)*****	**1.31 (1.18-1.46)*****
(per SD)[a]	NR	**1.73 (1.48-2.02)*****	**1.73 (1.48-2.03)*****
	R	1.15 (0.97-1.36)	1.16 (0.98-1.38)
Emotional neglect	Complete sample	1.08 (0.93-1.22)	1.04 (0.90-1.19)
(per SD)[a]	NR	**1.54 (1.16-2.04)****	**1.55 (1.17-2.06)****
	R	0.95 (0.79-1.13)	0.91 (0.76-1.10)
Physical neglect	Complete sample	**1.29 (1.14-1.47)*****	**1.24 (0.09-1.41)****
(per SD)[a]	NR	**2.00 (1.57-2.57)*****	**2.10 (1.63-2.70)*****
	R	1.16 (0.98-1.39)	1.11 (0.93-1.34)

Notes: *p < 0.05, **p < 0.01, ***p < 0.001
NR – non-religious, R = religious
SD = standard deviation
[a] score standardised to z-scores

3.3.3 Religiosity/Spirituality

The results of multinominal logistic regression are shown in Table 3.3. Different combinations of respondents' R/S revealed that all kinds of childhood trauma are significantly ($p < 0.01$ or $p < 0.001$) associated with increased chances of being non-religious/spiritual, where the highest chances were found for physical neglect with OR = 2.10 (1.63–2.70) in the adjusted model. In contrast, the associations of childhood trauma with other R/S combinations were not significant.

Table 3.3 Associations of different childhood trauma experiences (per standard deviation, scores standardised to z-scores) with R/S combinations: results of multinominal logistic regression crude and adjusted for age, gender and education level leading to odds ratios (OR) with 95% confidence intervals (95% CI).

	Non-religious/spiritual		**Religious/spiritual**		**Religious/non-spiritual**	
	Crude	Adjusted	Crude	Adjusted	Crude	Adjusted
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Emotional abuse	**1.61 (1.32-1.98)*****	**1.64 (1.33-2.02)*****	0.99 (0.82-1.18)	1.01 (0.84-1.21)	1.03 (0.92-1.16)	1.05 (0.93-1.19)
Physical abuse	**1.72 (1.45-2.03)*****	**1.72 (1.45-2.04)*****	1.14 (0.97-1.37)	1.14 (0.96-1.36)	0.99 (0.87-1.13)	0.99 (0.86-1.13)
Sexual abuse	**1.73 (1.48-2.02)*****	**1.73 (1.48-2.03)*****	1.15 (0.97-1.36)	1.16 (1.00-1.38)	1.00 (0.87-1.15)	1.00 (0.87-1.15)
Emotional neglect	**1.54 (1.16-2.03)****	**1.55 (1.17-2.06)****	1.95 (0.79-1.13)	0.91 (0.76-1.10)	1.04 (0.92-1.17)	1.01 (0.90-1.14)
Physical neglect	**2.00 (1.57-2.58)*****	**2.10 (1.63-2.70)*****	1.16 (0.98-1.37)	1.11 (0.93-1.34)	0.98 (0.86-1.10)	0.93 (0.82-1.06)

Notes: *p < 0.05, **p < 0.01, ***p < 0.001
SD = standard deviation

3.3.4 Experience of Conversion

Table 3.4 depicts the associations of childhood trauma with a conversion experience. Respondents who reported emotional abuse or emotional neglect were more likely to have had a conversion experience ($p < 0.01$), whereas the other kinds associations with the other kinds of trauma were not significant.

Table 3.4 Associations of different childhood trauma experiences (per standard deviation, scores standardised to z-scores) with conversion experience: results of binary logistic regression crude and adjusted for age, gender and education level leading to odds ratios (OR) with 95% confidence intervals (95% CI).

	Conversion experience	
	Crude OR (95% CI)	Adjusted OR (95% CI)
Emotional abuse	**1.44 (1.16-1.79)****	**1.46 (1.17-1.82)****
Physical abuse	1.04 (0.80-1.34)	1.02 (0.78-1.33)
Sexual abuse	0.90 (0.65-1.26)	0.90 (0.64-1.27)
Emotional neglect	**1.43 (1.12-1.83)****	**1.42 (1.11-1.82)****
Physical neglect	0.99 (0.75-1.30)	0.97 (0.74-1.29)

Notes: *p < 0.05, **p < 0.01, ***p < 0.001

SD = standard deviation

3.4 Discussion

The aim of this study was to assess the associations of childhood trauma experience with adult R/S in a secular environment. The results indicated that individuals who have an experience of childhood traumatic event(s) are more likely to achieve a higher spirituality score. However, the differences between the groups with different combinations of R/S suggest that childhood trauma experience increases the chances of being spiritual only among non-religious individuals, as the association among the others were not significant. Furthermore, we found that the respondents with an experience of emotional abuse or emotional neglect were more likely to report having had a conversion experience.

We found that all kinds of childhood trauma, except emotional neglect, were associated with an increase in adult spirituality throughout the complete sample. However, emotional neglect was indeed associated with an increased level of spirituality, but only in non-religious

respondents. Our findings are consistent with previous research describing the effect of childhood trauma experience on adult spirituality (Lee, Park, & Hale, 2016; Song, Min, Huh, & Chae, 2016; Starnino & Sullivan, 2016). An explanation may be that spirituality helps in the effort to incorporate the traumatic event into life and can offer support in the recovery process (Shaw, Joseph, & Linley, 2005). Similarly, spirituality may offer an opportunity for personal post-traumatic growth, which can be characterised by a change of self-perception, relationship enhancement or greater resilience, and a change of life philosophy, such as a new appreciation of life or spiritual beliefs (Baillie, Sellwood, & Wisely, 2014). Several studies have shown spirituality to have a positive effect on victims' recovery process after trauma and to be connected to positive changes in trauma survivors' lives (Baillie et al., 2014; Starnino & Sullivan, 2016).

Our second finding—that religious respondents reported no increase in their adult spirituality following a childhood trauma experience—is in line with other authors who report that for religious people it may be more difficult to reappraise the meaning of trauma. Such trauma is connected to their core beliefs and may cause a shift from a benevolent and protective Higher Power to a Higher Power that is distant, allows suffering to occur and/or has abandoned them (Starnino & Sullivan, 2016; Webb, Sink, McCann, Chickering, & Scallon, 2010). Thus, religious respondents may be even more likely to experience a decrease in spirituality (ter Kuile & Ehring, 2014). Moreover, it is possible that religious respondents already had some level of spirituality (Zinnbauer et al., 1997) before the trauma occurred and they keep it regardless of the trauma. Thus, in this situation we would not observe any significant increase in spirituality. However, there is a partial discrepancy with previous studies, which found a negative relationship between trauma and later R/S (Sansone et al., 2013) and in which victims associated their trauma experience with the Higher power's punishment and the desire to keep the Higher Power at a distance (Harris et al., 2012; Starnino & Sullivan, 2016).

Furthermore, having assessed various R/S combination groups, we found that all kinds of childhood trauma are associated with an increased level of being spiritual but non-religious. This may help to understand the mixed findings on associations between trauma and R/S in various studies (see (Chen & Koenig, 2006)for review). A possible explanation may be that only some studies assessed the combination of both religiosity and spirituality with trauma (e.g., (Fontana & Rosenheck, 2004; Maercker & Herrle, 2003), while the majority of studies assessed associations of trauma either with religiosity (e.g., (ter Kuile & Ehring, 2014) or spirituality (e.g., (Gall, Basque, Damasceno-Scott, & Vardy, 2007; Song et al., 2016) or kept a distinction between religiosity and spirituality as separate constructs (Hill & Pargament, 2008). However, R/S is a multifaceted construct that includes attitudes, behavior and beliefs (Hooker, Masters,

& Carey, 2014), and various measures are used to access any part of this construct and spiritual change particularly (ter Kuile & Ehring, 2014) and thus may lead to different results. Moreover, we consider our findings of an increased level of being spiritual but not religious to be a consequence of an effort to incorporate trauma into one's life and reappraise its meaning (Park, 2005). Non-religious people in their meaning-making after trauma may search for something outside the material word to help them reappraise their existential despair and find a new global meaning after their basic trust was violated. They may be disappointed by the material world and turn to the sacred (Pargament & Mahoney, 2009) and to individual spirituality independently of any organised forms. In addition, we can assume that in the secular Czech environment the search for the sacred and the meaning of life after a traumatic experience is not connected with religiosity due to the specific historical and cultural background. There are a lot of prejudices against churches and organised forms of religion in Czech society (Nešpor, 2004) as well as difficulties in the relationship between the non-religious and members of a church (Nesporova & Nespor, 2009) when dealing with a traumatic event.

Finally, our findings that emotional abuse and emotional neglect are associated with higher chances of a conversion experience further support the connection of childhood trauma with adult R/S, i.e., an individual's desire for a connection to a Higher Power, either in the form of an organised system (religion) or in the form of non-institutional identification with the sacred. In order to cope with trauma, victims use various coping strategies, and R/S is a well-documented strategy that may help a person understand and deal with stressors (Bryant-Davis, 2005; Pargament, Koenig, & Perez, 2000). We suggest that even for non-believers, identification with the sacred can become a source of self-significance (Mahoney & Pargament, 2004), and R/S may alter their understanding of suffering not fulfilled by the material world. Moreover, the conversion experience could stem from emotional and relationship needs (Granqvist & Kirkpatrick, 2004), which may lead to the search for security and a safe haven. Thus, our results are in line with the compensational hypothesis (Granqvist & Hagekull, 2001) that connects insecure attachment with spiritual development. Victims of emotional abuse or neglect may not have developed secure relationships (Gall et al., 2007) and may involve God in their lives as a substitute figure and source of emotional security (Granqvist, 2005).

3.4.1 Strengths and Limitations

One of the main strengths of our study is the large representative sample and its realisation in a mostly secular environment, where no strong affiliation to any religion is present. Therefore, the results are more likely to be independent of any religious specificity, such as an image of a

Higher Power or a typical religious practice. The second strength is the assessment of various types of childhood trauma and abuse in combination with both religious affiliation and spirituality.

There are some limitations in our study, as well. Related to previous research, we consider the fact that we don't know the exact source of trauma—who or what caused it—as a limitation. Moreover, another limitation is that we have no information about the time between the childhood trauma and the conversion experience or whether the victims received any psychiatric treatment. Furthermore, we don't know whether any of the 384 respondents who refused to participate in the study had undergone some childhood trauma experience, which could cause selection bias. The next limitation is the cross-sectional design of the study, which does not allow us to make causal inferences. Another limitation may involve information bias, as our data were based on self-reports of respondents, which may be influenced by social desirability. These limitations should be included in a follow-up study in order to achieve a better and more precise understanding of childhood trauma experience on human personality and to know how to help victims cope with traumatic event.

3.4.2 Implications

The results of our study are beneficial for workers in helping professions, such as psychotherapy, psychosomatic medicine, social work or pastoral care. They also contribute to extend the perspective on factors that provide aid those experiencing personal trauma and dealing with trauma. Furthermore, our findings shed light on the way to understand the interconnectedness of aspects affecting the personality of trauma survivors, which could be beneficial in the process of trauma recovery. Moreover, our results stress the idea of internalisation of spiritual values, which could support the effectiveness of interventions. Further research should focus on more specific distribution of the respondent groups according to their religiosity or spirituality and should also take into account possible sources of trauma and the personality of a perpetrator.

3.5 Conclusions

Our findings show that childhood trauma is associated with R/S in adulthood. However, a significantly higher spirituality following a traumatic experience was observed only among non-religious individuals. Therefore, further research is needed in order to clarify and understand the process underlying the associations between R/S and childhood trauma in order to help victims deal better with traumatic events.

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Chapter 4

CHILDHOOD TRAUMA AND EXPERIENCE IN CLOSE RELATIONSHIPS ARE ASSOCIATED WITH THE GOD IMAGE: DOES RELIGIOSITY MAKE A DIFFERENCE?

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Published in International Journal of Environmental Research and Public Health, 2020, 17, 8841.

Abstract

Background: Religiosity and spirituality (R/S) and some of their specific aspects are associated with health. A negatively perceived relationship with God, which has adverse health outcomes, can be formed by human attachment both in childhood and adulthood. The aim of this study was to assess the associations of childhood trauma (CT) and experience in close relationships (ECR) with the God image in a secular environment by religiosity.
Method: A national representative sample of Czech adults (n=1800, 51.1±17.2 years; 43.5% men) participated in a survey. We measured CT (Childhood Trauma Questionnaire), ECR (Experiences in Close Relationships-Revised Questionnaire), image of God (questions from the 2005 Baylor Survey) and religiosity.
Results: Our results showed associations of CT and ECR with God images. Respondents who experienced CT were less likely to describe God as loving, always present and forgiving. Religious respondents were less likely to report positive God images with odds ratios (ORs) from 0.78 (0.66-0.94) to 0.95 (0.91-0.99), non-religious respondents reported negative God images with ORs from 1.03 (1.00-1.06) to 1.22 (1.08-1.37).
Conclusions: We found CT and problems in close relationships in adulthood are associated with a less positive God image, especially in non-religious. Understanding these associations may help prevent detrimental health outcomes.

Keywords: childhood trauma; experience in close relationships; image of God; religiosity

4.1 Introduction

A growing body of research suggests that religiosity and spirituality (R/S) have positive associations with many aspects of people's lives (Koenig, 2012; Lun & Bond, 2013). However, a small number of studies can be found that show opposite or mixed results (Koenig, 2012). Besides other possible explanations, e.g., measurement problems and socio-cultural differences (Malinakova, Tavel, Meier, van Dijk, & Reijneveld, 2020), it is also possible to consider different ways in which people experience their R/S, specifically their perceived quality of the relationship with God (Gall, 2004) and the image of God (Greenway, Milne, & Clarke, 2003; Schreiber, 2011). Recent research distinguishes between a God concept and a God image. A concept of God is formed by intellectual knowledge, religious education, culture, context and community that may be expressed in verbal descriptions of God (Counted, 2015; Lawrence, 1997). An image of God is a subjective experience of what individual or community perceives as God, based on the way in which a person unconsciously interacts with God at an emotional, nonverbal and often implicit level (Hoffman, 2005; Noffke & Hall, 2007; Rizzuto, 1979). As such it is not only an intellectual reification within the mind (Rizzuto, 1979) but involve the dynamics of aggregating memories from various sources and relationships, including the relationship to oneself (Hoffman, 2005), and associating them with God. Along these lines, the images of God are not important only for peoples' religious and social outcomes (Bader, Desmond, Carson Mencken, & Johnson, 2010; Whitehead, 2012) but also for their physical and mental health outcomes. Negative attitudes towards God, e.g., a fear of abandonment, feeling unforgiven or punished are related to a poorer well-being and worse health (Bader et al., 2010; Pargament, Koenig, & Perez, 2000; Stauner, Exline, & Pargament, 2016). Similarly, impersonal or hostile God images, e.g., distant, cruel or unconcerned, are associated with difficulties in finding a meaning in life and comfort in difficult life situations (Kruizinga et al., 2017), anxiety and depression (Fitchett et al., 2004; Greenway et al., 2003), greater neuroticism (Ano & Pargament, 2013; Grubbs, Exline, & Campbell, 2013), and faster disease progression (Ironson et al., 2011). These findings highlight the need for understanding under what conditions people tend to lean towards either a positive or a negative God image.

The processes of forming one's implicit image of God may be influenced by childhood treatment in a positive but also in a negative way. A negative relationship exists between childhood maltreatment and R/S and many childhood abuse victims tend to view God rather negatively, such as unloving or distant (Bierman, 2005; Kennedy & Drebing, 2002). So far, most of the research has been done on the connection between religiosity and childhood sexual abuse, where survivors have reported lower levels of spiritual well-being together with a disrupted sense of relationship with God or a higher power. They were less likely to feel loved and accepted by God (Gall, 2006; Gall, Basque, Damasceno-Scott, & Vardy, 2007). Furthermore, the survivors described God using negative attributes (e.g., wrathful, judgmental, uncaring) and reported negative feelings and difficulty in accepting God's love and kindness (Kam, 2018). However, a few studies can be found that examined other forms of childhood maltreatment (Bierman, 2005; Reinert & Edwards, 2009; Waldron, Scarpa, & Kim-Spoon, 2018). These are proposing that

emotional, physical and verbal mistreatment also have a negative impact on religiosity and the image of God.

Moreover, a childhood experience of mistreatment may affect later attachment relationships (Lo, Chan, & Ip, 2019; Unger & De Luca, 2014). Therefore, it is possible that this experience involves also the attachment to God, that has been shown as corresponding to a human attachment (Granqvist & Kirkpatrick, 2013; Rowatt & Kirkpatrick, 2002) and can be described similarly (Giordano, Cashwell, Lankford, King, & Henson, 2017). Results from several studies have shown that a secure adult attachment was associated with a more positive image of God and a feeling towards God (Granqvist, Mikulincer, Gewirtz, & Shaver, 2012; Reinert & Edwards, 2009). In contrast, avoidant attachment was related to the lack of a secure, positive relationship to God, a desire to keep God at a distance (Pollard, Riggs, & Hook, 2014) and to the image of God as controlling or unavailable (Granqvist et al., 2012). Similarly, anxious attachment was associated with an experience of abandonment or punishment by God as a projection of a personal attachment style (Pollard et al., 2014), and with anxious attachment to God (Rowatt & Kirkpatrick, 2002). Thus, adult attachment may be likely relevant in forming one's God image.

Thus far, most studies on the images of God and their relation to health issues or their possible roots have been conducted outside of Europe (Edwards, 2014; Exline, Grubbs, & Homolka, 2015; Johnson, Okun, & Cohen, 2015; Silton, Flannelly, Galek, & Ellison, 2014), and only a very few within Europe (Dezutter et al., 2010; Kruizinga et al., 2017; Soenens et al., 2012; Testoni, Visintin, Capozza, Carlucci, & Shams, 2016). The Czech Republic is according to some sources one of the most secular countries in the world with the highest percentage (76.4%) of religiously unaffiliated people (Center, 2014), and is characterised by a high degree of secularisation, as most people do not report any religious affiliation or regular church attendance (Malinakova et al., 2018). This represents a unique setting to assess the images of God and the inclination to draw on them.

Therefore, the aim of this study was to assess the associations of childhood trauma and anxiety and avoidance in adult attachment with God images among Czech adults in a secular environment taking into account one's self-reported religiosity.

4.2 Materials and Methods

4.2.1 Participants and Procedure

We obtained a national sample of the Czech population of fifteen years old and over, which was acquired by using a two-step procedure. Having piloted the questionnaire and all further procedures on 206 participants, the final version of the survey was developed. In the second step, another 2,184 random participants were chosen with the help of quota sampling and were asked to participate in a study on the problems of health, life experiences, attitudes and lifestyle. Quota sampling is a technique often used in research to imitate the known characteristics of the population in the sample, allowing relationships between subgroups to be observed. In this case

the criteria that allowed the construction of a representative sample corresponding to the adult Czech population were used. Of these respondents, 384 (17.6%) refused to participate in the survey. The participants reported a lack of time (39.2%), a lack of interest in or distrust in research in general (24.0%), the personal nature of the questions (17.2%) and the length and difficulty of the questionnaire (11.2%) among the main reasons for refusal. The final sample consisted of 1,800 respondents.

The data was collected by professionally trained administrators in September and October 2016 during a structured interview with the respondents. The participants received written information on the aim of the study and the anonymised handling of the data and were made familiar with the system. Participation in the survey was fully voluntary, respondents did not receive compensation for their participation in the survey, so they could stop responding to the survey at any time before or during the interview. Therefore, starting the survey was seen as providing informed consent. The study design was approved by the Ethics Committee of the Olomouc University Social Health Institute, Palacky University in Olomouc (No. 2016/3).

4.2.2 Measures

Image of God was assessed using 18 adjectives describing God preceded by the question "How well do you feel that each of the following words describe God?" Of these adjectives (e.g., critical, distant, loving, just), 15 were taken from the 2005 Baylor Religion Survey (Baylor University, 2005). Respondents chose from the possible answers 'very well' (1); 'somewhat well' (2); 'not very well' (3); 'not at all' (4). The respondents who identified themselves as believers and were further considered as religious described how well in their opinion the adjectives describe God. The respondents who did not identify themselves as believers were considered non-religious and as such they were asked how well, according to them, these adjectives describe the opinion of religious respondents. This approach was chosen because non-religious respondents could not be asked directly about God´s characteristics. However, their responses can still offer a certain image of God, who they do not believe in (Bradley, Exline, & Uzdavines, 2015). For the purpose of statistical analysis, each item was dichotomised following the approach of Malinakova et al. (2020). Therefore, only the respondents from both the religious and non-religious groups who declared a full agreement/disagreement with a specific adjective were considered as seeing God in this way. This means that for the positive adjectives, only the response option (1) 'very well' was coded as '1', while for the negative adjectives these were all the options with the exception of (4) 'not at all'. There were 11 positive and 7 negative adjectives altogether.

To assess *the experience in close relationships*, a shortened version of the Experiences in Close Relationships-Revised (ECR-R-16) questionnaire was used (Fraley, Waller, & Brennan, 2000). It is composed of 16 items that measure two dimensions of an attachment-related experience. It was validated for the Czech environment (Hasto et al., 2018; Kascakova et al., 2016). The questionnaire is split into two subscales, with each subscale consisting of 8 items. The respondents could choose from possible answers ranging from 'totally disagree' (1) to 'totally

agree' (7), where (4) allows to choose a neutral response, resulting in scores from 8 to 56 for each subscale. The Anxiety subscale measures the extent to which people are insecure about the availability and responsiveness of a romantic partner. The Avoidance subscale measures the extent to which people feel uncomfortable being close to others. In the main analyses, both subscales were assessed as a binary variable created by dichotomizing the score with the subscale's upper quartile as the cut-off point, as used e.g., in (Malinakova et al., 2020). Cronbach's alpha in our sample was 0.85.

Childhood trauma was assessed using the Childhood Trauma Questionnaire (CTQ) (Bernstein et al., 2003); validated for Czech conditions (Kascakova et al., 2018). The CTQ is a standardised 28 item inventory, which was developed to assess the importance of five types of abuse and maltreatment experienced in childhood or adolescence. The CTQ consists of five subscales: Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect and Physical Neglect. Each of the subscales consists of five items rated on a 5-point Likert-type scale. Thus, our respondents could choose from answers ranging from 'never' (1) to 'very often' (5), resulting in scores from 5 to 25 for each subscale. Cronbach's alpha for the CTQ subscales in our sample ranged from 0.62 to 0.89.

Religiosity was measured with the question: "At present, would you call yourself a believer?" with possible answers: 'yes, I am a member of a church or religious society'; 'yes, but I am not a member of a church or religious society'; 'no'; 'no, I am a convinced atheist'. For the purpose of further analysis, participants who reported 'yes' were dichotomised as religious.

Gender, age, education, marital status, living arrangements, and economic activity were obtained through the questionnaire.

All instruments were available in the Czech language.

4.2.3 Statistical Analyses

First, we described the background characteristic of the sample. Because of the non-normal distribution of the data, nonparametric methods were used to compare different sociodemographic groups as well as for the main analyses. In the next step, the associations of childhood trauma subscales (standardised to z-scores) with different adjectives describing a God image were assessed using a binary logistic regression model adjusted for gender, age and education. The respondents were divided into groups according to their religiosity. Further, the same process was repeated for the associations of anxiety and avoidance in a close relationship. Each independent variable was tested in a separate model. All analyses were performed using the statistical software package IBM SPSS version 25 (IBM Corp., Armonk, NY, USA).

4.3 Results

4.3.1 Description of the Population

The background characteristics of the sample (mean age 46.4, SD=17.4; 95%CI=45.60-47.21; 48.7% men) are presented in Table 4.1. The sample is a sample of the Czech population over 15 years of age. Of the whole sample, 29.5% of the respondents labelled themselves as religious; 5.8% of the whole sample regularly attended religious services.

Table 4.1 Description of the study population, total and by religiosity.

	Total		**Non-religious**		**Religious**	
	N	**%**	**N**	**%**	**N**	**%**
Gender						
Male	877	48.7	646	50.9	231	43.5
Female	923	51.3	623	49.1	300	56.5
Age						
15-29 years old	410	22.8	324	25.5	86	16.2
30-49 years old	619	34.4	465	36.6	154	29.0
50-69 years old	588	32.7	379	29.9	209	39.4
70-90 years old	183	10.2	101	8.0	82	15.4
Living arrangement						
With husband/wife	921	51.2	616	48.5	305	57.4
With unmarried mate	351	19.5	284	22.4	67	12.6
Alone	353	19.6	237	18.7	116	21.8
With parents/siblings	175	9.7	132	10.4	43	8.1
Marital status						
Single/ Divorced/ Widow-widower	730	40.6	531	41.8	199	37.5
Married/ Partner relationship	1070	59.4	738	58.2	332	62.5
Highest education achieved						
Elementary school	141	7.8	104	8.2	37	7.0
Secondary vocational school	442	24.6	292	23.0	150	28.2
Secondary school with graduation	854	47.4	620	48.9	234	44.1
College	363	20.2	253	19.9	110	20.7

Table 4.1 (continued)

	Total		Non-religious		Religious	
	N	%	N	%	N	%
Economic activity						
Employee	939	52.2	698	55.0	241	45.4
Self-employed	170	9.4	125	9.9	45	8.5
In the household[a]/ Unemployed	83	4.6	56	4.4	27	5.1
Student	178	9.9	139	11.0	39	7.3
Disabled/Old-age pensioner	430	23.9	251	19.8	179	33.7
Total	**1800**	**100**	**1269**	**70.5**	**531**	**29.5**

Note: [a] including maternity leave.

4.3.2 Specific Images of God with Childhood Trauma and Experience in a Close Relationship

Table 4.2 shows the associations of the specific images of God with CT and ECR. Some God images showed no significant associations, like demanding, kingly or punishing. In associations with CT, the non-religious respondents were less likely to describe their God image (i.e., the way in which in their opinion religious respondents see God) as absolute or fatherly and they were more likely to see him more critical than it was expressed by religious respondents. Similarly, only the non-religious with a higher attachment avoidance described their image of God as more critical, serious and angry. Nevertheless, attachment avoidance was negatively associated with a positive God image in both studied groups. We found no significant associations of both CT and ECR with a distant, kingly, punishing, unpredictable or demanding God image. The strongest associations were found for an absolute God image and physical neglect, odds ratio (OR) 0.75 (95% confidence interval, CI, 0.65-0.86) and for an always present image of God with physical neglect, OR 0.72 (95%CI 0.63-0.82), both within the group of non-religious respondents. Furthermore, the most frequent associations were found for the loving image of God, where a one SD increase in emotional neglect was associated with a 5% decrease in the odds of seeing God this way and one SD increase in physical neglect in non-religious respondents with even an 11% decrease in the same odds. In the religious group we found negative associations between the positive adjectives such as forgiving, loving or always present and CT and ECR.

Table 4.2 Associations of different childhood trauma experiences and the experiences in close relationships (both standardised to z-scores) with different images of God: results of binary logistic regression adjusted for age, gender and education level leading to odds ratios (OR) with 95% confidence intervals (95% CI).

		Absolute	Critical	Distant	Always present	Fatherly	Forgiving
Childhood trauma experience							
Emotional abuse	NR[1]	0.94 (0.82-1.07)	**1.20 (1.05-1.36)****	1.02 (0.90-1.15)	0.89 (0.78-1.00)	0.93 (0.82-1.05)	0.92 (0.81-1.04)
	R[2]	1.10 (0.92-1.31)	1.01 (0.83-1.22)	1.02 (0.84-1.23)	0.94 (0.79-1.12)	0.98 (0.82-1.16)	0.93 (0.78-1.11)
Physical abuse	NR	0.90 (0.79-1.04)	**1.19 (1.04-1.37)***	1.03 (0.90-1.16)	0.90 (0.80-1.03)	0.93 (0.81-1.05)	0.92 (0.81-1.04)
	R	1.11 (0.93-1.32)	1.06 (0.87-1.30)	1.01 (0.83-1.22)	0.93 (0.78-1.10)	0.98 (0.83-1.17)	0.92 (0.77-1.09)
Sexual abuse	NR	**0.79 (0.66-0.94)****	1.14 (1.00-1.30)	1.00 (0.88-1.13)	**0.78 (0.66-0.91)****	**0.84 (0.72-0.98)***	**0.75 (0.64-0.89)****
	R	0.90 (0.74-1.10)	1.08 (0.88-1.33)	1.20 (0.93-1.54)	**0.83 (0.69-0.99)***	0.92 (0.77-1.09)	**0.82 (0.68-0.99)***
Emotional neglect	NR	**0.86 (0.75-0.98)***	**1.22 (1.08-1.37)****	1.08 (0.95-1.23)	**0.84 (0.74-0.94)****	**0.85 (0.75-0.96)***	0.90 (0.80-1.02)
	R	0.96 (0.80-1.15)	0.93 (0.77-1.12)	1.12 (0.92-1.36)	0.89 (0.75-1.07)	0.88 (0.74-1.04)	**0.81 (0.68-0.97)***
Physical neglect	NR	**0.75 (0.65-0.86)*****	**1.18 (1.05-1.34)****	1.13 (0.99-1.29)	**0.72 (0.63-0.82)*****	**0.79 (0.69-0.90)****	**0.86 (0.76-0.97)***
	R	1.01 (0.87-1.25)	1.16 (0.94-1.42)	1.22 (0.99-1.49)	0.85 (0.71-1.02)	0.94 (0.79-1.13)	**0.92 (0.87-0.98)***
Experience in a close relationship							
Anxiety	NR	0.92 (0.81-1.04)	**1.16 (1.03-1.31)***	1.12 (0.99-1.28)	0.93 (0.83-1.05)	0.90 (0.79-1.02)	0.94 (0.83-1.06)
	R	**0.80 (0.67-0.97)***	1.18 (0.96-1.43)	1.21 (0.99-1.48)	0.97 (0.81-1.15)	0.97 (0.81-1.15)	**0.80 (0.67-0.96)***
Avoidance	NR	0.91 (0.80-1.03)	1.00 (0.89-1.13)	1.10 (0.97-1.25)	**0.86 (0.76-0.97)***	**0.80 (0.71-0.91)****	**0.83 (0.74-0.94)****
	R	0.88 (0.73-1.05)	1.01 (0.84-1.23)	1.22 (1.00-1.48)	**0.79 (0.66-0.94)****	**0.82 (0.69-0.98)***	**0.75 (0.63-0.90)****

Table 4.2 (continued)

		Friendly	Just	Kind	Kingly	Loving	Motherly
Childhood trauma experience							
Emotional abuse	NR	**0.95 (0.91-0.99)***	0.95 (0.91-0.99)	0.97 (0.92-1.02)	1.02 (0.98-1.07)	**0.95 (0.91-1.00)***	0.99 (0.94-1.03)
	R	0.96 (0.90-1.02)	0.99 (0.93-1.05)	0.97 (0.90-1.04)	0.99 (0.93-1.06)	0.95 (0.89-1.01)	0.97 (0.90-1.03)
Physical abuse	NR	0.98 (0.92-1.04)	0.97 (0.92-1.03)	0.94 (0.87-1.01)	1.01 (0.94-1.06)	0.95 (0.90-1.01)	0.95 0.89-1.02)
	R	0.99 (0.90-1.08)	0.98 (0.90-1.07)	1.04 (0.95-1.14)	0.96 (0.88-1.06)	0.95 (0.87-1.03)	1.02 (0.93-1.11)
Sexual abuse	NR	**0.89 (0.82-0.97)****	0.96 (0.90-1.1.03)	0.98 (0.91-1.06)	0.99 (0.93-1.06)	**0.92 (0.8-0.98)***	0.87 (0.87-1.01)
	R	**0.86 (0.75-0.97)***	**0.88 (0.78-0.99)***	0.96 (0.85-1.08)	0.89 (0.77-1.02)	**0.86 (0.77-0.97)***	0.95 (0.85-1.07)
Emotional neglect	NR	0.98 (0.96-1.01)	0.99 (0.96-1.01)	**0.97 (0.94-1.00)***	0.99 (0.96-1.02)	**0.95 (0.93-0.98)*****	**0.97 (0.94-0.99)***
	R	0.97 (0.93-1.01)	**0.95 (0.91-0.99)***	0.98 (0.93-1.02)	0.98 (0.94-1.02)	**0.95 (0.91-0.99)***	0.97 (0.93-1.01)
Physical neglect	NR	0.96 (0.92-1.01)	**0.94 (0.90-0.98)****	**0.94 (0.89-1.00)***	0.98 (0.93-1.04)	**0.89 (0.85-0.94)*****	**0.92 (0.87-0.97)****
	R	0.97 (0.91-1.04)	0.96 (0.90-1.02)	1.00 (0.94-1.07)	0.98 (0.92-1.05)	**0.94 (0.88-1.00)***	0.99 (0.93-1.05)
Experience in a close relationship							
Anxiety	NR	0.96 (0.85-1.09)	**0.88 (0.78-0.99)***	0.93 (0.80-1.07)	0.98 (0.85-1.12)	0.90 (0.80-1.01)	0.88 (0.77-1.00)
	R	0.86 (0.72-1.02)	**0.82 (0.69-0.97)***	0.84 (0.69-1.01)	0.91 (0.76-1.09)	0.90 (0.75-1.07)	0.88 (0.73-1.05)
Avoidance	NR	0.94 (0.83-1.06)	0.92 (0.82-1.04)	1.08 (0.94-1.24)	0.95 (0.83-1.09)	**0.83 (0.74-0.94)****	0.89 (0.78-1.02)
	R	**0.78 (0.66-0.94)****	**0.82 ((0.68-0.97)***	1.03 (0.86-1.24)	0.93 (0.78-1.11)	**0.78 (0.65-0.93)****	0.90 (0.76-1.08)

Table 4.2. (continued)

		Punishing	Serious	Angry	Generous	Unpredictable	Demanding
Childhood trauma experience							
Emotional abuse	NR	1.04 (0.99-1.09)	1.02 (0.98-1.07)	1.02 (0.98-1.07)	0.99 (0.94-1.03)	1.04 (1.00-1.09)	**1.05 (1.01-1.10)***
	R	1.03 (0.95-1.13)	1.03 (0.94-1.13)	1.07 (0.99-1.15)	1.01 (0.95-1.08)	1.00 (0.94-1.08)	1.02 (0.95-1.09)
Physical abuse	NR	1.02 (0.96-1.08)	1.00 (0.95-1.06)	1.01 (0.96-1.07)	0.98 (0.93-1.04)	1.01 (0.96-1.06)	1.07 (1.00-1.13)
	R	1.07 (0.94-1.22)	1.06 (0.93-1.21)	1.07 (0.97-1.19)	1.04 (0.95-1.14)	1.04 (0.94-1.14)	0.98 (0.89-1.08)
Sexual abuse	NR	0.99 (0.93-1.05)	0.96 (0.91-1.02)	1.01 (0.95-1.07)	0.98 (0.92-1.04)	1.03 (0.97-1.09)	0.99 (0.94-1.05)
	R	1.17 0.94-1.47)	1.09 (0.89-1.33)	1.09 (0.95-1.25)	0.97 (0.86-1.08)	1.04 (0.91-1.18)	0.96 (0-86-1.07)
Emotional neglect	NR	1.02 (0.99-1.04)	1.02 (1.00-1.05)	**1.03 (1.00-1.06)***	0.98 (0.95-1.01)	1.02 (1.00-1.05)	1.02 (0.96-1.05)
	R	1.01 (0.96-1.07)	1.04 (0.98-1.10)	**1.08 (1.03-1.13)****	0.96 (0.92-1.00)	1.01 (0.97-1.06)	1.02 (0.97-1.07)
Physical neglect	NR	0.99 (0.94-1.04)	0.99 (0.94-1.04)	1.02 (0.97-1.06)	**0.93 (0.88-0.98)****	1.04 (0.99-1.09)	1.02 (0.97-1.07)
	R	1.07 (0.98-1.16)	1.04 (0.95-1.14)	**1.14 (1.06-1.23)****	0.94 (0.89-1.01)	1.04 (0.97-1.11)	1.02 (0.95-1.09)
Experience in a close relationship							
Anxiety	NR	1.11 (0.97-1.26)	**1.19 (1.04-1.36)***	**1.18 (1.04-1.34)****	0.95 (0.84-1.08)	1.10 (0.98-1.24)	1.11 (0.98-1.26)
	R	1.23 (0.97-1.56)	1.23 (0.96-1.59)	1.19 (0.99-1.44)	**0.82 (0.69-0.98)***	1.12 (0.93-1.36)	1.09 (0.90-1.32)
Avoidance	NR	0.92 (0.81-1.04)	0.93 (0.82-1.05)	1.04 (0.92-1.18)	0.90 (0.79-1.03)	1.07 (0.95-1.20)	1.01 (0.90-1.14)
	R	1.14 (0.91-1.43)	1.00 (0.79-1.26)	1.15 (0.95-1.38)	0.86 (0.72-1.03)	1.04 (0.86-1.25)	1.07 (0.89-1.30)

Notes: [1] NR = non-religious, [2] R = religious
*p < 0.05, **p < 0.01, ***p < 0.001
SD – standard deviation

4.4 Discussion

The aim of this study was to assess the associations of childhood trauma and adult attachment with God images in a highly secular environment taking into account one's self-reported religiosity. We found that both the religious and non-religious respondents who experienced any kind of childhood trauma were less likely to describe God as loving, always present and forgiving. Similarly, those who reported anxiety or avoidance in a close relationship were less likely to describe God as forgiving or just. Furthermore, the non-religious respondents who experienced a childhood trauma were less likely to report God as absolute or fatherly and more likely to describe God as critical.

We found that the participants who reported some kind of childhood trauma were less likely to report positive images of God. They hesitated to describe God as loving, always present, forgiving, fatherly or just and rather used terms such as critical or angry. In line with the findings of other authors (Pressley & Spinazzola, 2015; Tailor, Piotrowski, Woodgate, & Letourneau, 2014; Waldron et al., 2018), it may be assumed that survivors of a childhood trauma experience a negative self-perception, feelings of shame and being unworthy and that they transmit their negative feelings to a spiritual dimension (Granqvist, 2002). The victims' sense of being loved and accepted by God can be disrupted (Hurley, 2004), and they can have difficulty in believing in God's love (Crisp, 2004; Maltby & Hall, 2012). Furthermore, they may question God's power and justice (Exline, Park, Smyth, & Carey, 2011; Starnino & Sullivan, 2016; Webb, Sink, McCann, Chickering, & Scallon, 2010) and underreport God as absolute or just.

However, we did not find significant associations between childhood trauma and a distant and punishing God image. Thus, our findings are in contrast to those of other authors, who associated a distant and controlling image of God with sexual abuse (Bierman, 2005) and with other forms of maltreatment (Reinert & Edwards, 2009; Waldron et al., 2018). It could be argued that in some cases an experienced trauma might have led to increased spirituality as some studies suggest on post-traumatic spiritual growth (Baillie, Sellwood, & Wisely, 2014) and acquiring a positive God image helps survivors during their process of recovery and their ability to cope with the history of the trauma (Gall, 2006; Reinert & Edwards, 2009). Moreover, the positive image of God may operate in a compensatory manner and fulfil the victims' search for security and a safe haven (Counted, 2015; Davis, Moriarty, & Mauch, 2013; Granqvist & Kirkpatrick, 2004, 2013).

Furthermore, our results showed significant associations between interpersonal avoidance and less loving, fatherly, forgiving and always present God images. These findings are again in contrast with other research results (Giordano et al., 2017; Granqvist et al., 2012) in which the authors suggested that highly avoidant people can regulate their distress from human relationship difficulties by turning to a relationship with God, who could fulfil their desires and forgive trespasses. However, our results are in line with other studies that showed that an insecure human relationship strengthens negative perceptions of God (Granqvist et al., 2012) and found negative correlations between a loving God image and avoidance and a positive association with a controlling image (Rowatt & Kirkpatrick, 2002). Moreover, as God can be seen as an attachment figure (Kirkpatrick, 1992), we may argue that an insecure adult attachment corresponds with an insecure attachment to God (Granqvist & Kirkpatrick, 2004;

Kirkpatrick & Shaver, 1992). Avoidant respondents may mirror their interpersonal relationship experience in their relation to God (Counted, 2015) and thus in describing God's image they associate their fear of being dependent on a partner with adjectives that express their insecure attitudes.

We further found that participants who described God as critical, serious or angry were more likely to experience anxiety in close relationships. These results further support the correspondence of anxiety in an interpersonal relationship to anxiety in relation to God (Granqvist et al., 2012). It could be supposed that a person with relationship anxiety feels unworthy and in need of self-approval from their partner. Thus, they can transmit these feelings towards God (Pollard et al., 2014) and experiencing insufficiency and uncertainty can lead to viewing God rather negatively.

We observed different patterns in the associations between the groups of religious and non-religious respondents. In general, the non-religious respondents expected among the religious a more negative image of God than the religious respondents reported. The images of God as less absolute, kind, generous, and less motherly but more critical and serious were referred to in non-religious respondents but not so in the religious. Moreover, the religious respondents did not report less positive and more negative images of God as much as the non-religious did. These finding are in line with the studies which describe that though some religious respondents can see God as distant (Aten, Bennett, Hill, Davis, & Hook, 2012) and cruel (Francis, Gibson, & Robbins, 2010), they do not report these feelings so strongly as they report a loving God image (Bradley et al., 2015; Exline et al., 2015). This opens the possibility that religious respondents may have been reluctant to report negative attitudes towards God using the negative adjectives; they might fear having doubts about God or expressing negative attitudes could bring punishment and be morally unacceptable (Abu-Raiya, Pargament, Krause, & Ironson, 2015; Exline, Kaplan, & Grubbs, 2012). Instead, they may rather report positive images to somehow protect their God image in a non-religious environment (Bradley et al., 2015).

4.4.1 Strengths and Limitations

This study has some important strengths. The main strength is that it is based on a representative sample with a high response rate. Furthermore, the completed questionnaires had no missing values. It is also one of the few studies that assess the associations of the images of God with an adult attachment and a childhood trauma experience in a highly secular environment. However, though the study contributed to the deeper understanding of God images, it also has several limitations. The first is the cross-sectional design of the study, which does not allow us to make causal inferences. Additionally, since our data were self-reported, religiously affiliated respondents might have responded according to their religious education and thus provided socially desirable responses. Moreover, as religiosity and spirituality can be seen as different concepts, we consider the fact we did not assess them separately, as a limitation and further studies should focus on this. Another limitation is that we did not consider all genders, but only men and women. However, gender differences were not the main focus of this study. Thus, we assume that this did not influence the validity of the study. Furthermore, as also the other sociodemographic variables were used as covariates only, the

limited attention to these contextual elements can be considered another limitation of the present study. Last but not least, it must also be mentioned as a limitation the way the term 'image of God' is used since different cultures, religions, and contexts may use different concepts followed by quite different expressions. These limitations should be included in follow-up studies in order to achieve a more precise understanding of associations between insecure attachment and the images of God.

4.4.2 Implications

Our findings suggest that attachment avoidance and anxiety as well as a childhood trauma experience may negatively affect an adult's image of God. Understanding these associations might therefore be important for professional counselling interventions in the area of spirituality or care. Furthermore, the results contribute to widening the range of factors that help those experiencing and dealing with trauma. At the same time, our results also show that using a negative and/or lower usage of positive God's images can serve as a sign of attachment insecurity and distress and, therefore, may be informative for professionals in other areas, such as psychotherapy, psychosomatic medicine or social work, where internalisation of spiritual values can help the effectiveness of the interventions.

Further research is needed to explore the influence of both the partner's and parents' religiosity on the development of one's image of God. Also, the role of a perpetrator of violence should be further considered. Moreover, further research should focus on the representations of God in different religions and distinguish between the person-like terms of the Christian tradition, the more philosophical Jewish terms of an unimaginable God (Cohen, Gorvine, & Gorvine, 2013) and the Muslim ban on anthropomorphizing God. Thus, future research on this topic and on the causal pathway is recommended. Furthermore, since this study has a cross-sectional design, further studies should focus on the causal effects of the image of God developed as a consequence of the childhood traumatic experience and on the mutual interaction between images of God and a life of a secular society.

4.5 Conclusions

Our findings suggest that childhood trauma and adult attachment are associated with a less positive God image. Individuals with an experience of a childhood trauma tend to view God in more negative terms and hesitate to use positive terms. The same applies to the respondents with an experience of relationship anxiety or avoidance. Furthermore, different patterns were found between religious and non-religious respondents. The religious respondents reported less negative and more positive images of God than the non-religious did. Moreover, the non-religious respondents expected among the religious more negative images and referred the images of God as less absolute, kind, generous, but more critical and serious. Thus, this study offers a deeper understanding of the factors, which may contribute to the forming of one's God image and which may further lead to the use of maladaptive religious coping strategies, inviting further research to clarify these associations.

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Chapter 5

ANXIETY AND AVOIDANCE IN ADULTS AND CHILDHOOD TRAUMA ARE ASSOCIATED WITH NEGATIVE RELIGIOUS COPING

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Published in International Journal of Environmental Research and Public Health 2020, 17, 5147

Abstract

Background: Religion as a coping strategy is mostly connected with positive health outcomes. Yet, negative religious coping (NRC) has been associated with rather negative outcomes that affect one's health. The aim of this study was to explore whether insecure adult attachment and childhood trauma are associated with higher NRC.
Method: A sample of Czech adults (n = 531, 51.1 ± 17.2 years; 43.5% men) participated in a survey. As measures, the NRC subscale of the Brief RCOPE, the Experiences in Close Relationships-Revised questionnaire, and the Childhood Trauma Questionnaire-Short Form (CTQ-SF) were used.
Results: From the whole sample, 23.7% respondents reported higher NRC. Respondents with higher anxiety in close relationships were more likely to use negative coping strategies, with an odds ratios (OR) of 1.27 (95% confidence interval 1.01–1.59). Similarly, avoidance was associated with negative coping OR = 1.41 (1.13–1.75). Moreover, each subscale of the CTQ-SF revealed a significant association with high summary NRC. Respondents who reported physical neglect scored highest on summary NRC with OR = 1.50 (1.23–1.83) after controlling for sociodemographic variables, but also for anxiety and depression.
Conclusions: Our findings support the idea that childhood trauma experience and adult attachment style are associated with higher use of NRC strategies.

Keywords: negative religious coping; childhood trauma; attachment anxiety; attachment avoidance

5.1 Introduction

Religion belongs among well-documented coping strategies, through which one can understand and deal with stressors (Pargament, Koenig, & Perez, 2000). When assessing religious coping, two forms can be distinguished: positive religious coping (PRC) and negative religious coping (NRC) (Pargament et al., 1998). PRC strategies reflect a secure relationship with God, spiritual connectedness, and meaning in life. On the contrary, NRC is characterised by spiritual tension, and conflicts and struggles with God and others in one's religious community (Pargament, Feuille, & Burdzy, 2011).

As a multidimensional construct, religious coping has both positive and negative associations with health (Pargament et al., 1998). PRC has been associated with increased physical (Ironson, Kremer, & Lucette, 2016) and mental health (Pargament, Koenig, Tarakeshwar, & Hahn, 2004), lower levels of depression (Bjorck & Thurman, 2007), and a higher quality of life (Tarakeshwar et al., 2006) compared with people who used NRC strategies. Regarding NRC, researchers reported mostly negative health outcomes and poorer psychological adjustment (Bjorck & Thurman, 2007; Pargament et al., 2011). NRC strategies were associated with higher levels of depression (Herbert, Zdaniuk, Schulz, & Scheier, 2009; Pargament et al., 2004), somatisation or disordered eating pathology (Latzer et al., 2015; Pargament et al., 2004), worse quality of life, and lower life satisfaction (Herbert et al., 2009; Paika et al., 2017) than in people using PRC strategies. Similarly, NRC strategies predicted worse physical functioning (Taheri-Kharameh, Zamanian, Montazeri, Asgarian, & Esbiri, 2016) and a decline in health (Ghorbani, Watson, Tahbaz, & Chen, 2017; Rosmarin, Pargament, Krumrei, & Flannelly, 2009), and were significantly associated with lower comprehension of one's illness and distrust of treatment efficacy (Paika et al., 2017). These strategies were also related to higher suicidal risk (Currier, Smith, & Kuhlman, 2017; Paika et al., 2017) and a higher risk of mortality (Pargament, Koenig, Tarakeshwar, & Hahn, 2001). Minimizing the negative outcomes of NRC is thus very vital. Therefore, it is important to understand why individuals use NRC.

The first reason people use NRC may lie in their attachment strategies. One's beliefs about and relationship towards God have been found to be similar to human attachment relationships (Kirkpatrick & Shaver, 1992; Rowatt & Kirkpatrick, 2002). For example, avoidant attachment to a person was positively associated with avoidant attachment to God (Granqvist & Hagekull, 1999; Rowatt & Kirkpatrick, 2002) and the desire to keep God at a distance (Pollard, Riggs, & Hook, 2014; Schottenbauer et al., 2006). Similarly, anxious attachment to a person was associated with anxiety in attachment to God (Rowatt & Kirkpatrick, 2002) and thus may be related to a tendency to feel abandoned by God or church and even feel punished by God (Pollard et al., 2014).

The second explanation could be that the inclination to draw on PRC or NRC strategies in crises could be associated with one's image of God (Hvidtjørn, Hjelmborg, Skytthe, Christensen, & Hvidt, 2014). Whereas individual's God concept (i. e., explicit image) can be influenced by many factors, including family, religious community or education and is usually expressed in verbal descriptions of God (Counted, 2015; Lawrence, 1997), one's implicit image

of God may be seen as the way one interacts with God at an emotional, relational and nonverbal level (Jacqueline L. Noffke & Mcfadden, 2001). The development of the God image is closely connected to the attachment theory and relationship with a caregiver and thus one's image of God might be strongly affected by childhood trauma, the experience of maltreatment, or insecure attachment to parents during childhood (Granqvist, 2002; Reinert & Edwards, 2009). Many childhood abuse victims tend to view God in rather negative terms, such as unloving, distant, or controlling (Bierman, 2005; Reinert & Edwards, 2009). Victims of traumatic events also reported a negative impact on their religiosity (Reinert & Edwards, 2009). Nevertheless, in some cases, different traumas were found to be related to an increase in spirituality, because of a person's effort to understand why this had happened (Gall, Basque, Damasceno-Scott, & Vardy, 2007; Tedeschi & Calhoun, 2004).

As a robust predictor of poor health-related outcomes, NRC has been separately assessed in some studies (Grossoehme & Fitchett, 2013; Ironson, Stuetzle, & Fletcher, 2006; Latzer et al., 2015). According to these studies, the prevalence of NRC varies from 7 to 50% in various populations (Grossoehme & Fitchett, 2013). This variation might be explained by the variability of criteria employed to determine the presence of NRC (Fitchett et al., 2004; Fitchett & Risk, 2009; Thuné-Boyle, Stygall, Keshtgar, Davidson, & Newman, 2013). Other explanations could involve differences in the cultural context and situational or clinical factors. Thus far, most studies on religious coping and its associations with adult attachment or childhood trauma have been conducted outside of Europe (Gall et al., 2007; Giordano, Cashwell, Lankford, King, & Henson, 2017; Pollard et al., 2014; Reinert & Edwards, 2009; Rowatt & Kirkpatrick, 2002). Few studies have been carried out within a European context (Birgegard & Granqvist, 2004; Granqvist, 2005; Granqvist & Hagekull, 2003). Thus, this study from the Czech Republic, which according to the Pew Research Centre (2014) is the country with the highest percentage of religiously unaffiliated people in the world, could contribute to studies on NRC in very secular countries.

Therefore, the aim of this study is to explore the association of adult attachment and childhood trauma with NRC in a highly secular environment. We wanted to assess NRC, using both a total score and a more detailed analysis of individual items, to see which of these items showed the strongest association with our observed variables.

5.2 Materials and Methods

5.2.1 Participants and Procedure

The sample in our research was created by selecting from the original representative sample only the respondents who identified themselves as religious. The original sample of the Czech population aged fifteen years and older was obtained by using a two-step procedure. In the first step, the questionnaire and all further procedures were piloted among 206 participants. This led to the final version of the survey. In the second step, another 2184 participants were randomly chosen with the help of quota sampling and asked to participate in a study on health,

life experiences, attitudes, and lifestyle. Quota sampling is a technique often used in research to imitate the known characteristics of the population in the sample, allowing relationships between subgroups to be observed. In this case the criteria that allowed the construction of a representative sample corresponding to the adult Czech population were used. Of these respondents, 384 (17.6%) refused to participate mainly due to their lack of time or no interest in the topic. The remaining sample consisted of 1800 respondents. Among whom only some reported themselves as religious; therefore, the final sample consisted of 531 participants.

Data was collected by professionally trained administrators in September and October 2016 during a standardised face-to face interview with the respondents. Participation in the survey was anonymous and voluntary and respondents did not receive compensation for their participation in the survey. Participants signed an informed consent form prior to the study; this stressed the possibility of leaving the study at any time without giving reasons. The study design was approved by the Ethics Committee of the Olomouc University Social Health Institute, Palacky University in Olomouc (No. 03/2016).

5.2.2 Measures

Religious background was obtained using self-developed questions on religiosity: 'At present, would you call yourself a believer?' with possible answers: 'yes, I am a member of a church or religious society'; 'yes, but I am not a member of a church or religious society'; 'no'; 'no, I am a convinced atheist'. The question assessed whether respondents consider themselves religious and whether they are affiliated to a specific religion or religious practice.
Religious attendance was measured as the frequency of attending church or religious sessions using the question: "How often do you go to church or to religious sessions?" Possible answers were: 'never'; 'occasionally'; 'often, but not every week'; 'once a week'; 'more than once a week'. Those who reported attending religious sessions at least once a week were considered attending.

Prayer frequency was assessed by the question: „How much time do you devote to personal prayer (excluding religious gatherings)?“ with possible answers: 'at least half an hour a day'; 'approximately 10 min every day'; 'approximately 10 min together per week'; 'I pray only occasionally'; 'I don't pray'.

Religious coping was assessed using the negative religious coping subscale (NRC) of the Brief RCOPE (Pargament et al., 2011). It is composed of 7 items rated on a seven-point scale with possible answers ranging from 'not at all' (1) to 'a great deal' (4) and the total score ranges from 7 to 28. NRC items reflect a religious struggle that grows out of a more tenuous relationship with God. In the analyses, NRC was assessed as a dependent variable. For the purpose of dichotomisation, the approach of Fitchett et al. (2004) was followed for the further categorisation of responses. Each of the item scores was dichotomised. Scores of 1 or 2 were recoded to '0' (did not use NRC) and scores of 3 or 4 recoded to '1' (used NRC). To determine the NRC sum, a dichotomous variable was created with a value of '1' if any of the seven NRC items had a value of '1'. Cronbach's alpha was 0.84 in our sample.

Experience in close relationships was assessed using the shortened version of the Experiences in Close Relationships-Revised (ECR-R-16) questionnaire (Fraley, Waller, & Brennan, 2000), which was validated for the Czech environment (Kascakova et al., 2016). It is composed of 16 items rated on a seven-point scale, with possible answers ranging from 'totally disagree' (1) to 'totally agree' (7), and measures two dimensions of attachment-related experience. Each subscale consists of eight items. The Anxiety subscale measures the extent to which people are insecure about the availability and responsiveness of a partner or a close relation, while the Avoidance subscale measures the extent to which people feel uncomfortable being close to others. In the main analyses, both subscales were assessed as a binary variable created by dichotomizing the score with the subscale's upper quartile as the cut-off point. Cronbach's alpha was 0.70 in our sample for both subscales.

To assess *childhood trauma*, the Childhood Trauma Questionnaire-Short Form (CTQ-SF) (Bernstein et al., 2003) was used. It is a standardised 28-item self-report inventory developed to measure the severity of five types of abuse and neglect in childhood or adolescence by the following subscales: Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, and Physical Neglect. Each subscale contains five items with a 5-point Likert-type scale ranging from 'never' (1) to 'very often' (5), leading to scores from 5 to 25 for each subscale. Besides these, the CTQ-SF also has a three-item minimisation/denial validity scale that was developed to detect the underreporting of maltreatment (Bernstein et al., 2003). The CTQ-SF measure was introduced by the statement "The following questions are related to some of your childhood or adolescent experiences" in order to be sure that the trauma occurred in childhood/adolescence. Cronbach's alpha for the CTQ-SF subscales in our sample ranges from 0.62 to 0.89.

Anxiety and depression were assessed by Anxiety and Depression subscales of the Brief Symptom Inventory (BSI-53) (Derogatis & Melisaratos, 1983; Kabat et al., 2018). The introductory instruction was: "How much has the following symptoms problem distressed or bothered you during the past month?" It was followed by items rated on a five-point scale with possible answers ranging from 'not at all' (0) to 'extremely' (4). In the main analyses, both subscales dimensions were assessed as binary variables created by dichotomizing the score into the subscale's upper quartile or below. Cronbach's alpha for the Anxiety subscale was 0.83 and 0.88 for the Depression subscale.

Gender, age, education, and marital status data were obtained through the questionnaire.

All instruments were available in the Czech language.

5.2.3 Statistical Analyses

In the first step, we described the background characteristics of the sample and the distribution of NRC item responses. Nonparametric methods were used to compare different sociodemographic two groups were compared, we used the Kruskal-Wallis test. We then assessed the associations of two attachment dimensions, anxiety and avoidance, and the five types of childhood trauma experiences with negative religious coping (in total and each of the

seven items separately) using a binary logistic regression model that was crude at first (Model 1), adjusted for gender, age, marital status, and education (Model 2). Finally, above that to establish whether the positive relationship between negative coping and recollected trauma and attachment insecurity are not only a spurious effect of general anxiety and/or depression we assessed the third group (Model 3) adjusted also for background levels of depression and general anxiety to compare groups of people already showing general negativism. Each of the independent variables was assessed in a separate model. All analyses were performed using the statistical software package IBM SPSS version 21 (IBM Corp., Armonk, NY, USA).

5.3 Results

5.3.1 Description of the Population

The background characteristics of the sample (mean age 51.1; SD = 17.2; 43.5% men) are presented in Table 5.1. Of all respondents 23.7% reported NRC score. Elderly respondents scored higher in NRC than younger respondents ($p = 0.012$). However, a comparison of the groups according religious practice (member of church, attending church services, prayer frequency) did not reveal any significant differences.

Table 5.1 Characteristics of the whole sample and of the subsample of participants with NRC, and results of non-parametric comparison of NRC in different sociodemographic groups.

	Total		**NRC**[a]		***p*-value**
	N	%	N	%	
Gender					
Male	231	43.5	56	24.2	n.s.
Female	300	56.5	70	23.3	
Age					
15-29 years old	81	16.0	13	16.0	
30-49 years old	146	28.9	27	18.5	0.012*
50-69 years old	169	38.8	52	26.5	(1-4*; 2-4*)
70+ years old	82	16.2	28	34.1	
Marital status					
Single/Divorced/Widow-widower	199	37.5	49	24.6	n.s.
Married/ Partner relationship	332	62.5	77	23.2	
Education					
Primary	37	7.0	11	29.7	
Skilled operative	150	28.2	37	24.7	n.s.
High school	234	44.1	56	23.9	
College	110	20.7	22	20.0	
Religiosity[b]					
Believer, member of the church	170	32.0	44	25.9	n.s.
Believer outside the church	361	68.0	82	22.7	
Church attendance					
Attending	105	19.8	28	26.7	n.s.
Non-attending	426	80.2	98	23.0	
Prayer					
Praying regularly	131	24.7	37	28.2	n.s.
Not praying regularly	400	75.3	89	22.3	
Total	**531**	**100**	**126**	**23.7**	

Notes: [a] (NRC ≥ 'quite a bit' in any of the items)[b] independently of a church attendance; n.s.= non-significant; *p<0.05, **p<0.01, ***p<0.001. The p-value stands for comparison of all groups; results in parentheses show multiple group comparison with Bonferroni correction.

5.3.2 Negative Religious Coping and Experience in a Close Relationship

Table 5.2 shows the results of binary logistic regression aimed at assessing the associations of adult attachment (anxiety and avoidance) with NRC. The results of a crude and adjusted models were slightly different; in most cases the figures in model 3 (adjusted for general anxiety and depression) were lower than in model 1 (the crude one) and model 2 (adjusted only for sociodemographic variables). Item NRC-7 was significant only for anxiety in a close relationship adjusted for sociodemographic variables, however, after controlling for general anxiety and depression this association was not found. Both anxiety and avoidance in close relationships were associated with a significantly higher summary NRC, with an odds ratio (OR) = 1.27 (95% confidence interval (CI) 1.01–1.59) for anxiety and OR = 1.41 (1.13–1.75) for avoidance) after controlling for sociodemographic and general anxiety and depression variables.

5.3.3 Negative Religious Coping and Childhood Trauma Experience

The results of binary logistic regression assessing the associations of childhood trauma with negative religious coping and its separate items, crude and adjusted (Models 1–3) are presented in Table 5.3. The results obtained from regression models showed that each of the CTQ subscales was associated with higher NRC even after controlling for the spurious effect of general anxiety and depression. Physical neglect was associated with the highest risk of NRC with OR = 1.50 (1.23–1.83). Moreover, physical neglect was associated with a higher risk of NRC in each item separately. Physical neglect was also the only sub-scale that showed a significant association with the statement ‘I wonder whether God had abandoned me’ (NRC item 1).

Table 5.2 Associations of experience in a close relationship (avoidance and anxiety) with negative religious coping and its items standardised to z-scores, crude, adjusted for age, gender, marital status, and education plus adjusted for raw anxiety and depression: results of binary logistic regression models leading to odds ratios with 95% confidence intervals.

	NRC summary	**NRC-1** *Wondered whether God had abandoned me*	**NRC-2** *Felt punished by God for my lack of devotion*	**NRC-3** *Wondered what I did for God to punish me*
Model 1[a]				
Anxiety	**1.42 (1.17-1.72)*****	**1.35 (1.03-1.79)***	**1.65 (1.24-2.18)****	**1.61 (1.27-2.05)*****
Avoidance	**1.47 (1.12-1.78)*****	**1.44 (1.09-1.89)***	**1.75 (1.32-2.32)*****	**1.56 (1.23-1.99)*****
Model 2[b]				
Anxiety	**1.50 (1.23-1.84)*****	**1.42 (1.06-1.89) ***	**1.91 (1.42-2.56)*****	**1.70 (1.33-2.18)*****
Avoidance	**1.55 (1.27-1.91)*****	**1.36 (1.01-1.85)***	**1.85 (1.33-2.57)*****	**1.75 (1.34-2.30)*****
Model 3[c]				
Anxiety	**1.27 (1.01-1.59)***	1.20 (0.87-1.66)	**1.64 (1.18-2.29)****	**1.37 (1.03-1.82)***
Avoidance	**1.41 (1.13-1.75)****	1.22 (0.88-1.70)	**1.75 (1.23-2.48)****	**1.53 (1.15-2.05)****

Table 5.2 (continued)

	NRC-4 *Questioned God's love for me*	**NRC-5** *Wondered whether my church had abandoned me*	**NRC-6** *Decided the devil made this happen*	**NRC-7** *Questioned the power of God*
Model 1[a]				
Anxiety	**1.75 (1.31-2.25)*** **	**1.47 (1.09-1.99)***	**1.65 (1.20-2.29)****	1.29 (0.94-1.77)
Avoidance	**1.86 (1.42-2.44)*****	**1.92 (1.43-2.58)*****	**2.23 (1.61-3.08)*****	1.23 (0.89-1.69)
Model 2[b]				
Anxiety	**1.83 (1.39-2.42)*****	**1.64 (1.21-2.23)****	**1.42 (1.06-1.89)***	**1.43 (1.03-1.97)***
Avoidance	**2.02 (1.46-2.79)*****	**2.24 (1.56-3.22)*****	**3.53 (2.23-5.59)*****	1.24 (0.88-1.75)
Model 3[c]				
Anxiety	1.32 (0.95-1.84)	1.07 (0.73-1.57)	0.94 (0.61-1.45)	1.22 (0.84-1.76)
Avoidance	**1.67 (1.17-2.37)****	**1.87 (1.25-2.79)****	**3.33 (1.98-5.61)*****	1.12 (1.77-1.63)

Notes: NRC – Negative Religious Coping; *p<0.05, **p<0.01, ***p<0.001

[a] Crude;

[b] Adjusted for age, gender, marital status and education;

[c] Adjusted for age, gender, marital status and education plus raw anxiety and depression

Table 5.3 Associations of childhood trauma experience with negative religious coping (summary and items) standardised to z-scores, crude, adjusted for age, gender, marital status, and education plus adjusted for raw anxiety and depression: results of binary logistic regression models leading to odds ratios (OR) with 95% confidence intervals (95% CI).

	NRC summary	**NRC-1** *Wondered whether God had abandoned me*	**NRC-2** *Felt punished by God for my lack of devotion*	**NRC-3** *Wondered what I did for God to punish me*
Model 1[a]				
Emotional abuse	**1.24 (1.03-1.49)***	0.90 (0.64-1.26)	1.14 (0.85-1.51)	**1.37 (1.10-1.70)****
Physical abuse	**1.33 (1.12-1.60)****	0.97 (0.68-1.31)	**1.31 (1.04-1.66)***	**1.41 (1.15-1.72)****
Sexual abuse	**1.24 (1.04-1.47)***	1.12 (0.88-1.43)	1.20 (0.96-1.50)	1.20 (0.98-1.46)
Emotional neglect	**1.48 (1.22-1.79)*****	**1.35 (1.02-1.79)***	**1.82 (1.30-2.42)*****	**1.75 (1.38-2.23)*****
Physical neglect	**1.72 (1.42-2.09)*****	**1.57 (1.22-2.04)****	**1.88 (1.44-2.44)*****	**1.84 (1.46-2.31) *****
Model 2[b]				
Emotional abuse	**1.30 (1.07-1.58)****	0.91 (0.64-1.29)	1.19 (0.87-1.62)	**1.46 (1.15-1.86)****
Physical abuse	**1.38 (1.13-1.66)****	0.91 (0.62-1.34)	**1.35 (1.03-1.78)***	**1.51 (1.20-1.90)*****
Sexual abuse	**1.31 (1.09-1.58)****	1.19 (0.85-1.62)	1.30 (0.98-1.73)	**1.29 (1.01-1.64)***
Emotional neglect	**1.50 (1.22-1.87)*****	1.36 (0.99-1.86)	**1.94 (1.41-2.66)*****	**1.91 (1.45-2.51)*****
Physical neglect	**1.65 (1.36-1.99)*****	**1.49 (1.15-1.92)****	**1.83 (1.40-2.39)*****	**1.86 (1.48-2.34)*****
Model 3[c]				
Emotional abuse	1.12 (0.90-1.40)	0.74 (0.50-1.09)	0.91 (0.63-1.31)	1.20 (0.91-1.59)
Physical abuse	**1.29 (1.05-1.59)***	0.85 (0.57-1.25)	1.25 (0.94-1.67)	**1.41 (1.12-1.79)****
Sexual abuse	1.23 (0.99-1.54)	1.11 (0.81-1.52)	1.20 (0.90-1.62)	1.17 (0.91-1.50)
Emotional neglect	1.28 (1.01-1.62)*	1.13 (0.79-1.61)	**1.68 (1.17-2.41)****	**1.56 (1.15-2.12)****
Physical neglect	**1.50 (1.23-1.83)*****	**1.35 (1.02-1.78)***	**1.65 (1.24-2.20)****	**1.66 (1.30-1.12)*****

Table 5.3 (continued)

	NRC-4 *Questioned God's love for me*	**NRC-5** *Wondered whether my church had abandoned me*	**NRC-6** *Decided the devil made this happen*	**NRC-7** *Questioned the power of God*
Model 1[a]				
Emotional abuse	**1.37 (1.07-1.75)***	**1.36 (1.04-1.77)***	1.10 (0.78-1.54)	**1.34 (1.02-1.76)***
Physical abuse	**1.31 (1.05-1.65)***	**1.31 (1.03-1.68)***	**1.46 (1.15-1.87)****	**1.34 (1.05-1.7)***
Sexual abuse	**1.36 (1.13-1.65)****	**1.51 (1.26-1.82)*****	**1.41 (1.56-1.73)****	1.22 (0.97-1.54)
Emotional neglect	**1.80 (1.38-2.36)*****	**1.94 (1.44-2.61)*****	**1.95 (1.42-2.68)*****	**1.58 (1.17-2.14)****
Physical neglect	**1.85 (1.44-2.39)*****	**2.36 (1.77-3.13)*****	**2.08 (1.55-2.80)*****	**1.69 (1.28-2.24) *****
Model 2[b]				
Emotional abuse	**1.49 (1.14-1.94)****	**1.43 (1.07-1.91)***	1.10 (0.76-1.58)	**1.36 (1.02-1.83)***
Physical abuse	**1.39 (1.07-1.81)***	**1.37 (1.04-1.82)***	**1.51 (1.15-1.98)****	**1.36 (1.03-1.80)***
Sexual abuse	**1.55 (1.22-1.98)*****	**1.74 (1.36-2.24)*****	**1.53 (1.19-1.97)****	1.30 (0.97-1.75)
Emotional neglect	**1.91 (1.40-2.59)*****	**2.12 (1.52-2.97)*****	**1.88 (1.35-2.62)*****	**1.60 (1.14-2.25)****
Physical neglect	**1.81 (1.40-2.35)*****	**2.34 (1.76-3.12)*****	**2.07 (1.45-2.95)*****	**1.58 (1.20-2.10)****
Model 3[c]				
Emotional abuse	1.12 (0.80-1.55)	0.96 (0.65-1.41)	**0.58 (0.37-0.92)***	1.19 (0.86-1.65)
Physical abuse	1.29 (0.97-1.70)	1.24(0.91-1.69)	**1.38 (1.03-1.86)***	1.28 (0.95-1.71)
Sexual abuse	**1.39 (1.08-1.78)***	**1.58 (1.22-2.03)*****	**1.35 (1.02-1.77)***	1.23 (0.91-1.66)
Emotional neglect	1.37 (0.96-1.96)	1.47 (0.99-2.20)	1.35 (0.88-2.10)	1.41 (0.96-2.07)
Physical neglect	**1.52 (1.14-2.02)****	**2.04 (1.49-2.79)*****	**1.74 (1.25-2.43)****	**1.45 (1.07-1.96)***

Notes: NRC - negative religious coping; *p<0.05, **p<0.01, ***p<0.001

[a] Crude;

[b] Adjusted for age, gender, marital status and education;

[c] Adjusted for age, gender, marital status and education plus raw anxiety and depression

5.4 Discussion

The aim of this study was to assess the associations of adult attachment and childhood trauma with negative religious coping. We found that almost a quarter of religious population showed signs of NRC and we also observed higher NRC within the group of elderly respondents. Furthermore, we found that NRC was associated with both anxiety and avoidance in close relationship and with all five types of childhood trauma experience.

The finding of higher NRC within the group of the elders is in line with results of other studies, e.g., (Noffke & Hall, 2007), and might be explained by usage of more active forms of coping among the young. The elders are, due to higher demands of active forms of coping and increased physiological vulnerabilities, more likely to use passive forms such as religious coping (Folkman, Lazarus, Pimley, & Novacek, 1987).

We also found that respondents who reported anxiety in adult relationships were more likely to report higher NRC. These findings are consistent with those of other studies (Giordano et al., 2017; Pollard et al., 2014). An explanation could be that when individuals worry about whether their partner is available and reliable, they can transmit their feelings to God and thus use NRC strategies more often. Therefore, we could expect that although individuals with high attachment anxiety may seek help from God or their religious community (Granqvist, 2005), they might find these sources inadequate. However, the cross-sectional design of this study does not allow us to draw any conclusions on the direction of causality. They may be a mutual influence, as Fitchett (Fitchett et al., 2004) and Gall (Gall, 2004) stressed the possibility that a negative perception of God is associated to increased levels of anxiety and distress. Therefore, one's views of God may affect relationship with the other people and a problematic attachment to them. Moreover, it is also possible that individuals with NRC might be less likely to experience a safe relationship to God or to their religious community, which may consequently strengthen their insecure attachment style. Moreover, these participants might further feel abandoned or punished by God as a projection of their personal attachment style (Pollard et al., 2014).

Additionally, we found that attachment avoidance was associated with NRC, which corresponds to the findings of Schottenbauer et al. (2006), who reported attachment avoidance qualities as a predictor of NRC. However, our results diverge from Pollard et al. (Pollard et al., 2014), who found no interaction between NRC and attachment avoidance. An explanation for this difference could be that the respondents who reported high attachment avoidance do not apply NRC strategies in a consistent way (Pollard et al., 2014), therefore, the results in various studies might vary. Our findings might be supported by the idea that attachment anxiety and avoidance can be seen as a continuous state of insecurity (Granqvist, 2005) which could be distressing and may represent a negative impact on individual's life. In a continuous state of distress or in a long-term exposure to negative events, NRC strategies are used more frequently (Bjorck & Thurman, 2007), thus positive association between avoidance and NRC can occur. Our results consequently seem to support the correspondence theory, which suggests that for insecurely attached individuals, their relationship to God corresponds to their human relationships (Giordano et al., 2017; Rowatt & Kirkpatrick, 2002). Individuals can therefore also transfer their human relationship difficulties to their relationship with God.

Furthermore, we found that all subscales of the CTQ were associated with NRC. These results are consistent with the findings of other studies which have reported a negative impact of childhood trauma on religiosity (Bierman, 2005; Gall et al., 2007; Reinert & Edwards, 2009). Verbal, physical, and sexual mistreatment are related to difficulties in one's attachment to God and may lead to a tendency to view God as less loving, and more distant and controlling (Reinert & Edwards, 2009). Moreover, when CTQ subscales were assessed in their association with individual NRC items, physical neglect was found to be associated with each NRC item. Surprisingly, physical neglect was also the only subscale associated with the item focusing on abandonment by God. Thus, these results are contrasting to Granqvist's compensational theory (Granqvist, 1998), that individuals who experienced a difficult childhood may develop a positive relationship with a higher power which would serve as a substitute and provide a secure base, so they do not feel abandoned. Moreover, as respondents reported also other forms of NRC (i.e., feeling punished or questioning God's love and power) associated with childhood mistreatment, this rather supports the corresponding model (Rowatt & Kirkpatrick, 2002) where children neglected by their parents may more often transmit their feelings to God and feel neither God cares for them and punish them.

In addition, we found no significant association between emotional and sexual abuse and some NRC items. Although respondents wondered what they had done that God would punish them, questioned God's love, or felt abandoned by the religious community, they did not feel abandoned or punished by God for their lack of devotion. These findings contrast to those of other authors, who found strong associations between sexual and physical mistreatment and a concept of God as distant (Bierman, 2005) and an association of feelings of distance from God with emotional neglect (Kennedy & Drebing, 2002). Nevertheless, as our respondents reported that childhood sexual abuse played no role in feeling abandoned by God, our results are consistent with a concept of God as a protective factor and a source of more positive forms of coping (Bierman, 2005; Gall et al., 2007). However, in these cases, the identity of the abuser seems to play an important role in the further perception of the trauma (Bierman, 2005) and therefore should be considered in surveys while assessing the consequences for an individual's relationship to God (Granqvist, 1998) and the tendency to use NRC strategies. The other explanation could be a social desirability bias in the survey that reflects the effort to report religious coping strategies in accordance with social expectations where negative attitudes to God could be considered morally unacceptable (Exline, Kaplan, & Grubbs, 2012).

Finally, the comparison of the three models showed the differences between crude and adjusted data. Whereas the difference between crude model and model adjusted for age, gender, marital status and education was only slight, comparing these models to the model adjusted also for background levels of general anxiety and depression revealed differences. After checking for a spurious effect of general negativism in Model 3, the results showed no associations between anxiety in close relationship and NRC items except for the feelings of punishment from God and NRC summary. The comparison of groups in this model showed that association between NRC and childhood trauma and attachment avoidance and anxiety can be related to general negativism. Moreover, it is possible that adverse childhood experiences and attachment insecurity can be associated with higher adult anxiety and/or depression in general, which can consequently negatively influence one's religious coping.

Our findings of an association between the feelings of being punished by God and negative religious coping support the idea of Pollard (Pollard et al., 2014) that insecure attached individuals can feel punished by God as a projection of their attachment style. Moreover, Model 3 revealed similar results for associations between childhood trauma and negative religious coping. We found associations between physical neglect and all NRC items. This seems to be in line with the findings of other authors (Bierman, 2005; Rowatt & Kirkpatrick, 2002), that difficulties and experience of neglect in childhood may be reflected in the later perception of God and thus lead to increased usage of negative religious coping strategies.

5.4.1 Strengths and Limitations

This study has several important strengths. The most important is its response rate. It is also one of the few studies that assesses the associations of negative religious coping with adult attachment and childhood trauma experience in a secular environment. However, the high rate of religiously unaffiliated respondents in the original sample limited the sample size for this study. Another limitation is the cross-sectional design of the study, which does not allow us to make causal inferences. The third limitation may involve cultural awareness, as our study does not reflect a particular cultural context. Furthermore, the last limitation concerns information bias, as our data were based on self-reports of respondents, which might be influenced by social desirability as religiously affiliated respondents might have responded according to their images of God and religiosity. These limitations should be included in a follow-up study in order to achieve a better and more precise understanding of underlying processes that affect the tendency to use maladaptive religious coping.

5.4.2 Implications

Our findings suggest that attachment avoidance and anxiety as well as childhood experience of maltreatment may affect NRC. Framed within a multidisciplinary approach toward dealing with the history of childhood trauma or with the attachment insecurity, NRC might be worth considering for professional counselling interventions in the area of spirituality aimed at lowering the use of NRC. The counsellor or spiritual guide can obtain information about patient's religious background or whether the patient uses religion to cope with his or her trauma. This can contribute to the culturally sensitive awareness of a counsellor.

At the same time, using NRC strategies can serve as a sign of attachment insecurity and distress, and could therefore be informative for professionals in other areas. Further research is needed to explore the role of religiosity in both one's partner and one's parents in the development of individual religiosity and one's image of God. The role of a perpetrator of violence should be further considered. Moreover, further research should focus on unravelling the causal pathways.

5.5 Conclusions

Our findings suggest that adult attachment and childhood trauma are associated with negative religious coping. Attachment anxiety and avoidance may be transmitted to the relationship to God and lead to increased use of NRC strategies. Similarly, individuals who suffered any form of childhood trauma may tend to view God as rather distant and unloving, and they might be more likely to use NRC. Thus, this study offers a deeper understanding of the factors that might contribute to the use of maladaptive NRC.

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Chapter 6

RELIGIOUS CONSPIRACY THEORIES ABOUT THE COVID-19 PANDEMIC ARE ASSOCIATED WITH NEGATIVE MENTAL HEALTH

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Submitted

Abstract

Background: Together with the Covid-19 pandemic, various conspiracy theories have also begun to spread. Evidence on the effect is lacking for religious conspiracy theories (RCT) in a non-religious environment. The aim of the study was to assess the possible links between religiosity and spirituality (R/S) and beliefs in RCT, as well as to examine the associations of such beliefs and mental health.
Methods: A sample of Czech adults (n=1273, mean age=47.5, SD=16.4; 51.5% male) participated in the survey. We measured beliefs in RCT, R/S, negative religious coping (NRC), feelings impairment and mental health symptoms.
Results: We found that R/S were significantly associated with each RCT belief. Respondents using NRC were more likely to believe that the current pandemic is a punishment for the moral decline of the church and for the liberal attitudes of Pope Francis, with an odds ratios (OR) of 4.38 (95% confidence interval [CI] 2.39-8.01). Results revealed no associations between RCT beliefs and negative feelings impairment. However, beliefs in RCT and NRC were strongly associated with paranoia, anxiety and depression. The most frequent associations were found for NRC and paranoid ideation, with an OR of 4.13 (95% CI 2.09-8.17) for the crude model. Our findings showed associations between beliefs in RCT and R/S. Moreover, such beliefs and NRC were linked to higher possibility of mental health problems.
Conclusion: Understanding these associations may help prevent the negative impact of RCT and NRC and contribute to the effectiveness of psychotherapeutic help.

Keywords: religious conspiracy beliefs; Covid-19 pandemic; spirituality; religiosity; religious coping; mental health

6.1 Introduction

When the World Health Organization (WHO) declared the current coronavirus disease Covid-19 as a pandemic in early March 2020 (Mahase, 2020), the whole world began to face a real challenge. Hand in hand with the number of infections and enhanced by social media, the number of false reports and misinformation increased and spread as fast as the virus itself, so that in addition to the pandemic, the world also began to fight an "infodemic" (Zarocostas, 2020). Subsequently, the pandemic has been accompanied with anxiety, fear or stress (Duan & Zhu, 2020) that can have a detrimental impact on mental health (Ho, Chee, & Ho, 2020; Tucci et al., 2017). These negative psychological outcomes can consequently have an adverse effect on the immune functioning and can increase susceptibility to disease (Coughlin, 2012; Glaser & Kiecolt-Glaser, 2005). Moreover, such outcomes may become a barrier to effective physical and mental health interventions (Xiang et al., 2020).

In a period of uncertainty, misinformation and feelings of powerlessness, people are likely to be attracted to conspiracy theories (Cichocka, 2016; Grzesiak-Feldman, 2013; van Prooijen & Jostmann, 2013), which can be seen as attempts to explain inexplicable events as a secret plot of multiple powerful actors working together (Franks, Bangerter, & Bauer, 2013; Swami, Voracek, Stieger, Tran, & Furnham, 2014). According to Douglas (Douglas, Sutton, & Cichocka, 2017), conspiracy theories appear to provide broad explanations and to satisfy important motives that can be characterised as epistemic (e.g., a need to understand and to gain a subjective certainty), existential (e.g., an urge for security and control) and social (e.g., a desire to maintain a positive image of the self or a group). Thus, it is obvious that as Covid-19 turned into a worldwide issue with misinformation drowning out credible sources of information, various theories have also rapidly spread (Allington, Duffy, Wessely, Dhavan, & Rubin, 2020; Mian & Khan, 2020), leading to other negative health and social effects (Swami et al., 2014). People who believe in conspiracy theories are more likely to develop negative attitudes toward health recommendations and preventive measures, are not willing to stick to them or may even reject scientific facts or recommendations as dangerous, and do not cooperate in reducing infection rates (Abaido & Takshe, 2020; Douglas et al., 2019; Imhoff & Lamberty, 2020).

Religiosity and spirituality (R/S) represent important dimensions of the lives of many people and an important resource for health and well-being (Koenig, 2012; Koenig, 2020). A large number of studies have shown positive associations between R/S and human health (Koenig, 2012; VanderWeele, 2017), among them also connections with a lower occurrence of depressive symptoms and anxiety (Goncalves et al., 2018; Moon & Kim, 2013). Similarly, both religiosity and spirituality are often studied as a source of resilience and coping. Religious coping strategy (Pargament, Koenig, & Perez, 2000) can be seen as a strategy that includes an emphasis on God and sacred-related ways of understanding and dealing with negative life situations (Abu-Raiya, Pargament, & Mahoney, 2011; Pargament & Raiya, 2007). A positive effect of religious coping, i.e., protecting individuals from mental health problems when dealing with difficulties, has been shown in many studies (e.g., Chang et al., 2018; Duarte, Lucchetti, Teixeira, & Rigatto, 2020; Goudarzian et al., 2019). However, this protective effect was associated only with so-called positive religious coping. On the contrary, when negative religious coping (NRC) strategies were used, the outcomes were opposite and associated with worse psychological adjustment (Bjorck & Thurman, 2007; Pargament, Feuille, & Burdzy, 2011), higher levels of

depression and isolation (Abu-Raiya et al., 2011), worse quality of life and life satisfaction (Paika et al., 2017), higher risk of suicide (Currier, Smith, & Kuhlman, 2017; Paika et al., 2017) and a higher risk of mortality (Pargament, Koenig, Tarakeshwar, & Hahn, 2001).

Furthermore, some studies have shown associations of R/S with conspiracy beliefs (Beller, 2017; Douglas, Sutton, Callan, Dawtry, & Harvey, 2016; Newheiser, Farias, & Tausch, 2011). It was found that an individual's network of beliefs and spirituality plays a role in the endorsement of conspiracies and may facilitate one's attraction to a conspiracy (Newheiser et al., 2011). Moreover, when they provide an explanation for phenomena that are difficult to understand or to incorporate into one's wider belief system (Newheiser et al., 2011), religious conspiracy theories (RCT) can be formed. Consequently, it is possible that people with beliefs in RCT may tend to have negative views of their difficulties and impaired feelings and may have paranoid tendencies and worse mental health (Currier et al., 2019; Zarzycka, Sliwak, Krok, & Ciszek, 2019). Minimizing these negative outcomes is thus very vital, and understanding the associations of RCT beliefs with R/S and NRC strategies is important.

The Czech Republic is characterised by a high degree of secularisation, as most people do not report any religion affiliation or regular church attendance (Malinakova et al., 2018). This specific setting makes it an interesting research area. Assessing the links between R/S and religious conspiracy beliefs and their associations with negative emotions, paranoid ideation, anxiety and depression in a secular country can bring interesting findings and may help us to understand how these variables affect mental health. Therefore, the aim of this study is to assess the associations of R/S with belief in RCT and negative religious coping and to examine the associations of such beliefs and coping on mental health by assessing their relationship with emotional impairment, paranoia, depression and anxiety during the first wave of the Covid-19 pandemic.

6.2 Methods

6.2.1 Participants and procedure

For this study we used data from the Czech population aged 18 to 97. The data was collected during the first lockdown in April 2020 through an anonymous online survey aimed at depicting the actual situation through the most critical time of the first wave of the Covid-19 pandemic. The online survey was prepared at the researchers' institution and a professional agency ensured its distribution in order to achieve a balanced sample regarding age and sex. Consequently, in order to ensure the high quality of the data, the following data were excluded: 1) an extremely short time filling in the survey (i.e. less than 10 minutes for a survey that typically lasted around 45 minutes), which would not allow respondents to fill in the survey thoughtfully; 2) a unified pattern of responses, i.e., responding to most of the items in the survey in the same way. After exclusion of the problematic subjects (n=13) the final sample consisted of 1,273 respondents (mean age=47.5, SD=16.4; 51.5% male).

At the beginning of the survey, participants received written information on the aim of the study and the anonymised handling of data and were made familiar with the system. Participation in the survey was fully voluntary, with the possibility of leaving the study at any

time before or during the survey without giving reasons. Respondents had to explicitly express their informed consent with participation prior to the study.

6.2.2 Measures

Religious coping was assessed using the negative religious coping subscale (NRC) of the Brief RCOPE (Pargament et al., 2011). The instrument was validated for the Czech condition (Janu, Malinakova, Kosarkova, Furstova, & Tavel, 2019). It is composed of 7 items that reflect a less secure religious relationship growing out of a tenuous and ominous view of God or the world. Items are rated on a seven-point scale, with possible answers ranging from 'not at all' (1) to 'a great deal' (4), and the total score ranges from 7 to 28. For further categorisations of responses, each of the item scores was dichotomised according to the approach of Fitchett (Fitchett & Risk, 2009). Scores of 1 or 2 were recoded to '0' (did not use NRC) and scores of 3 or 4 recoded to '1' (used NRC). Consequently, when any of the seven NRC items was '1', a respondent was classified as showing NRC (Grossoehme & Fitchett, 2013; Kosarkova, Malinakova, van Dijk, & Tavel, 2020). Cronbach's alpha was 0.84 in our sample.

Religious conspiracy theories were assessed using four statements capturing common religious opinions on the Covid-19 pandemic. The statements were generated from searching the Internet and social media during the first weeks of the pandemic. Although the approach may not be completely exhaustive, we tried to capture the most common theories involving religious themes. The assessed statements were: "The current coronavirus pandemic is God's punishment"; "The current pandemic is a punishment for the moral decline of the Church and for the liberal attitudes of Pope Francis"; "The current pandemic has been foretold by some religious visionaries"; and "The current pandemic is only the beginning of the events described in the book of the Apocalypse". Participants were asked to mark to what degree, in their opinion, the information corresponds to the truth. Possible options ranged from 'does not correspond at all' (0) to 'definitely corresponds' (3). Consequently, when any of the four statements was marked as 'corresponding' (2) or 'definitely corresponding' (3), the respondent was classified as believing in religious conspiracy.

Negative feelings impairment was assessed by the question: "In connection with the pandemic, has anything changed in your life in the following areas?" These areas were: the feeling of loneliness, threat, fear and anxiety, helplessness, loss of hope. The possible answers were: (1) 'worsened'; (2) 'unchanged'; (3) 'improved' and (4) 'the question does not concern me'. For the purpose of further analysis, the answers for each item were dichotomised. Respondents who answered 1 (worsened) were classified as experiencing negative feelings impairment.

Paranoia was assessed using the Paranoid Ideation subscale of the Brief Symptom Inventory (BSI-53) (Derogatis & Melisaratos, 1983; Kabat et al., 2018). The introductory instruction was: "How much has the following symptoms problem distressed or bothered you during the past month?" It was followed by items rated on a five-point Likert scale, with possible answers ranging from (1) 'not at all' to (5) 'extremely'. For the purpose of further analysis, the subscale was dichotomised following the approach of Stewart (Stewart et al., 2009) (2010), i.e., the summary score of the answers was computed and participants with a score of 66 or higher were considered as paranoid, and the rest as non-paranoid. Cronbach's alpha for the subscale in our sample was 0.83.

Anxiety was measured using the Overall Anxiety Severity and Impairment Scale (OASIS) (Norman, Cissell, Means-Christensen, & Stein, 2006). The OASIS is a 5-item self-reported scale that assesses the severity of anxiety as well as behavioural and social avoidance caused by anxiety symptoms. In it, respondents were instructed to endorse the response that best describes their experiences over the past week. In our study, we used a shortened version with abbreviated responses (Norman et al., 2011) that ranged from (1) 'never' to (5) 'all the time'. In the main analyses, participants' responses were dichotomised in the following way: items 4 (often) and 5 (all the time) were recoded as '1' (anxious), and items from 1 (never) to 3 (sometimes) '0' (non-anxious). Cronbach's alpha in our sample was 0.89.

To assess *depression,* we used an abbreviated version the Overall Depression Severity and Impairment Scale (ODSIS) (Bentley, Gallagher, Carl, & Barlow, 2014). This self-reported scale assesses the severity and functional impairment associated with depressive symptoms as well as its impact on work and social life. The respondents choose from responses on a 5-point Likert-type scale ranging from (1) 'never' to (5) 'all the time'. For further analyses, the answers were dichotomised thus: items 4 (often) and 5 (all the time) were recoded as '1' (depressed), and items from 1 (never) to 3 (sometimes) were recoded as '0' (not depressed). In the present study, Cronbach's alpha in our sample showed a high consistency with $\alpha = 0.92$.

Spirituality was measured using the Daily Spiritual Experience Scale (DSES). The scale measures the frequency of ordinary experiences of connection with transcendence in everyday life (Underwood, 2006). The present study used an adapted 15-item version of the scale validated for the Czech environment (Malinakova et al., 2018). Each item was evaluated on a six-degree Likert scale graded according to the intensity of experiencing the observed phenomena, ranging from 'never' (1) to 'many times a day' (6). A higher intensity of experience corresponds to higher levels of spiritual experience. For the analysis, we treated the total score as a continuous variable. Cronbach's alpha for the whole scale has an excellent internal consistency, with $\alpha = 0.96$ in our sample.

Religiosity was measured using the following question: "At present, would you call yourself a believer?" with possible answers: 'yes, I am a member of a church or religious society'; 'yes, but I am not a member of a church or religious society'; 'no'; 'no, I am a convinced atheist'. For the purpose of further analysis, participants who reported 'yes' were dichotomised as religious.

Sociodemographic characteristics, such as sex, age, education level, marital status and economic activity, were obtained by means of the questionnaire.

All instruments were available in the Czech language.

6.2.3 Statistical Analyses

In the first step, the descriptive statistics of the key study variables were calculated. The differences in basic characteristics and in the observed categorical variables were assessed using the Chi-Squared test. As the data did not meet the assumption of normal distribution, a binary logistic regression was used for statistical analyses. We assessed the associations of spirituality (standardised to Z-scores), religiosity and NRC with the whole RCT as well as its four separate beliefs. Subsequently, the procedure was repeated for the associations of RCT and NRC with changes in life during the pandemic as well as with paranoia and frequency and intensity of anxiety and depression. The p-values of these univariate analyses were corrected for the family-

wise error rate (FWER) using a Bonferroni approach. All binary logistic regression models were first assessed as crude and consequently adjusted for sex, age, economic activity and education level. Each of the independent variables was assessed in a separate model. All analyses were performed using the statistical software IBM SPSS version 25 (IBM Corp., Armonk, NY, USA) and R (Version 4.0.3; R Core Team, 2020)

6.3 Results

6.3.1 Description of the Population

The sociodemographic characteristics of the sample are presented in Table 6.1. The sample represents the Czech population aged 18 years and older (mean age=47.5; SD=16.4; 51.5% male). Of the whole sample, 342 respondents reported some kind of RCT belief and 131 religious participants reported NRC. A comparison of the sociodemographic groups did not reveal any significant differences regarding age, marital status or economic activity. Regarding sex, the comparison revealed significant difference ($p < 0.05$) only for the respondents believing in NRC. Moreover, the respondents differed significantly in levels of education ($p < 0.001$ for RCT, $p < 0.05$ for NRC), and a comparison showed significant difference among religious respondents within the group believing in RCT($p < 0.001$) and within the group using NRC ($p < 0.01$).

Table 6.1 Description of the study population, total and by RCT and NRC

	Total		**Religious conspiracy theory belief** [a]		**p-value**	**Negative religious coping** [b]		**p-value**
	N	%	N	%		N	%	
Sex								
Male	655	51.5	158	46.2	$p < 0.05$	63	48.1	n.s.
Female	618	48.5	184	53.8		68	51.9	
Age								
18-29 years	125	16.9	54	15.8	n.s.	18	13.7	n.s.
30-44 years	371	29.1	102	29.8		35	26.7	
45-59 years	312	24.5	80	23.4		30	22.9	
60-99 years	375	29.5	106	31.0		48	36.6	
Marital status								
Single/Divorced/ Widow(er)	427	33.5	181	52.9	n.s.	66	50.4	n.s.
Married/Partner relationship	846	66.5	161	47.1		95	49.6	
Education								
Elementary	109	8.6	37	10.8	$p < 0.01$	9	6.9	$p < 0.05$
Secondary vocational	559	43.9	169	49.4		71	54.2	
Secondary with graduation	408	32.1	94	27.5		30	22.9	
College	197	15.5	42	12.3		21	16.0	
Economic activity								
Employee	637	50.0	165	48.2	n.s.	53	40.5	n.s.
Self-employed	64	5.0	21	6.1		7	5.3	
Household[c]/unemployed	118	9.3	37	10.8		11	8.4	
Student	77	6.0	16	4.7		8	6.1	
Disabled/ old-age pensioner	377	29.6	103	30.1		52	39.7	
Religiosity [d]								
Believer, church member	109	8.6	45	13.2	$p < 0.001$	47	35.9	$p < 0.01$
Believer outside the church	313	24.6	140	40.9		84	64.1	
Non-believer	680	53.4	127	37.1				
Convinced atheist	171	13.4	30	8.8				
Total	**1273**	**100**	**342**	**26.9**		**131**	**10.3**	

Notes: [a] believing in at least one religious conspiracy theory; [b] NRC > "quite a bit" in any of the 7 items; these descriptive statistics were calculated only from a subset of participants: those who filled in that they were religious; [c] including maternity leave; [d] independently of church attendance; n.s. = non-significant.

6.3.2 Religious conspiracy theory beliefs

Table 6.2 shows the results of the binary logistic regression, crude and adjusted for sex, age, level of education and economic activity, aimed at the associations between spirituality, religiosity and NRC with RCT beliefs. Assessing religiosity, spirituality and NRC revealed that religiosity and spirituality are significantly ($p<0.001$) associated with each RCT belief, as well as with RCT as a whole. Moreover, we found the strongest associations between NRC and RCT-2 (the belief that the current pandemic is a punishment for the moral decline of the church and for the liberal attitudes of Pope Francis), for both the crude and the adjusted model. Specifically, a one SD increase in NRC was associated with 4-times higher odds of reporting this belief. No associations were found between NRC and two RCT beliefs for the adjusted models.

6.3.3 Feelings impairment

Table 6.3 depicts the associations of RCT and NRC with the deterioration of feelings during the Covid-19 pandemic. We found no significant associations for any of the assessed variables.

6.3.4 Paranoia, depression and anxiety

The results of binary logistic regression assessing the RCT and NRC with paranoia and anxiety and depression frequency and intensity are presented in Table 6.4. The results obtained from regression models showed that both RCT and NRC were associated with higher paranoia, anxiety and depression. NRC was associated with approximately 4 times higher risk of paranoia in the adjusted model. Similarly, strong associations were found between RCT and paranoia, anxiety and depression. Specifically, one SD increase in RCT beliefs was associated with 1.95 times higher odds of anxiety and with 2 times higher odds of depression.

Table 6. 2 Associations of spirituality (standardised to Z-scores), religiosity and negative religious coping with RCT beliefs, core and adjusted for age, sex and highest level of education (odds ratios and 95% confidence intervals(CI)).

		RCT 1	**RCT 2**	**RCT 3**	**RCT 4**	**RCT sum**
Religious	crude	**3.88 (2.78-5.41)*****	**2.93 (1.90-4.51)*****	**2.65 (1.96-3.58)*****	**3.52 (2.57-4.83)*****	**3.45 (2.66-4.47)*****
vs. non-religious	adjusted	**3.94 (2.80-5.54)*****	**3.13 (2.01-4.88)*****	**2.64 (1.94-3.57)*****	**3.47 (2.51-4.81)*****	**3.47 (2.67-4.53)*****
Spirituality	crude	**1.84 (1.61-2.11)*****	**1.76 (1.50-2.07)*****	**1.77 (1.56-2.01)*****	**1.94 (1.70-2.22)*****	**1.95 (1.72-2.22)*****
	adjusted	**1.87 (1.63-2.15)*****	**1.78 (1.51-2.10)*****	**1.79 (1.57-2.04)*****	**2.02 (1.76-2.33)*****	**2.00 (1.76-2.28)*****
NRC	crude	**2.37 (1.50-3.76)*****	**4.38 (2.39-8.01)*****	1.44 (0.91-2.27)	**1.72 (1.09-2.70)***	**1.76 (1.16-2.66)****
	adjusted	**2.31 (1.44-3.69)****	**3.98 (2.15-7.36)*****	1.40 (0.88-2.23)	1.55 (0.97-2.50)	**1.69 (1.10-2.60)***

Notes: RCT – religious conspiracy theory
RCT 1 - "The Covid-19 pandemic is God's punishment."
RCT 2 - "The current pandemic is a punishment for the moral decline of the church and for the liberal attitudes of Pope Francis."
RCT 3 - "The current pandemic has been foretold by some religious visionaries."
RCT 4 - "The current pandemic is only the beginning of the events described in the book of the Apocalypse."
NRC – negative religious coping
*p < 0.05, **p < 0.01, ***p < 0.001
Bold text: significant after FWER correction

Table 6. 3 Associations of religious conspiracy theories and negative religious coping with feelings impairment, both crude and adjusted for age, sex and highest level of education and economic activity (odds ratios and 95% confidence intervals).

		Loneliness	**Threat**	**Fear and anxiety**	**Helplessness**	**Loss of hope**
RCT	crude	0.96 (0.69-1.33)	1.09 (0.84-1.42)	1.12 (0.84-1.48)	1.85 (0.63-1.15)	0.85 (0.55-1.30)
	adjusted	0.92 (0.66-1.30)	1.10 (0.84-1.44)	1.07 (0.80-1.43)	0.82 (0.61-1.12)	0.80 (0.51-1.24)
NRC	crude	1.28 (0.76-2.14)	1.29 (0.84-1.99)	1.22 (0.78-1.92)	1.32 (0.83-2.09)	1.27 (0.64-2.54)
	adjusted	1.47 (0.86-2.53)	1.45 (0.93-2.27)	1.41 (0.87-2.27)	1.49 (0.91-2.44)	1.33 (0.65-2.71)

Notes: RCT – religious conspiracy theory
NRC – negative religious coping

Table 6. 4 Associations of religious conspiracy theories and negative religious coping with paranoia, depressions, and anxiety, both crude and adjusted for age, sex, education, and economic activity (odds ratios and 95% confidence intervals).

		Paranoia	**Anxiety**	**Depression**
RCT	crude	1.75 (1.15-2.68)*	**1.96 (1.50-2.56)*** **	**2.07 (1.52-2.83)*** **
	adjusted	1.72 (1.12-2.66)*	**1.95 (1.49-2.57)*** **	**2.10 (1.52-2.91)*** **
NRC	crude	**4.13 (2.09-8.17)*** **	1.92 (1.20-3.08)**	**2.20 (1.35-3.58)*** **
	adjusted	**3.97 (1.96-8.05)*** **	**2.34 (1.42-3.85)*** **	**2.55 (1.51-4.28)*** **

Notes: RCT – religious conspiracy theory
NRC – negative religious coping
*$p < 0.05$, **$p < 0.01$ ***$p < 0.001$

6.4 Discussion

We assessed possible links between R/S and beliefs in RCT and examined the associations of such beliefs on mental health. RCT beliefs were found to be associated with both R/S and NRC. Although we found no associations of RCT and NRC with the impairment of negative feelings, both RCT and NRC were strongly associated with paranoia, anxiety and depression. The strongest association was observed between NRC and the belief in the RCT that the current pandemic is a punishment for the moral decline of the church and for the liberal attitudes of Pope Francis.

The findings of higher RCT belief in the group with a secondary vocational education without graduation is in line with results of the other studies (e.g., Georgiou, Delfabbro, & Balzan, 2019; van Prooijen, 2017); this may be explained by the fact that more educated people are able to evaluate the credibility of information and their sources due to higher analytical thinking skills. In comparison, people without higher education may have a lower level of cognitive reasoning skills and awareness of counter-argumentation and refutation of falsehood (Georgiou, Delfabbro, & Balzan, 2020; van Prooijen, 2017).

Furthermore, we confirmed an expected association between both religiosity and spirituality with each of the assessed RCT beliefs. This is in line with a number of other studies showing the associations of R/S with conspiracy theories (Beller, 2017; Douglas et al., 2016; Newheiser et al., 2011), although these studies were not aimed directly at religious conspiracies. Moreover, the results revealed that the association of RCT with religiosity was even stronger than with spirituality. In distinguishing religiosity and spirituality as two different concepts (Kosarkova, Malinakova, Koncalova, Tavel, & van Dijk, 2020; Malinakova, Tavel, Meier, van Dijk, & Reijneveld, 2020), it may be argued, that as religious people have some level of religious education and follow beliefs prescribed and taught by a particular institution (Zinnbauer et al., 1997), they may also be influenced by the way their specific religious group mobilises, debates and negotiates conspiracy theories (Robertson, Asprem, & Dyrendal, 2018). From this point of view, such theories can be motivated by a desire to maintain a strong group identity (van Prooijen & Douglas, 2018). Beliefs in RCT may also serve a religious group to defend their status quo or to define threats as demonic outsiders (Robertson et al., 2018; van Prooijen & Douglas, 2018). Moreover, such beliefs can help with feelings of powerlessness and alienation or a need to explain incomprehensible things in the surrounding and often hostile world (Abalakina-Paap, Stephan, Craig, & Gregory, 1999; Swami & Coles, 2010).

Furthermore, we found that RCT were associated with NRC in two of the assessed beliefs. These result are in line the NRC theory (Pargament et al., 2011), where in a process of trying to understand and deal with severe life situations people use strategies that are characterised by spiritual tension, an ominous view of the world and conflict with people in a religious community. The two significant RCT beliefs, i.e. that the Covid-19 pandemic is God's punishment and more specifically, that it is a punishment for the moral decline of the church and for the liberal attitudes of Pope Francis, are directly connected to such a conflict and religious struggle and tension in relationship with divine (Pargament & Raiya, 2007).

In our study, we did not observe any significant associations of RCT beliefs or NRC with impaired feelings. These findings are in contrast with the findings of other studies, which

reported an increase of negative feelings during the pandemic in connection to conspiracy theories (Chen et al., 2020; Sallam et al., 2020) and to NRC (Lee, 2020). It is possible that these discrepancies are due to the use of the different measures. Another explanation may be that to understand and deal with Covid-19 pandemic situations, people use R/S as a source of relief from stress and mental suffering (Chirico & Nucera, 2020) and tend to use rather positive ways of coping (Pirutinsky, Cherniak, & Rosmarin, 2020) that are usually used at the beginning of stressful events, whereas in a long-term exposure to negative events, NRC strategies may be used more frequently (Bjorck & Thurman, 2007). In addition, we can also assume the effect of a social desirability, which may reflect the effort to report religious coping strategies in accordance with social expectations, where reporting negative attitudes towards God could be considered morally unacceptable (Exline, Kaplan, & Grubbs, 2012).

Nevertheless, our further results showed strong associations of NRC with paranoia, which remained significant after controlling for demographic variables. This finding is in line with the study of McConnell (McConnell, Pargament, Ellison, & Flannelly, 2006). Paranoid individuals can be characterised by cognitive-perceptual biases of mistrust, preferentiality and intentionality and by a response to the perceived threat by guardedness, hostility or fear (Lee, 2017). Therefore, paranoid ideation may also reflect the feeling of being abandoned and punished by the God or other people and reinforce the conflict with core beliefs and values (Abu-Raiya et al., 2011; Pargament et al., 2011). Such maladaptive NCR strategies may further influence one's stability and underpin paranoid ideation.

Moreover, in our study, NRC was also associated with both anxiety and depression. These results correspond with the findings of studies that showed a relationship of NRC with depressive disorder (Currier et al., 2019; Zarzycka et al., 2019) and with anxiety (Kosarkova, Malinakova, van Dijk, et al., 2020; Zarzycka et al., 2019). A possible interpretation could be that R/S discomfort and negative perception of God may lead to increased levels of anxiety and distress (Fitchett et al., 2004; Gall, 2004) and to a reduced experience of hope (Zarzycka et al., 2019) and meaning of life (Garcia-Alandete, Salvador, & Rodriguez, 2014). Alternatively, anxious people may find the support from God or their church insufficient (Granqvist & Kirkpatrick, 2013) and rather turn to negative ways of religious coping. However, the cross-sectional design of this study does not allow us to draw any conclusions about the direction of causality, and the influence may be bi-directional.

In addition, the results of this study also revealed associations of RCT beliefs with anxiety and depression. Thus, they are in line with the findings of other studies that found connections between Covid-19 conspiracy beliefs and anxiety and depression (Chen et al., 2020; Fountoulakis et al., 2021; Kaparounaki et al., 2020; Sallam et al., 2020) and also extended the negative impact of conspiracies on mental health to the area of religious conspiracies. We suggest that in a desire to find explanations for unclear situations and to diffuse fear and uncertainty, people may believe in RCT which are linked to their R/S and the way they perceive the world around them (Douglas et al., 2016; Koenig, 2020). However, these beliefs further increase feelings of anxiety and powerlessness (Jolley & Douglas, 2014; Sallam et al., 2020). Consequently, people may also tend to believe in other conspiracies (Freeman et al., 2020; van Prooijen & Douglas, 2018) and their anxiety or depression may be aggravated. Accordingly, beliefs in RCT can impair mental health and have an impact on further adjustment during the Covid-19 pandemic.

6.4.1 Strengths and limitations

This study has several important strengths. The first one is its large sample, which is balanced and close to having a national characteristic regarding age and sex. It is also one of the few studies exploring the relationship between RCT, R/S and mental health during the Covid-19 pandemic and describing significant associations in this area. Further, with its focus on specific area of religious conspiracies it contributes to other studies that found connections of Covid-19 conspiracy beliefs with anxiety and depression.

However, this study also has some limitations. The first is the cross-sectional design, which does not enable us to make decisive conclusions on the direction of causality. Thus, the present study should be confirmed by studies with a longitudinal design. Another limitation concerns the relatively modest number of religious respondents who reported NRC, which decreased the power of the study. However, this subsample still included 131 respondents. A further limitation can be the use of a self-report methodology, which can cause information bias and may be influenced by a social desirability. Nevertheless, in the area of assessing conspiracy theory beliefs, an online anonymous survey seems to be an applicable means of lowering the unwillingness of respondents to admit their true beliefs (Wood & Douglas, 2015). In addition, our measures may not have captured all relevant RCT known to the sample.

6.4.2 Implications

Our results show that RCT beliefs concerning Covid-19 are related to an individual's R/S and maladaptive NRC strategies. These findings may help to understand the factors influencing the dynamics of development of RCT and their associations with R/S areas of human lives. We also found that both RCT and NRC were negatively associated with mental health. This points out that some aspects of R/S may have a relevant impact on mental health and adjustment during the pandemic. This can be helpful for health care workers, as well as for workers in helping professions, such as psychotherapy, psychosomatic medicine, social work or pastoral care.

Further research should focus on the causal effects of the RCT beliefs dynamic and on the mutual interaction between R/S and conspiracies in general. It could also focus on a more specific categorisation of the respondent groups according to their religiosity or spirituality and test for potential confounders between RCT, NRC and mental health.

6.5 Conclusions

The impact of the Covid-19 pandemic is not only related to physical health but also involves psychological issues. Our findings emphasise the associations of religious conspiracy theories about the pandemic with R/S and NRC. The negative effect of RCT beliefs and of NRC was revealed by significantly higher levels of paranoia, depression and anxiety in those who reported such beliefs or/and a way of coping. Thus, this study offers a deeper understanding of the factors that might influence the development of religious conspiracy theories and contribute to studies on conspiracy theories and the extent to which these beliefs may affect mental health. Furthermore, it stresses the importance of addressing spiritual issues in order to minimise maladaptive coping strategies associated with RCT beliefs.

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Chapter 7

VACCINE REFUSAL IN THE CZECH REPUBLIC IS ASSOCIATED WITH BEING SPIRITUAL BUT NOT RELIGIOUSLY AFFILIATED

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Published in Vaccines 2021, 9, 1159.

Abstract

Background: A strong reduction in the deleterious effects of the Covid-19 pandemic can be achieved by vaccination. Religiosity and spirituality (R/S) may play an important role in vaccine acceptance. However, evidence is lacking for the associations with religious conspiracy theories (RCT) in a non-religious environment. This study investigated the associations between R/S and RCT about Covid-19 vaccination and the links of R/S with vaccine refusal and hesitancy.
Method: A sample of Czech adults (n = 459) participated in the survey. We measured R/S, RCT, religious fundamentalism, and Covid-19 vaccination intentions.
Results: We found spirituality to be significantly associated with RCT belief, with odds ratios (OR) of 2.12 (95% confidence interval [CI] 1.42–3.19). A combination of R/S groups revealed that spirituality with non-religious affiliation was associated with higher beliefs in RCT, with ORs from 3.51 to 7.17. Moreover, associations were found between spirituality with non-religious affiliation [OR 2.22 (1.33–7.76)] with vaccine refusal.
Conclusion: Our findings showed associations of spirituality and religious fundamentalism with RCT about Covid-19 vaccination. Furthermore, spirituality was linked to a higher possibility of vaccine refusal. Understanding these associations may help prevent the development of RCT and negative impact of spirituality on vaccine intentions and contribute to the effectiveness of the vaccination process.

Keywords: religious conspiracy beliefs; Covid-19 vaccine; vaccination; spirituality; religiosity

7.1 Introduction

Vaccination is a means of health protection and plays a critical role in reducing the specific mortality rates of certain diseases (Dubé, Gagnon, & Macdonald, 2015; Harrison & Wu, 2020). In the current Covid-19 pandemic, millions of laboratory-confirmed cases of SARS-CoV-2 infection have been reported, along with 4 million reported deaths as of June 2021 (WHO, 2021). Although there are ways to prevent the spread of infection, such as social distancing, contact tracing, testing, or the use of masks, these measures have been shown to be insufficient in reducing virus transmission and its consequences (Baden et al., 2021; Hogan, Sahoo, & Pinsky, 2020) when compared to vaccination. According to several studies, a significant reduction of Covid-19 morbidity and mortality can only be achieved by mass vaccination (e.g., (Baden et al., 2021; Saad-Roy et al., 2020; Schwarzinger, Watson, Arwidson, Alla, & Luchini, 2021)). Therefore, simultaneously with the spread of the virus, various Covid-19 vaccines have been developed by different pharmaceutical companies and subsequently approved by the European Medicines Agency (EMA). These are derived from multiple platforms and include different vaccines types (Krammer, 2020; Walsh et al., 2020; Zhang et al., 2021).

However, no vaccine can reduce the pandemic without widespread acceptance (Skjefte et al., 2021), since the herd immunity resulting from vaccines may control or eliminate the infection only if the effective vaccination rate is sufficiently high (Hogan et al., 2020; Saad-Roy et al., 2020). Moreover, low vaccination coverage may increase the emergence of more transmissible variants of the SARS-CoV-2 virus (WHO, 2021). Yet, some individuals question, hesitate, or refuse particular vaccines or vaccination in general (Grabenstein, 2013; Larson et al., 2015). Similarly, studies on Covid-19 vaccination acceptance suggest that Covid-19 vaccine hesitancy and refusal are increasing worldwide on average (Lin, Tu, & Beitsch, 2020; Schwarzinger et al., 2021). Research has shown that the common reasons for Covid-19 vaccines refusal or hesitancy are a fear of side effects, safety and effectiveness, doubts about the correct development or approval of vaccines or their necessity, the unknown duration of immunity following vaccination, and a general anti-vaccine stance (see Lin et al., 2020 for a review). Nevertheless, determinants of vaccine uptake can be more complex and multifaceted (Lin et al., 2020; Yin et al., 2021), involving cognitive, emotional, cultural, social, spiritual, or political factors (Dubé et al., 2015; Larson et al., 2015). Moreover, the reasons contributing to hesitancy can be more specific to the particular individuals or subgroups within a population as well as the context (Larson et al., 2015). Circumstances, such as attitudes, context, culture, and beliefs regarding Covid-19 vaccines, are therefore important factors in minimizing vaccination refusal or hesitancy.

Religiosity and spirituality (R/S) are factors that have been explored in relation to general vaccination attitudes (Best et al., 2019; Grabenstein, 2013; Larson et al., 2016; Ruijs et al., 2012), since they can empower some people to take responsibility for their health (Koenig, 2012). Religiosity, which can be described in terms of church attendance, institutional beliefs, and rituals and theology prescribed by a particular institution (Zinnbauer et al., 1997), has been explored as an important theme when discussing vaccination and shaping decisions for uptake (Ruijs et al., 2012; Shelton, Snavely, De Jesus, Othus, & Allen, 2013; Thomas, Blumling, &

Delaney, 2015). Spirituality, perceived as an individual's contentedness towards a Higher Power, a sense of the meaning of life, a search for harmony, and spiritual well-being (Koenig, 2012), has been found to influence how people cope with health issues and care for their bodies (Best et al., 2019; Thomas et al., 2015). However, spiritual worldviews (Larson & Fleck, 2014) or moral issues connected to religion (Pelcic et al., 2016) can also be connected to general anti-vaccination behaviour. Moreover, in all major religions, groups may be found with a strong adherence to their basic principles and a decisive expression of disagreement with modern society and science, which can be characterised as religious fundamentalism (Altemeyer & Hunsberger, 1992; Nagata, 2001). Fundamentalism has been associated with a devotion to strict religious interpretations and practices that provide clear rules for living, leaning towards dogma, distinctions between the secular and the religious, antimodernism, and to a sense that individuals' lives are sanctioned and supported by God (Altemeyer & Hunsberger, 2004; Pargament, 2002). This ideology of religious exclusivity was found to be connected to general anti-vaccine attitudes (Pelcic et al., 2016; Ruijs et al., 2012) and attitudes towards Covid-19 vaccination (Sturm & Albrecht, 2020; Whitehead & Perry, 2020). Thus, it can represent a potential barrier to vaccine uptake (Costa, Weber, Darmstadt, Abdalla, & Victora, 2020) and be a source of hesitancy (Dubé et al., 2015).

Moreover, social identity and the way people perceive the world around them can be associated with beliefs in conspiracy theories, particularly when events are unclear or un-certain (Douglas, Sutton, Callan, Dawtry, & Harvey, 2016; van Prooijen & Douglas, 2018). Research suggests that beliefs in conspiracy theories (CT) have a negative influence on the health domain (Abaido & Takshe, 2020; Imhoff & Lamberty, 2018; van Prooijen & Douglas, 2018), including a harmful effect on vaccine uptake in general (Douglas, Sutton, Jolley, & Wood, 2015; Jolley & Douglas, 2014). However, the Covid-19 pandemic has also mobilised groups spreading various CT (Allington, Duffy, Wessely, Dhavan, & Rubin, 2020; Kim & Kim, 2020; Sallam et al., 2020), and such beliefs were found to be associated with distrust in Covid-19 vaccines (Bertin, Nera, & Delouvee, 2020), vaccine hesitancy, and refusal (Sallam et al., 2021). Although an individual's R/S has been found to play a role in the endorsement of conspiracies, and a religious way of thinking may furthermore facilitate one's attraction to conspiracies (Beller, 2017; van Prooijen & Douglas, 2018), studies on associations between R/S and RTC about Covid-19 vaccines are lacking. Therefore, it is important to understand the R/S foundations of worldviews that can support the formation of religious conspiracy theories (RCT) (Bezalel, 2019; Sturm & Albrecht, 2020) and the possible links of R/S with Covid-19 vaccine intentions in order to strengthen this vaccine acceptance.

The Czech Republic, despite its Christian religious orientation, is characterised by a high degree of secularisation, as most people do not report any religious affiliation or regular church attendance (Furstova, Malinakova, Sigmundova, & Tavel, 2021). This setting can make it an interesting research area for assessing the links between R/S and beliefs in RCT and their associations with the Covid-19 vaccine uptake intentions. The findings from a secular country can help us to describe the basis from which beliefs in RCT may arise and to understand what variables may underlie decisions about vaccination. Therefore, the purpose of this study is to

assess the associations between the role of R/S, religious fundamentalism, and beliefs in RCT and to examine their associations with the Covid-19 vaccine uptake.

7.2 Methods

7.2.1 Participants and Procedure

For this study, data from the Czech population aged 18 to 88 were obtained. The data were collected in April 2021 during the vaccination process, when nearly 10% of the Czech population was already fully vaccinated (MZCR, 2021). The online survey was prepared at the researcher's institution and conducted by a professional agency Czech National Panel (ceskynarodnipanel.cz). This agency is one of the leading providers of online data collection and a reliable source of respondents for surveys in the Czech Republic. The participants were chosen with the help of quota sampling based on the criteria that allowed the construction of a sample close to the adult Czech representative samples. The agency used online methods of contacting the respondents, who are members of a stable panel and receive a reward for successful finishing of the questionnaire. This ensures achieving a balanced sample regarding age and gender. The number of respondents who received a prompt to join the survey is unknown, as it depended on repletion of individual quotas during the time. At the end of the data collection, the final sample was 1662 participants. However, visual screening indicated four cases of uniform pattern responses, i.e., responding to most of the items of the survey in the same way, which led to the exclusion of these respondents. After these four respondents were excluded, 1658 subjects remained. Consequently, in the next step, to ensure high quality of data, low-quality respondents were excluded following two criteria: (1) a very short period of time filling in the survey that would not have allowed responding to the questions thoughtfully (i.e., less than 15 min for a survey lasting around an hour); (2) responding inconsistently to control questions regarding years, weight, and height (i.e., respondents who reported a difference of two and more units of measure). After exclusion of these problematic subjects (n = 166), the remaining sample consisted of 1492 respondents. RCT beliefs and fundamentalism were assessed only among respondents who reported themselves as religious; thus, the final sample consisted of 459 participants (mean age = 51.46, SD = 16.05; 49.9% male).

At the beginning of the survey, participants received written information about the aim of the study and the anonymised handling of data and were made familiar with the system. Participation in the survey was fully voluntary; respondents had to explicitly express their informed consent with participation and had the possibility of leaving the study at any time without giving a reason. The study design was approved by the Ethics Committee of the Faculty of Theology, Palacký University in Olomouc (No. 2021/06).

7.2.2 Measures

Religiosity was measured using the following question: "At present, would you call yourself a believer?" with possible answers: 'yes, I am a member of a church or religious society'; 'yes, but I am not a member of a church or religious society'; 'no'; 'no, I am a convinced atheist'. For the purpose of our study, answering categories were dichotomised. At first, participants who chose the option 'yes' were considered religious regard-less of their proclaimed religious affiliation. Furthermore, participants who chose the option 'yes, I am a member of a church or religious society' were considered religiously affiliated.

Spirituality was measured using the Daily Spiritual Experience Scale (DSES). The scale measures the frequency of ordinary experiences of connection with transcendence in everyday life (Underwood & Teresi, 2002). The present study used an adapted 15-item version of the scale validated for the Czech environment (Malinakova et al., 2018). The items are evaluated on a six-point modified Likert scale graded according to the intensity of the experience of the observed phenomena, ranging from 'never' (1) to 'many times a day' (6). The last item on the scale, the question "How close to God do you feel in general?" has only four options, ranging from 'not at all' (1) to 'as close as possible' (4). A higher intensity of experience corresponds to higher levels of spiritual experience. For the purposes of our analysis, the DSES score was treated as continuous, but for the assessment of different combinations of religious affiliation and spirituality with RCT, it was also dichotomised in the following way: We computed the total score ranging from 15 to 88 points. The respondents with a score of 51 or higher, i.e., above the middle of the score, were considered spiritual, and the rest as non-spiritual. Cronbach's alpha for the whole scale has an excellent internal consistency, with $\alpha = 0.96$ in our sample.

In order to distinguish between religious affiliation and spiritual experience and to assess their interaction, composite variables were created: (1) Spiritual and religiously affiliated; (2) Spiritual, but not religiously affiliated; (3) Non-spiritual, but religiously affiliated; and (4) Non-spiritual and not religiously affiliated.

Covid-19 vaccination intentions were assessed by a question: Will you be or have you already been vaccinated with a currently available Covid-19 vaccine? With possible answers: 'no', 'I don't know yet', and 'yes'. The response 'no' was classified as vaccination refusal, the response 'I don't know yet' as vaccine hesitancy and 'yes' as vaccine acceptance.

Religious conspiracy theories were assessed using statements capturing the common religious opinions on the Covid-19 vaccines. The statements were generated from searching the Internet and social media during the initial period of the vaccination against Covid-19 in 2021. Although the approach may not be completely exhaustive, we tried to capture the most common theories involving religious themes concerning Covid-19 vaccination. The assessed statements were e.g.: "Rejection of the Covid-19 vaccine is an act of true faith and trust in God."; "The pope and false church prophets are fulfilling the intentions of world elites and spreading the ideas of modernism, which contradicts true tradition."; "Some of the vaccines contain modified RNA that changes the human genome, which is a crime against the human race and its Creator"; "Vaccination is a sign of the end of the world"; "The current coronavirus pandemic is God's

punishment"; and "Vaccination with the Covid-19 vaccine is morally unacceptable because tissues from aborted foetuses were used for its development". Participants were asked to mark to which degree, in their opinion, the information about Covid-19 vaccines or vaccination corresponds to the truth. Possible options ranged from 'does not correspond at all' (0) to 'definitely corresponds' (3). Consequently, when any of the four statements was marked as 'corresponds' (2) or 'definitely corresponds' (3), the respondent was classified as believing in the religious conspiracy theory.

Religious fundamentalism was measured using the Multi-Dimensional Fundamentalism Inventory (MDFI) (Liht, Conway, Savage, White, & O'Neill, 2011). The instrument was developed to assess a personal orientation that promotes a supra-human locus of moral authority, a contextual truth, and appreciation of the sacred over worldly experiences (Liht et al., 2011). Therefore, the instrument comprises three subscales to measure three dimensions of religious fundamentalism: External versus internal authority; Fixed versus malleable religion; Rejection versus affirmation of the world. Each of the dimensions consists of five items rated on a 5-point Likert-type scale, ranging from 'totally disagree' (1) to 'totally agree' (5). For the purposes of our analysis, the MDFI score was treated as a continuous variable. Cronbach's alpha for the MDFI total scale in the current sample was 0.62.

We obtained sociodemographic characteristics, such as gender, age, education level, marital status, and economic activity, from the questionnaire.

All instruments were available in the Czech language.

7.2.3 Statistical Analyses

As the first step, we described the background characteristics of the sample and attitudes towards vaccination and RCT beliefs. Non-parametric methods were used to compare different sociodemographic groups. The Wilcoxon signed-rank test was used to compare gender; in other cases, when more than two groups were compared, we used the Kruskal–Wallis test.

In the next step, we used binary logistic regression models, both crude and adjusted for gender, age, and education level. In a crude regression model, we assessed only one independent variable, i.e., spirituality, religious affiliation, and fundamentalism (each of the variables was assessed separately), with one dependent variable of interest, i.e., every single RCT, RCT sum, vaccine refusal, and vaccine hesitancy. The confounding variables in the adjusted model were age, gender, and education level. In Model 1, we assessed the associations of religious affiliation and spirituality with beliefs in RCT around Covid-19 vaccination (in total and each of the six theories separately). The different combinations of religious affiliation and spirituality with RCT were assessed in Model 2. Model 3 aimed to assess the associations of the MDFI with RCT. Subsequently, the multinominal logistic regression models were used to test the associations of R/S, their combinations, beliefs in RCT, and the MDFI with intentions towards Covid-19 vaccination. Each independent variable was tested in a separate model. Numeric variables were standardised to z-scores. All analyses were performed using the statistical software package IBM SPSS version 25 (IBM Corp., Armonk, NY, USA).

7.3 Results

7.3.1 Description of the Population

The sociodemographic characteristics of the sample are presented in Table 7.1. Of the whole sample (mean age = 51.46, SD = 16.05; 49.9% male), 24.6% of respondents hold RCT beliefs related to Covid-19 vaccination. Furthermore, 21.8% reported vaccine refusal and 22.2% vaccine hesitancy.

Table 7.1 Description of the study sample.

	Total		**Covid-19 vaccine intentions**						**Beliefs in RCT** [1]		
			Refusal			**Hesitancy**					
	N	%	N	%	*p*-value	N	%	*p*-value	N	%	*p*-value
Sex											
Male	229	49.9	45	45.0	n.s.	51	50.0	n.s.	55	48.7	n.s
Female	230	50.1	55	55.0		51	50.0		58	51.3	
Age											
18–34	81	17.6	22	22.0	0.001	23	22.5	0.015	15	13.3	n.s.
35–49	150	32.7	44	44.0	(1–4 *;	40	39.2	(1–4 *;	36	31.9	
50–65	106	23.1	21	21.0	2–4 **)	24	23.5	2–4 *)	30	26.5	
66–99	122	26.6	13	13.0		15	14.7		32	28.3	
Marital status											
Married/ partnership	288	62.7	57	57.0	n.s.	59	57.8	n.s.	70	61.9	n.s.
Single/divorced/ widow(er)	171	37.3	43	43.0		43	42.2		43	38.1	
Economic status											
Student	14	3.1	2	2.0	0.003	6	5.9	n.s.	1	0.9	n.s.
Employee	202	44.0	47	47.0	(4-5 *)	48	47.1		44	38.9	
Self-employed	30	6.5	11	11.0		3	2.9		8	7.1	
Disabled/old-age pensioner	173	37.7	25	25.0		33	32.4		49	43.4	
Household[2]/ unemployed	40	8.7	15	15.0		12	11.8		11	9.7	
Education level											
Elementary	31	6.8	9	9.0	n.s.	5	4.9	n.s.	8	7.1	n.s.
Secondary vocational	174	37.9	46	46.0		48	47.1		52	46.0	
Secondary graduation	130	28.3	22	22.0		30	29.4		36	31.9	
College	124	27.0	23	23.0		19	18.6		17	15.0	
Affiliation											
Member of a church	131	28.5	23	23.0	n.s.	28	27.5	n.s.	26	23.0	n.s.
Non-affiliated	328	71.5	77	77.0		74	72.5		87	77.0	
Total	**459**	**100.0**	**100**	**21.8**		**102**	**22.2**		**113**	**24.6**	

Notes: [1] believing in at least one religious conspiracy theory; [2] including maternity leave; n.s. = non-significant. * $p < 0.05$, ** $p < 0.01$. The p-value stands for comparison of all groups; results in parentheses show multiple-group comparison with Bonferroni correction.

7.3.2 Beliefs in Religious Conspiracy Theories around Covid-19 Vaccination

Table 7.2 shows the associations of religious affiliation, spirituality, and their different combinations with the RCT related to Covid-19 vaccination. We assessed the following combinations of religious affiliation and spirituality: spiritual and religiously affiliated (S+RA; n = 55), spiritual but non-religiously affiliated (S+NRA; n = 35), non-spiritual but religiously affiliated (NS+RA; n = 72), non-spiritual and non-religiously affiliated (NS+NRA; n = 290). The number of respondents in each category is in line with the study of religiosity in the Czech Republic based on a representative sample (Furstova et al., 2021) and other studies on R/S (Buchtova et al., 2020; Kosarkova, Malinakova, Koncalova, Tavel, & van Dijk, 2020). These results suggest that although some people from the Czech population consider themselves believers, they seeks spiritual fulfilment outside traditional religious institutions. We found that respondents with higher levels of spirituality were significantly more likely to believe in RCT, with odd ratios ranging from 1.37 (1.02–1.84) to 2.12 (1.42–3.19) for the adjusted model. Particularly, the strongest association was found for the opinion that the rejection of the Covid-19 vaccine is an act of true faith and trust in God. Moreover, a combination of groups revealed that spiritual but not religiously affiliated respondents had a significantly higher increase in the odds of RCT beliefs (ranging from 3.70 to 6.39).

On the contrary, the results indicated that religious affiliation was not associated with beliefs in RCT. In addition, being non-spiritual but religiously affiliated was significantly associated with a lower probability of RCT beliefs (a 52% decrease in the odds).

Furthermore, higher levels of religious fundamentalism were associated with some of the assessed RTC, with the most significantly associated belief that the current coronavirus pandemic is God’s punishment (an 89% increase in the odds).

Table 7. 2 Associations of religious affiliation, spirituality (standardised to Z-scores), different combinations of religious affiliation and spirituality, and religious fundamentalism (standardised to Z-scores) with RCT beliefs: Results of binary logistic regression (crude and adjusted) for age, gender, and education level leading to odds ratios (OR) with 95% confidence intervals.

		RCT 1	RCT 2	RCT 3	RCT 4	RCT 5	RCT 6	RCT Sum
Model 1								
Religious affiliation	crude [1]	0.67 (0.22–2.07)	0.44 (0.16–1.15)	0.67 (0.22–2.07)	1.00 (0.54–1.85)	1.12 (0.57–2.23)	0.47 (0.20–1.09)	0.69 (0.42–1.13)
	adjusted [2]	0.74(0.24–2.32)	0.44 (1.17–1.19)	0.80 (0.26–2.50)	1.13 (0.60–2.14)	1.25 (0.62–2.53)	0.46 (0.20–1.08)	0.74 (0.44–1.22)
Spirituality	crude	**2.05 (1.38–3.0)*** **	**1.42(1.03–1.95)***	**1.60 (1.07–2.40)***	**1.30 (1.00–1.69)***	1.26 (0.94–1.69)	**1.34(1.00–1.79)***	**1.33 (1.09–1.64)****
	adjusted	**2.12 (1.42–3.19)*****	**1.49 (1.08–2.06)***	**1.62 (1.08–2.43)***	**1.37 (1.05–1.78)***	1.26 (0.94–1.70)	**1.37 (1.02–1.84)***	**1.38 (1.12–1.70)****
Model 2								
S+RA	crude	2.45 (0.73–8.25)	0.78 (0.22–2.71)	1.62 (0.43–6.07)	1.62 (0.75–3.50)	1.55 (0.63–3.78)	0.58 (0.17–1.98)	1.22 (0.65–2.31)
	adjusted	2.79 (0.81–9.64)	0.85 (0.24–3.02)	1.81 (0.47–6.94)	1.84 (0.83–4.08)	1.65 (0.66–4.12)	0.57 (0.17–1.99)	1.32 (0.68–2.53)
S+NRA	crude	**6.46 (2.15–19.44)****	**4.00 (1.61–9.94)****	**4.50 (1.50–14.56)****	1.51 (0.58–3.89)	1.77 (0.63–4.96)	**3.54 (1.50–8.36)****	**1.29 (1.12–4.71)***
	adjusted	**7.17 (2.27–22.67)****	**4.64 (1.79–12.03)*****	**4.56 (1.40–14.84)****	1.56 (0.59–4.14)	1.75 (0.61–5.07)	**3.51 (1.45–8.50)****	**2.34 (1.11–4.92)***
NS+RA	crude	[a]	0.39 (0.08—1.69)	0.39 (0.05—3.13)	0.66 (0.27—1.64)	0.96 (0.38—2.45)	0.56 (0.19—1.66)	**0.49 (0.24—1.00)***
	adjusted	[a]	0.37 (0.08—1.66)	0.49 (0.06—3.98)	0.74 (0.29—1.87)	1.16 (0.44—3.01)	0.55 (0.18—1.66)	**0.51 (0.24—1.06)***
NS+NRA		1	1	1	1	1	1	1
Model 3								
MDFI	crude	**1.86 (1.17–2.98) ****	1.71(0.79–3.73)	**1.61 (1.01–2.57)***	1.21 (0.91–1.61)	**1.88 (1.35–2.61)*****	0.94 (0.68–1.29)	**1.31 (0.05–1.62)***
	adjusted	**1.83 (1.13—2.96) ***	1.26 (0.88—1.81)	1.53 (0.95–2.45)	1.18 (0.88–1.57)	**1.89 (1.34–2.68)*****	0.92 (0.66–1.27)	**1.27 (1.02– 1.59)***

Table 7. 2 (continued)

Notes: *$p < 0.05$, **$p < 0.01$, ***$p < 0.001$.

[1] a crude independent variable assessed with a dependent variable.

[2] an independent variable together with age, gender, and education level assessed with a dependent variable.

RCT 1 - “Rejection of the Covid–19 vaccine is an act of true faith and trust in God.”

RCT 2 - “The vaccine contains modified RNA that changes the human genome, which is a crime against the human race and its Creator.”

RCT 3 - “Vaccination is a sign of the end of the world.”

RCT 4 - “The pope and false church prophets are fulfilling the intentions of world elites and spreading the ideas of modernism, which contradicts true tradition.”

RCT 5 - “The current coronavirus pandemic is God’s punishment.”

RCT 6 - “Vaccination with the Covid-19 vaccine is morally unacceptable, because tissues from aborted foetuses were used for its development.”

S+RA = spiritual and religiously affiliated

S+NRA = spiritual but non-religiously affiliated

NS+RA = non-spiritual but religiously affiliated

NS+NRA = non-spiritual and non-religiously affiliated

MDFI = Multi-Dimensional Fundamentalism Inventory.

[a] RCT1 (S+RA) was not possible to estimate due to the low number of respondents in this category; the regression model did not converge.

7.3.3 Covid-19 vaccine intentions

Table 7.3 depicts the results of multinominal logistic regression, with the cluster of respondents who accepted vaccination as the reference category. Attitudes towards vaccination were assessed in association with RCT beliefs, R/S and their different combinations, and with fundamentalism. Spiritual respondents were more likely (a 37% increase in the odds) to refuse vaccination. Moreover, compared to non-spiritual non-affiliated respondents, respondents who were spiritual but non-religiously affiliated were about 4.43 times more likely to refuse the vaccination. Similarly, this group had a significantly (2.88 times) higher chance to hesitate regarding vaccine acceptance.

Table 7.3 Associations of religious affiliation, spirituality (standardised to Z-scores), different combinations of religious affiliation and spirituality, and religious fundamentalism (standardised to Z-scores) with attitudes towards Covid-19 vaccination: results of multinominal logistic regression crude and adjusted for age, gender, and education level, leading to odds ratios (OR) with 95% confidence intervals.

		Vaccine refusal	Vaccine hesitancy
Model 1			
Non-affiliated vs. affiliated	crude [1]	0.66 (0.39–1.13)	0.84 (0.50–1.39)
	adjusted [2]	0.79 (0.45–1.39)	1.03 (0.60–1.78)
Spirituality	crude	**1.35 (1.08–1.69) ****	0.08 (0.85–1.37)
	adjusted	**1.37 (1.08–1.73) ****	1.12 (0.87–1.44)
Model 2			
S + RA	crude	1.08 (0.53–2.18)	0.99 (0.48–2.05)
	adjusted	1.20 (0.57–2.53)	1.18 (0.55–2.58)
S + NRA	crude	**2.78 (1.20–6.41) ****	2.14 (0.88–5.19)
	adjusted	**2.22 (1.33–7.76) ****	**2.74 (1.07–7.00) ***
NS + RA	crude	0.53 (0.26–1.12)	0.80 (0.42–1.53)
	adjusted	0.77 (0.32–1.51)	1.06 (0.60–2.11)
NS+NRA		1	1
Model 3			
MDFI	crude	1.21 (0.95–1.52)	1.16 (0.91–1.46)
	adjusted	1.16 (0.91–1.48)	1.12 (0.88–1.43)

Notes: *p < 0.05, **p < 0.01, ***p < 0.001.
[1] a crude independent variable assessed with a dependent variable.
[2] an independent together with age, gender, and education level assessed with a de-pendent variable.
S+RA = spiritual and religiously affiliated
S+NRA = spiritual but non-religiously affiliated
NS+RA = non-spiritual but religiously affiliated
NS+NRA = non-spiritual and non-religiously affiliated
MDFI = Multi-Dimensional Fundamentalism Inventory.

7.4 Discussion

The aim of this study was to assess the relationship of R/S and religious fundamentalism with beliefs in RCT about Covid-19 vaccination, as well as to explore the links of R/S with attitudes towards vaccination in the Czech Republic. We found that higher levels of spirituality and of fundamentalism were associated with beliefs in RCT around the Covid-19 vaccination. The associations of spirituality were even stronger when spirituality was combined with non-affiliation with a religious organisation, whereas members affiliated with religious organisations did not report RCT beliefs. Moreover, we found that spirituality, both itself and in combination with non-affiliation, was associated with in-creased levels of vaccine refusal.

We found strong associations with RCT beliefs with spirituality, whereas religious affiliation was not found to be associated with such beliefs. In distinguishing religiosity and spirituality as two different concepts (Kosarkova et al., 2020; Zinnbauer et al., 1997), we may suppose that individuals with higher levels of spirituality, in their efforts to find and explain the meaning of Covid-19, lean towards conspiracy ideas connected to their spiritual worldviews (Douglas et al., 2016; Robertson, Asprem, & Dyrendal, 2018). Thus, the associations of spirituality with the assessed RCT beliefs are in line with studies that showed that personal ideology and individual attitudes, including esotericism and belief in the healing and sacred power of one's own body, play a fundamental role in the creation of and beliefs in conspiracy theories (Robertson et al., 2018). Similarly, beliefs in RCT can reflect perceived threats and assimilate spiritual thoughts into the narrative structure in which they exist (Howard, 2006; Sturm & Albrecht, 2020). They may also stem from seeking spiritual purity, an effort to create an ideal reinterpreted past or cling to a perfect post-apocalyptic era (Savage & Liht, 2008; Sturm & Albrecht, 2020). Therefore, respondents with higher levels of spirituality may have a tendency to believe in RCT that are based on apocalyptic ideas or defend alternative forms of medicine (Larson & Fleck, 2014).

Our findings of no associations between beliefs in RCT and religiosity are in contrast to studies of Marchlewska et al. (Marchlewska, Cichocka, Łozowski, Górska, & Winiewski, 2019) or Sturm and Albrecht (Sturm & Albrecht, 2020). These studies were conducted in countries with the predominant Christian religion, such as Poland (Marchlewska et al., 2019) or the USA (Whitehead & Perry, 2020), nevertheless, their research focus was either not connected to vaccination but focused on the foundations of the Christian faith and morals, i.e., RCT about gender and marriage (Marchlewska et al., 2019), or used narratives specific to Christian narratives, i.e., apocalyptical or millennial (Whitehead & Perry, 2020). Thus, we can suppose that the affiliated respondents did not see the RCT beliefs around Covid-19 vaccination as threatening their religious identity, interfering with the teachings of the church (Kim & Kim, 2020; Marchlewska et al., 2019), or as a sign of the end of the world. Moreover, as our study was conducted after the Catholic church released an official encouragement for people to get vaccinated (Vatican Covid Commission, 2020), we may assume that our respondents, whose denomination is mainly Catholic, were following the teaching of the church and did not link Covid-19 vaccines with RCT. Nevertheless, beliefs in RCT were found to be associated with fundamentalism. Therefore, we may assume that not the affiliation to religion itself but the specific type of religious involvement may play an essential role in RCT endorsement. These results are in line with the findings of some other authors (Cichocka, 2016; van Prooijen &

Douglas, 2018), who showed links be-tween identification with a specific religious in-group and reinforced beliefs in conspiracy theories and with perceiving non-religious out-groups as immoral and evil. Religious fundamentalism with conservative views and clinging to traditions and anti-modernism (Savage & Liht, 2008) may lead to perceiving out-groups as underestimating moral values that their religion represents (Marchlewska et al., 2019; Sturm & Albrecht, 2020) and threatens the in-group identity (van Prooijen & Douglas, 2018). Moreover, the type of religion may be connected to the way some people use their R/S to cope with and understand difficult life situations (Pargament, Feuille, & Burdzy, 2011). They may use strategies characterised by an ominous view of the world and conflict with people in a religious community. Therefore, not religion itself, but strong attachment to its specific forms may reinforce beliefs in RCT and increase their demarcation from others, even within the same religion (Kim & Kim, 2020; Robertson et al., 2018). In addition, these extreme believers can spread RCT very effectively, because they often have a social network in which such theories can be mutually supported by like-minded people (Larson & Fleck, 2014).

In our study, we found that spiritual respondents reported refusal and hesitancy regarding Covid-19 vaccination. Similarly, the combination of groups revealed that spirituality without being religiously affiliated was linked to high levels of vaccination refusal and hesitancy, whereas affiliation to a church showed no significant associations. These results are in line with studies showing that spiritual attitudes may be among the reasons for vaccine refusal (Best et al., 2019; Browne, Thomson, Rockloff, & Pennycook, 2015; Thomas et al., 2015). The factors associated with spiritual objections may com-prise a belief in the natural healing potential of the body and in alternative forms of medicine, including prayer and strong faith (Browne et al., 2015; Larson & Fleck, 2014), moral issues regarding the content of a vaccine, or the conviction that the disease is given by a Higher Power and can be with-stood by the immune system (Rumetta, Abdul-Hadi, & Lee, 2020). However, the findings of our study showed a discrepancy with authors that identified religion as a barrier to vaccine uptake and a source of hesitancy (Costa et al., 2020; Dubé et al., 2015; Ruijs et al., 2012). The majority of religions do not have doctrinal objections to vaccination, and vaccines are treated as an important measure to preserve health, "to care for the temple of one's body", and to strengthen solidarity with others through the protection of the entire society (Grabenstein, 2013; Life, 2019; Pelcic et al., 2016). This is why we may argue that not religion itself but only some religious communities, usually orthodox or with conservative interpretations of scripture, may share negative attitudes towards vaccination (Lisowski, Yuvan, & Bier, 2019; McDuffie, 2020; Ruijs et al., 2012), as shown in our study conducted in a secular country where only a low percentage of religious people are predominantly Christian. Therefore, our results based on data from the secular environment of the Czech Republic are rather in line with studies, showing that spirituality without religious affiliation may lead to health-risk behaviour (Buchtova et al., 2020; Malinakova et al., 2018), supporting this idea even in the field of vaccination.

Our study indicates that spirituality without being religiously affiliated is significantly related to RCT beliefs around Covid-19 vaccines, suggesting that people who are spiritual but not affiliated are more likely refuse the Covid-19 vaccine.

7.4.1 Strengths and Limitations

This study has some important strengths. First, it is one of the few studies exploring the relationship between RCT about Covid-19 vaccination, R/S areas of human life, and vaccination intentions, and describing significant associations in this area. Further, with its focus on a specific area of religious conspiracies, it contributes to other studies that found possible links between Covid-19 conspiracy beliefs with vaccine refusal or hesitancy.

However, this study also has some limitations. The first is the cross-sectional design, which does not enable us to make decisive conclusions on the direction of causality. Thus, the present study should be confirmed by studies with a longitudinal design. Another limitation can be that due to the small sample of religious respondents, we were not able to assess different religious communities and church denominations. We are aware of the fact that this could have led to more specific study results. Nevertheless, our study comes with findings on religiosity in a general way. A further limitation can be that our measures may not have captured all relevant RCT known to the sample. However, having searched various social media, we tried to encompass and formulate the most common and shared ones. In addition, our study used a self-report methodology, which can cause information bias and may be influenced by a social desirability. Nevertheless, in the area of assessing conspiracy theory beliefs, an online anonymous survey seems to be an applicable means of lowering the unwillingness of respondents to admit their true beliefs (Wood & Douglas, 2015).

7.4.2 Implications

Our results show that RCT beliefs concerning Covid-19 vaccination are related to an individual's spirituality and to being spiritual but not religiously affiliated. These findings may help to understand factors that influence the dynamics of RCT development and their associations with R/S areas. We also found that both spirituality and RCT were positively associated with refusal of a Covid-19 vaccine. This indicates that some aspects of R/S may have a relevant impact on the development and spreading of conspiracy theories as well as on taking a decision on vaccination. This information may be helpful for health care workers, as well as for workers in helping professions, such as psychotherapy or pastoral care. Moreover, it can be informative and useful for all those working on vaccination campaigns to prevent the spread of the coronavirus pandemic and help them choose appropriate strategies to also reach this subgroup of inhabitants.

Further research should focus on the causal effects of the RCT beliefs dynamic and on the mutual interaction between R/S and conspiracy theories in general. It could also focus on the more specific reasons for vaccine refusal apart from conspiracies and test for potential confounders between R/S, RCT, and vaccine intentions.

7.5 Conclusions

Vaccination against Covid-19 reduces its detrimental effects on human health and society. However, this requires widespread acceptance of the majority of the population. Our findings emphasise the associations of R/S and beliefs in religious conspiracy theories about Covid-19 vaccine with spirituality and religious fundamentalism in the Czech Republic. A negative effect was further revealed by significantly higher levels of Covid-19 vaccine refusal among those who were spiritual but not religiously affiliated. Thus, this study offers a deeper understanding of the factors that might influence the development of religious conspiracy theories and the extent to which these beliefs may affect vaccine intentions. Furthermore, it stresses the importance of addressing spiritual issues in order to minimise vaccine refusal associated with being spiritual but not religiously affiliated.

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Chapter 8

GENERAL DISCUSSION

The general aim of this thesis was to examine the area of religiosity, spirituality (R/S), negative religious coping (NRC) and insecure adult attachment and to broaden the understanding of their connections with each other and with human health. A further aim was to explore possible associations with attachment to God, focusing on how they can affect the image of God. In addition, one of the objectives was to examine whether insecure attachment is further associated with R/S and NRC. Finally, this thesis explores the associations of R/S and NRC with worsened mental health during the Covid-19 pandemic and the attitudes towards Covid-19 vaccination.

This final chapter summarises (8.1) and discusses (8.2) the main findings of this study and discusses its strengths and limitations (8.3). Lastly, it discusses implications for practice and future research (8.4).

8.1 Main findings

The main findings are summarised per research questions.

Research question 1 (Chapter 3)
Is there a connection between childhood trauma experiences and religiosity/spirituality in adulthood? Is this connection different in various combinations of religiosity and spirituality? Does an association exist between childhood trauma experience and the adult experience of religious conversion?
The study results indicated that individuals who have an experience of childhood trauma are more likely to achieve a higher spirituality score. However, significantly higher spirituality combined with a traumatic experience was observed only among respondents who identified themselves as non-religious. Moreover, we found that respondents with an experience of emotional abuse or emotional neglect were more likely to report having had a conversion experience.

Research question 2 (Chapter 4)
Could childhood trauma and insecure relationships in adulthood be one of the roots of the God image? Do the associations between various images of God and insecure attachment differ according to religiosity?
We found that both the religious and non-religious respondents who experienced any kind of childhood trauma were less likely to describe God as loving, always present and forgiving. Similarly, those who reported anxiety or avoidance in a close relationship were less likely to

describe God as forgiving or just. Therefore, our findings suggest that individuals with an experience of insecure attachment tend to view God in terms that are more negative and hesitate to use positive terms. Furthermore, we found different patterns between religious and non-religious respondents: religious respondents reported a less negative and more positive image of God than did non-religious respondents.

Research question 3 (Chapter 5)
Does NRC reflect an insecure relationship in childhood and adulthood even in a secular environment? Which items show the most robust associations?
We found that even in a secular environment, almost a quarter of the religious population showed signs of NRC. Our results indicate that insecure attachment in childhood and adulthood may be reflected in the relationship to God and lead to increased use of NRC strategies. We found the strongest association between deciding that the devil made the situation happen and avoidance in a close relationship for an adult insecure experience. For a childhood trauma experience, we found the strongest association between wondering whether a church community had abandoned the individual and physical neglect. Moreover, physical neglect was found to show strong associations with all of the NRC items and the NRC summary.

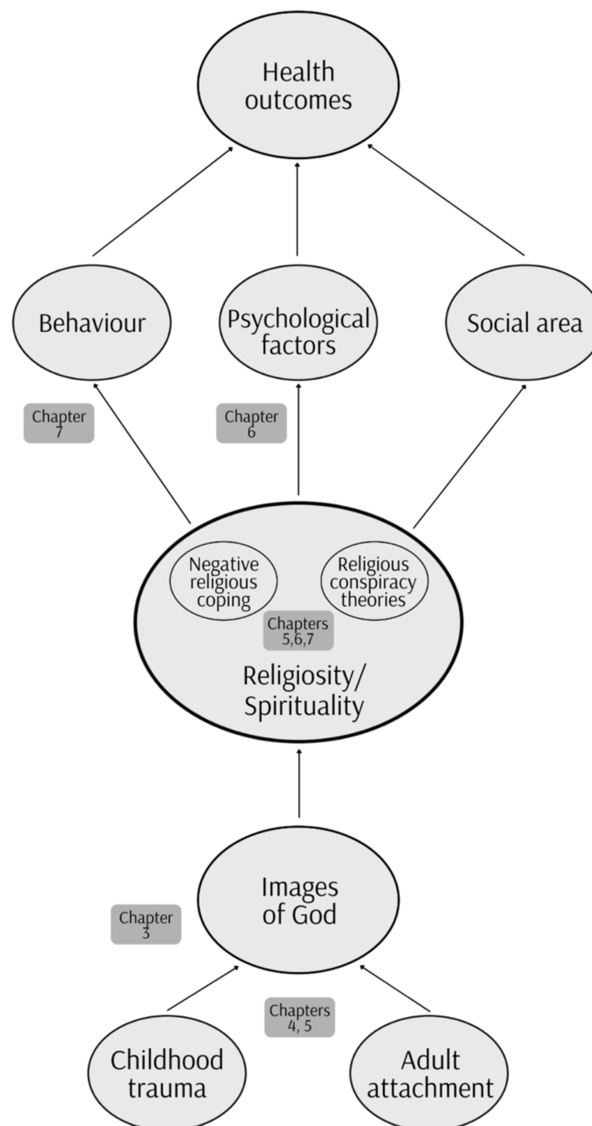
Research question 4 (Chapter 6)
Is there an association between religiosity and spirituality and beliefs in religious conspiracy theories during the Covid-19 pandemic? Are religious conspiracy beliefs and NRC linked to worsened mental health during the pandemic?
We found that both R/S and NRC are associated with religious conspiracy theories (RCT) beliefs. Although we found no associations of RCT and NRC with the impairment of negative feelings, the negative effect of RCT beliefs and NRC on mental health was revealed by significantly higher levels of paranoia, depression and anxiety in those who reported such beliefs and/or way of coping. We observed the strongest association between NRC and the belief in the RCT that the current pandemic is a punishment for the moral decline of the church and the liberal attitudes of Pope Francis. Therefore, the results of the study highlight the associations of RCT about the Covid-19 pandemic with R/S and NRC. Moreover, the findings reveal the links of R/S and NRC with worsened mental health during the pandemic.

Research question 5 (Chapter 7)
Does an association exist between R/S and beliefs in religious conspiracy theories about Covid-19 vaccination? Could R/S be one of the underlying issues in motivation to avoid vaccination against Covid-19?
We found that higher levels of spirituality and religious fundamentalism were associated with beliefs in RCT around the Covid-19 vaccination. The associations of spirituality were stronger when spirituality was combined with non-affiliation to any religious organisation, whereas members affiliated with religious organisations did not report RCT beliefs. Moreover, we found that spirituality without religious affiliation may belong to the underlying issues for Covid-19 vaccine refusal, since our results revealed significantly higher levels of vaccine refusal.

8.2 Discussion on the main findings

In this chapter, the main findings will be discussed concerning the general aim of the thesis and specific partial aims, as stated in Chapter 1. First, the results will be categorised alongside the associations between insecure attachment and R/S, images of God and NRC, as proposed in Figure 8.1. The second step will focus on the associations of R/S, NRC and RCTs with mental health and health behaviour, more specifically with Covid-19 vaccination decisions. Therefore, the results will be categorised alongside the pathways suggested for interactions of R/S and health.

Figure 8.1 Research findings of this thesis in relation to a model of the relationships of attachment, R/S, NRC and health outcomes.



8.2.1 Insecure attachment in relation to religiosity, spirituality, and negative religious coping

We explored the associations of insecure attachment with R/S as shown in Figure 8.1, mainly between childhood trauma and adult anxiety and avoidance with spirituality, images of God and NRC.

8.2.1.1 Childhood trauma

We found that insecure childhood attachment was associated with R/S, images of God and NRC. However, these associations differ according to the various combinations of religiosity and spirituality. On the one hand, we observed increased levels of spirituality in combination with all kinds of childhood trauma. These findings suggest that spirituality may help victims of childhood trauma in an effort to incorporate the traumatic event into life, that it may offer an opportunity for personal post-traumatic growth (Baillie, Sellwood, & Wisely, 2014; Shaw, Joseph, & Linley, 2005) and that it can play an essential role in the recovery process from childhood trauma (Gall, 2006). On the other hand, we found that childhood trauma was associated with an increased level of being "spiritual but not religious". Although individuals in their meaning-making after trauma may search for new global meaning and turn to the sacred (Pargament & Mahoney, 2009), they seem to turn to individual spirituality independent of official religious structures. We may suppose that in the secular Czech environment, this search is not connected with religiosity due to the specific background of Czech society. There are many prejudices against churches and organised forms of religion (Nešporová & Nešpor, 2009). Such non-religious people may find it difficult to turn to the church when dealing with a traumatic event. It could be argued that religious institutions are seen as not adequately addressing people with childhood trauma experience and dealing only with religious issues. Therefore, traumatised individuals may perceive the support of the church as inadequate, not fulfilling their personal non-religious needs (Berger, 2014). Moreover, they may think that their community makes the situation more difficult with all of the institutional prescriptions and rituals and would not accept their problems (Granqvist & Kirkpatrick, 2013; Pargament, Feuille, & Burdzy, 2011). Thus, our findings may encourage members of religious communities or their leaders to support the needs of child abuse victims not only in the area of religiosity. Religious institutions should also create an atmosphere of acceptance, regardless of the religion or religious affiliation of the trauma survivors.

Furthermore, we found that the experience of childhood trauma is associated with the image of God. Respondents who experienced any kind of childhood trauma were less likely to describe God as loving, always present and forgiving, and they used negative adjectives, such as critical or angry. These results are in line with the findings of other authors (Tailor, Piotrowski, Woodgate, & Letourneau, 2014; Waldron, Scarpa, & Kim-Spoon, 2018) that the victims of childhood trauma may transmit their negative feelings to a spiritual dimension. Our results contrast with studies that found associations of sexual or emotional abuse with a distant and punishing God image (Bierman, 2005; Lo, Chan, & Ip, 2019). However, since our respondents

described God as less loving and always present, we may suppose that they may have been reluctant to report negative attitudes towards God through negative adjectives. They may have thought that expressing negative attitudes could lead to punishment and be morally unacceptable (Abu-Raiya, Pargament, Krause, & Ironson, 2015; Exline, Kaplan, & Grubbs, 2012).

Moreover, we observed different patterns in the associations between groups of religious and non-religious respondents. Whereas non-religious respondents used more negative adjectives to describe the image of God they assumed to be prevalent among religious respondents, religious participants rather somewhat hesitated to use positive terms. In line with the studies focusing on the image of God (Abu-Raiya, Pargament, Krause, & Ironson, 2015; Bradley, Exline, & Uzdavines, 2015; Exline, Grubbs, & Homolka, 2015), the interpretation could be that religious people may be reluctant to report negative attitudes to God or may be afraid that expressing negative views can be unacceptable or bring punishment. Moreover, the finding that non-religious people assume among religious a more negative image of God may be linked to their perception of the church and the image of God represented to them by a religious institution (Ammerman, 2013; Zinnbauer et al., 1997). Thus, they instead prefer to lean towards an individual spiritual perspective on sacredness or to the universe, attachment to themselves, others or nature (Ammerman, 2013; Scott, 2003).

Our study (Chapter 5) further revealed that almost a quarter of the religious population showed signs of NRC associated with childhood trauma experience. These findings are partially in contrast with the findings of the authors who propose that experienced childhood trauma may lead to the development of a positive relationship with a Higher Power (Counted, 2015; Granqvist, 2005). We have found that childhood trauma was further associated with coping strategies based on this negative view of God, i.e., feeling punished by God or questioning God's love and power. Therefore, our results support the idea that trauma survivors' sense of being loved or accepted by God may be disrupted (Hurley, 2004), leading to increased use of NRC strategies (Bierman, 2005; Rowatt & Kirkpatrick. Moreover, our study showed that physical neglect was the only subscale associated with all NRC items and, together with the emotional neglect subscale, most significantly linked to negative views of God. These findings extend studies focusing mainly on sexual abuse (Bierman, 2005; Gall et al., 2007; Kennedy & Drebing, 2002) to other areas by pointing out that physical and emotional abuse may also influence the choice of religious coping strategies.

Thus, the results of our study show some ways in which childhood trauma is associated with R/S. For some victims of childhood maltreatment, R/S may serve as a source of security and meaning-making after trauma (Park, 2005). However, childhood trauma may be one of the roots of a negative perception of God, which may consequently become one of the underlying issues of maladaptive religious coping. Therefore, assessing spiritual needs and strengthening the positive perception of God can contribute to widening the range of factors that may help victims of childhood maltreatment deal with the trauma and to minimising adverse outcomes of NRC in the religious and social area (Bader, Desmond, Carson Mencken, & Johnson, 2010; Whitehead, 2012), as well as in the area of physical and mental health (Ano & Pargament, 2013; Grubbs, Exline, & Campbell, 2013; Ironson et al., 2011; Kruizinga et al., 2017).

8.2.1.2 Adult insecure relationship experience

The findings of our study have shown that both anxiety and avoidance in a close relationship are associated with a rather negative perception of God and with NRC. The relationship towards God and one's related beliefs may be similar to human attachment relationships (Kirkpatrick & Shaver, 1992; Pollard, Riggs, & Hook, 2014). When individuals do not feel confident in their human relationships, they can turn to God. This perceived relationship may function psychologically, like other attachments, and compensate for their insufficient and insecure human bond, as summarised by the compensational theory (Kirkpatrick, 2005) described in the Introduction. However, as the relationship of insecurely attached individuals may correspond to human relationships, people can also transmit their negative feelings to God (Rowatt & Kirkpatrick, 2002). Our findings support more the latter situation, as discussed below.

We found that individuals with an experience of adult attachment insecurity tend to view God negatively or hesitate to use positive terms. Our findings align with the correspondence theory that proposes that individuals' insecure relationship is reflected in or correspond to their relationship towards God. Therefore, the results are in agreement with studies that showed that an insecure human relationship strengthens negative perceptions of God (Granqvist, Mikulincer, Gewirtz, & Shaver, 2012; Pollard et al., 2014). In our study, avoidance in a close relationship was found to be associated with images of God that express fear of being dependent on a partner, i.e., seeing God as less loving or forgiving. Moreover, relationship avoidance was also found to be associated with the usage of NRC strategies. This result corresponds to the findings of Schottenbauer et al. (2006), who reported attachment avoidance qualities as a predictor of NRC. Similarly, anxiety in a close relationship was found to correspond to anxiety in relation to God (Granqvist et al., 2012). Respondents experiencing anxiety in close relationships were more likely to describe God negatively and to report higher NRC. It may be supposed that a person with relationship anxiety feels unworthy and requires self-approval from their partner; however, they worry about whether their partner is available and reliable. Consequently, they may transmit their feelings to negative views of God and thus use NRC strategies more often.

Concerning the other explanation, i.e., a compensational theory, our findings contrast with studies suggesting that insecurely attached people regulate their human relationship distress by turning to God, whom they expect to fulfil their desires (Giordano, Cashwell, Lankford, King, & Henson, 2017; Granqvist et al., 2012). We found that interpersonal avoidance was associated with a less positive God image (Chapter 4) and with NRC strategies characterised by feelings of abandonment and punishment by God (Chapter 5). Similarly, the experience of anxiety in close relationships was also not associated with a positive perception of God. Thus, our findings suggest that insecurely attached people who perceive God as distant, punishing or angry, cannot rely on God as a safe haven and secure base (Granqvist, Mikulincer, & Shaver, 2010). This negative relationship is further reflected in turning to NRC. Therefore, strengthening a positive image of God may lead to better coping with human attachment insecurity in the sense of the compensational theory (Cassibba et al., 2014; Gall & Bilodeau, 2020), and reduce the maladaptive usage of NRC strategies.

8.2.2 R/S and negative religious coping in relation to health

We explored possible pathways between R/S, RCT, NRC and health outcomes, as shown in Figure 8.1. The results are discussed below.

8.2.2.1 Psychological pathway

Although the majority of studies report a predominantly protective role of R/S regarding mental health (Koenig, 2012; Oman, 2018; VanderWeele, 2017), we found that some areas of R/S, particularly NRC and beliefs in RCT, were associated with adverse mental health, especially during the Covid-19 pandemic (Chapter 6). Our findings showed that NRC was strongly linked to paranoia, which may reflect negative feelings of being abandoned and punished by God or other people (Abu-Raiya, Pargament, & Mahoney, 2011; Pargament et al., 2011). Furthermore, we found that NRC strategies were also linked to both anxiety and depression. These results align with the studies of Currier et al. (2019) and Zarzycka et al. (2019), which showed a relationship between these mental disorders and NRC. We may suppose that a negative relationship to God and R/S discomfort may reduce the experience of life meaning and hope (Garcia-Alandete, Salvador, & Rodriguez, 2014; Zarzycka et al., 2019) and increase anxiety and distress (Fitchett et al., 2004). Moreover, negatively experienced R/S, e.g., a negative image of God, spiritual guilt, anger (Ironson, Kremer, & Lucette, 2016) and R/S struggles (Exline, Pargament, Grubbs, & Yali, 2014; Janů, Malinakova, Kosarkova, & Tavel, 2020), may be further reflected in the maladaptive use of NCR, which was reported to have negative associations with mental health similar to our study (Paika et al., 2017; Pirutinsky, Rosmarin, Pargament, & Midlarsky, 2011).

Moreover, we found associations between RCT beliefs about Covid-19 and worsened mental health (Chapter 6). Therefore, our results extend the negative impact of conspiracy theories on mental health (Fountoulakis et al., 2021; Sallam et al., 2020) to the area of religious conspiracies. Our findings suggest that in an effort to find an explanation for phenomena that are difficult to understand, i.e., a novel coronavirus and the breakout of the Covid-19 pandemic, and incorporate them into one's broader belief system, some people may turn to conspiracy theories connected to their R/S (Newheiser, Farias, & Tausch, 2011; Sturm & Albrecht, 2020). However, such an effort may reflect the negative R/S attitudes manifested in the NRC. Consequently, NRC strategies, e.g., questioning God's power or feelings of abandonment by God or the religious community, may lead to increased levels of anxiety and powerlessness. These strategies were associated with conspiracy theories and their further negative impact on mental health and adjustment during the pandemic (Jolley & Douglas, 2014; Sallam et al., 2020). Therefore, assessing the signs of NRC and RCT beliefs is vital.

8.2.2.2 Behavioural pathway

Both religiosity and spirituality are linked to health behaviour as a factor influencing health protection (Koenig, 2012; Reindl Benjamins & Brown, 2004; Tarakeshwar, Pargament, & Mahoney, 2003), as well as factors shaping decisions on vaccination (Best et al., 2019; Costa,

Weber, Darmstadt, Abdalla, & Victora, 2020; Thomas, Blumling, & Delaney, 2015). Our study (Chapter 7) found that R/S were associated with beliefs in RCT about Covid-19 vaccination and with Covid-19 vaccine refusal and hesitancy.

We found that an individual's R/S is associated with the decision to uptake the Covid-19 vaccination. In contrast to some studies that identified religion as a barrier to vaccine uptake and a source of hesitation (Costa et al., 2020; Dubé, Gagnon, & Macdonald, 2015; Ruijs et al., 2012), our results revealed no associations between religious affiliation and Covid-19 vaccine refusal or hesitation. Most religions do not have doctrinal objections to vaccination; what's more, vaccines are treated as an important measure to preserve one's health (Grabenstein, 2013; Pontifical Academy for Life, 2019; Pelcic et al., 2016). Thus, religiously affiliated people may follow their church's teaching and treat vaccines as an essential measure to preserve the health and care of the temple of one's body. However, we found that spirituality, both alone and in combination with lack of religious affiliation, was associated with high Covid-19 vaccine refusal and hesitancy levels. Our findings are in line with studies showing that spiritual attitudes may be among the reasons for vaccine refusal (Best et al., 2019; Browne, Thomson, Rockloff, & Pennycook, 2015; Thomas et al., 2015). The factors associated with spiritual objections may comprise beliefs in the natural healing potential of the body and/or in alternative forms of medicine, including prayer and a perceived strong faith (Browne et al., 2015; Larson & Fleck, 2014) or the conviction that the disease is given by a Higher Power and can be withstood by one's own immune system (Rumetta, Abdul-Hadi, & Lee, 2020).

The association we found between spirituality without religious affiliation and vaccine refusal may also be linked to RCT beliefs about Covid-19 vaccination. The results showed that RCT beliefs about Covid-19 vaccination were significantly associated with spirituality but not with religiosity. Regarding religiosity, it can be supposed that affiliated respondents did not see the RCT beliefs around the Covid-19 vaccination as threatening their religious identity or interfering with the church's teaching (Kim & Kim, 2020; Pelcic et al., 2016). Moreover, our study was conducted after an official encouragement for people to get vaccinated released by the Catholic Church (Vatican Covid-19 Commission, 2020). Thus, we may assume that the mainly Catholic respondents were following the church's teaching and did not connect Covid-19 vaccines with conspiracy theories.

Nevertheless, our findings on the significant associations between spirituality and RCT about Covid-19 vaccines align with the result of some studies on conspiracy theories and vaccination (Browne et al., 2015; Robertson, Asprem, & Dyrendal, 2018). These studies showed that the role of a personal ideology and individual attitudes, including esotericism and beliefs in the healing power of one's own body, can play a crucial role in developing conspiracy theories about vaccination, which may further underlie the decision on vaccines uptake.

Therefore, our study suggests that spiritual but not religiously affiliated individuals may tend to refuse Covid-19 vaccines and supports the findings of studies showing that spirituality without religious affiliation may lead to adverse health behaviour (Buchtova et al., 2020; Malinakova et al., 2018).

8.2.2.3 Social pathway

R/S can be connected to health outcomes even through the social pathway (Diener, Tay, & Myers, 2011; Pargament et al., 2011). In our study (Chapter 6), we found that respondents who identified themselves as religious, regardless of their proclaimed affiliation to the religious community, reported beliefs in RCT about Covid-19 and the observed consequences of RCT on mental health (Chapter 6). However, in the study focusing on the willingness to get vaccinated, believers were further subdivided according to their religious affiliation (Chapter 7). We found that beliefs in RCT about Covid-19 vaccination were associated with being spiritual but not religiously affiliated and with religious fundamentalism. These results show the links between identification with a specific religious in-group and perceiving non-religious out-groups as immoral, evil and underestimating moral values that their religion represents (Marchlewska, Cichocka, Łozowski, Górska, & Winiewski, 2019; Sturm & Albrecht, 2020). We may assume that the specific type of religious involvement and not the affiliation to religion itself plays an essential role in RCT endorsement, with their negative influence on health behaviour (Cichocka, 2016; van Prooijen & Douglas, 2018). The specific type of religious involvement is usually connected to seeking spiritual purity or clinging to an ideally interpreted past (Savage & Liht, 2008), and with the particular way some people use their R/S to cope with and understand difficult life situations (Pargament et al., 2011). Therefore, a strong attachment to specific religious forms may reinforce RCT beliefs, increase demarcating from others, even within the same religion (Kim & Kim, 2020; Robertson et al., 2018), and lead to negative outcomes related to beliefs in conspiracy theories.

8.3 Strengths and limitations

8.3.1 Quality of the sample

The strength of this work is the use of large, in two studies even representative, samples of adults. This means that we analysed data from a national representative sample of the Czech adult population with nearly no missing values. In addition, we used data from two online surveys in which distribution through a professional agency ensured the achieving of an extensive and balanced sample regarding age and gender. Moreover, to ensure the high quality of the data from online surveys, exclusion criteria were applied to respondents who filled in the surveys too quickly and who provided a unified pattern of responses, i.e., responding to most of the items in the surveys in the same way. Altogether, these data contribute to our knowledge of the area of R/S, NRC and RCTs in the non-religious environment.

A specific limitation of our data is the overall low prevalence of R/S respondents in the Czech samples. This decreases the power of our studies regarding moderation. Another limitation could be the smaller size of the samples used in Chapters 5 and 7. These comprised only religious respondents derived from larger samples. However, the samples size was still sufficient for the analyses that we performed.

8.3.2 Quality of the information

The important advantage regarding the quality of the data was that we used validated internationally recognised instruments that have already been applied in various settings and documented in various international reports and studies.

The possible limitation of this study can be that the respondents may have answered in a socially desirable way, which might lead to information bias. The data are based on self-reports of respondents. Therefore, the religiously affiliated respondents might have feared expressing negative attitudes towards religion or God, as doing so could bring punishment and be morally unacceptable (Abu-Raiya et al., 2015; Exline, Kaplan, & Grubbs, 2012). Also, the answers to sensitive questions regarding insecure attachment may be affected by the tendency to underreport maltreatment (Hardt & Rutter, 2004). However, the respondents were informed about anonymity, and administrators of the face-to-face surveys were neutral, unknown to respondents. Similarly, as data from two samples were obtained online, a self-assessing anonymous survey might have reduced respondents' reluctance to admit their actual opinions (Wood & Douglas, 2015).

Another limitation regarding childhood trauma is that we do not know the exact source of trauma and the time between trauma and the conversion experience in Chapter 3. Furthermore, this thesis has other potential limitations regarding studies on RCT measured in Chapters 6 and 7. First, we could not assess all relevant RCT known to the sample. However, having searched various social media, we tried to encompass and formulate the most common and shared ones.

8.3.3 Causality

A limitation of this thesis is the cross-sectional design of the studies. This allows studying and comparing multiple areas from data obtained at a single point in time. Such a design does not allow a reliable assessment of causality. However, when we know the temporal sequence of phenomena and can also rely on knowledge gained from other sources, it is possible with some caution to form hypotheses about causality. Nevertheless, our findings should be confirmed by studies with a longitudinal or experimental design.

8.4 Implications

8.4.1 Implications for practice

The implications for practice and policy are based on the main findings of this work. We pointed out that insecure attachment both in childhood and adulthood may negatively affect an adult's image of God and may be associated with NRC. This can extend to several factors, which may contribute to the effectiveness of psychotherapeutic treatment of victims. Our results may be informative for professionals in areas of psychotherapy, psychosomatic medicine and social work. Within a multidisciplinary approach to dealing with the history of childhood trauma or

attachment insecurity, it could be beneficial to obtain information about survivors' religious backgrounds or how they use religion to cope with their trauma.

Moreover, the results may be informative for pastoral counsellors, church institutions and members. They should be aware of warning signs of attachment insecurity and distress and try to develop professional cooperation with other helping professions. This approach can contribute to the sensitive awareness of all spiritual workers and counsellors, who should consider religious issues and offer a sensitive holistic approach. In addition, church institutions and their workers should support more positive images of God and coping strategies, which can help the effectiveness of the interventions. Thus, our findings stress the importance of understanding the interconnectedness of all aspects affecting the personality of trauma survivors and those with insecure adult attachment, which could be beneficial for all those working in the helping professions.

We further found that R/S and NRC were related to religious conspiracy beliefs concerning the Covid-19 pandemic and vaccination. These findings may help to understand the factors influencing the dynamics of the development of RCT. Moreover, the result can also indicate that some aspects of R/S, i.e., NRC and/or RCT beliefs, may harm mental health and adjustment during the pandemic and the decision on vaccine uptake. Gaining better insight into this process could be beneficial for improving the strategies to decrease mental health problems at stressful times. Similarly, the findings may be informative for all those responsible for planning vaccination strategies and may better address the groups concerned.

8.4.2 Implications for future research

Our study also offers several implications for future research. We found associations between childhood trauma, adult R/S, images of God and NRC. However, parents' R/S and the role of a perpetrator of violence should be considered as potential confounders in these areas. Similarly, research on the associations between insecure adult attachment and R/S areas should include the role of the R/S of one's partner.

Furthermore, we found associations between R/S, NRC and beliefs in RCTs. However, the cross-sectional design of this study does not allow us to draw any conclusions about the direction of causality; the influence may be bi-directional. Thus, further research should focus on the causal effects of the religious conspiracy dynamics and the mutual interaction between R/S and conspiracies, together with unravelling the causal pathways between R/S, NRC and RCT beliefs.

8.5 Conclusion

First, this study aimed to assess the relationships between childhood trauma and adulthood insecure attachment with R/S and the ways this area is perceived and lived. Second, it focused on the association of R/S with RCTs, mental health and the willingness to get vaccinated during the Covid-19 pandemic. Both insecure childhood and adulthood attachment were

related to R/S; however, specific subscales of insecure attachment were linked to the negative type of R/S, i.e., negative images of God and NRC.

We also learned that R/S can be associated with RCTs and related health outcomes regarding mental health and vaccination. This shows that R/S may affect behaviour during the pandemic and may also affect the process of decision-making about whether to accept the vaccine.

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SUMMARY

Religiosity and spirituality (R/S), which may positively interfere with various dimensions of human existence, are an integral part of many people's lives. However, in some respects, this interference may also be negative, e.g., in regard to mental and physical health or behavioural outcomes. To better understand this interference, research is needed on the associations of R/S with health outcomes and the pathways contributing to these associations. Therefore, the aim of this thesis was to assess the associations of R/S, negative religious coping and religious conspiracy theories with insecure attachment in childhood and adulthood, as well as the potential impact of R/S on mental health and vaccination attitudes during the Covid-19 pandemic.

Chapter 1 offers a theoretical background regarding R/S. It describes R/S as different constructs, focuses on religious coping, God's image and religious conspiracy theories, and outlines the association of R/S with health. It also introduces the idea that childhood trauma and adult relationship experience may be associated with R/S. Furthermore, it outlines an understanding of R/S and negative religious coping in a secular context, specifically that of the Czech Republic.

Chapter 2 describes the samples used in the study. These consist of a national representative sample, a sub-sample derived from this sample, and two online samples. It also provides an overview of the measurements and variables used and a brief description of the statistical methods employed.

Chapter 3 explores the associations of different types of childhood trauma with R/S. We found that childhood trauma is associated with R/S in adulthood. A significantly higher spirituality following a traumatic experience was observed among respondents who identified themselves as non-religious, i.e., not religiously affiliated. We also found that emotional abuse and neglect are associated with the experience of conversion.

Chapter 4 focuses on the associations of childhood trauma and experience in close relationships with the God image. Our results showed that childhood trauma and adult attachment are associated with a less positive God image. Respondents with an experience of childhood trauma tend to describe God in more negative terms and hesitate to use positive ones. The same applies to respondents with an experience of relationship anxiety or avoidance. In addition, different patterns were found for religious and non-religious respondents. Religious respondents reported less negative and more positive images of God than non-religious respondents.

Chapter 5 explores whether insecure adult attachment and childhood trauma are associated with more negative religious coping. We found that adult attachment anxiety and avoidance and all kinds of childhood trauma were significantly associated with increased usage of negative religious coping strategies. Thus, our findings suggest that individuals with some

form of insecure attachment may also tend to be less certain in the area of R/S and therefore may be more likely to use maladaptive religious coping strategies.

Chapter 6 assesses the possible links between R/S and religious conspiracy theories during the Covid-19 pandemic and examines the associations of such beliefs with mental health. We found no associations between religious conspiracy expectations and negative feelings and impairment during the first wave of the Covid-19 pandemic. However, we found significantly higher levels of paranoia, depression and anxiety in those who reported such beliefs or/and the way of coping, which suggests a negative effect of such beliefs and negative religious coping.

Chapter 7 investigates the links between R/S and religious conspiracy theories about Covid-19 vaccination and their associations with vaccine refusal and hesitancy. We found that religious conspiracy theories are associated with spirituality and religious fundamentalism. Furthermore, we found significantly higher levels of Covid-19 vaccine refusal in those who reported spirituality without religious affiliation.

Chapter 8 summarises and discusses the main findings of the previous chapters. The results of our studies showed that childhood trauma and insecure adult relationship are associated with R/S, images of God and a higher rate of negative religious coping. Therefore, attachment insecurity may be one of the roots of a negative perception of God, which may consequently become one of the underlying issues of maladaptive religious strategies. We also found that R/S, negative religious coping and religious fundamentalism are associated with the emergence of religious conspiracy theories regarding the Covid-19 pandemic and vaccines. Consequently, religious conspiracy theories and negatively perceived R/S are linked to mental health problems as well as vaccine refusal and hesitancy during the pandemic.

This thesis supports the results of other authors regarding the connection of R/S with other areas of life according to the proposed pathways, particularly regarding negative religious coping, images of God and religious conspiracies. It also provides a better understanding of the factors that might influence the development and outcomes of negatively conceived R/S.

SAMENVATTING

Een integraal onderdeel van het leven van veel mensen is religiositeit en spiritualiteit (R/S), dat een positieve invloed kan hebben op verschillende dimensies van het menselijk bestaan. In sommige opzichten kan deze invloed echter ook negatief zijn, bijvoorbeeld waar het gaat om geestelijke en lichamelijke gezondheid of om gedragsuitkomsten. Om deze invloeden beter te begrijpen, is onderzoek nodig naar de samenhang van R/S met gezondheid en de routes die leiden tot deze samenhang. Daarom was het doel van dit proefschrift om de samenhang te onderzoekenvan R/S, negatieve religieuze coping en religieuze samenzweringstheorieën met jeugdtrauma's en volwassenheid, en de mogelijke impact van R/S op mentale gezondheid en op vaccinatieattitudes tijdens de Covid-19-pandemie.

Hoofdstuk 1 geeft een theoretische achtergrond wat betreft R/S. Het beschrijft R en S als afzonderlijke constructen, richt zich op religieuze coping, Gods beeld, religieuze samenzweringstheorieën en schetst de samenhang van R/S met gezondheid. Het gaat ook in op het feit dat jeugdtrauma's en relatie-ervaringen in de volwassenheid samen kunnen hangen met R/S. Bovendien geeft het een schets van hoe R/S en negatieve religieuze coping werken in een seculiere context, met name in de Tsjechische Republiek.

Hoofdstuk 2 beschrijft de steekproeven die in het onderzoek zijn gebruikt. Deze betreffen een landelijk representatieve steekproef, een daaruit afgeleide sub-steekproef en twee online steekproeven. Het hoofdstuk geeft ook een overzicht van de gebruikte meetinstrumenten en variabelen en een korte beschrijving van de statistische methoden.

In Hoofdstuk 3 worden de verbanden van verschillende soorten jeugdtrauma's met R/S onderzocht. We vonden dat jeugdtrauma's samenhangen met R/S op de volwassen leeftijd. We vonden een significant hogere spiritualiteit na een traumatische ervaring bij respondenten die zichzelf identificeerden als niet-religieus, d.w.z. niet religieus gelieerd. We vonden ook dat emotionele mishandeling en verwaarlozing samenhangen met een bekeringservaring.

Hoofdstuk 4 richt zich op de samenhang tussen jeugdtrauma's en ervaringen die nauw verweven zijn met het godsbeeld. We vonden dat jeugdtrauma's en gehechtheid bij volwassenen samenhangen met een minder positief godsbeeld. Respondenten met een jeugdtrauma hebben de neiging om God in negatievere termen te beschrijven en aarzelen om positieve termen te gebruiken. Hetzelfde geldt voor respondenten die relatieangst of -vermijding hebben ervaren. Daarnaast vonden we verschillende patronen voor religieuze en niet-religieuze respondenten. De religieuze respondenten rapporteerden minder negatieve en positievere beelden van God dan de niet-religieuze.

In Hoofdstuk 5 wordt onderzocht of de als onveilig ervaren gehechtheid bij volwassenen en jeugdtrauma's samenhangen met een meer negatieve religieuze coping. We vonden dat hechtingsangst en -vermijding bij volwassenen en alle soorten jeugdtrauma's significant samenhingen met meer negatieve religieuze coping strategieën. Onze bevindingen suggereren dus dat individuen met een of andere vorm van onveilige gehechtheid de neiging hebben om

ook onzekerder te zijn op het gebied van R/S en dat ze daardoor vaker negatieve religieuze copingstrategieën gebruiken.

In Hoofdstuk 6 gaan we het verband na tussen R/S en religieuze samenzweringstheorieën wat betreft de Covid-19-pandemie en verder het verband tussen dergelijke overtuigingen en de geestelijke gezondheid. We vonden tijdens de eerste golf van de Covid-19-pandemie geen verband tussen religieuze samenzweringsverwachtingen en negatieve gevoelens en beperkingen. We vonden echter wel significant hogere niveaus van paranoia, depressie en angst bij degenen die meldden er dergelijke overtuigingen en/of copingstrategieën op na te houden, wat een negatieve effecten suggereert van dergelijke overtuigingen en van negatieve religieuze coping.

In Hoofdstuk 7 onderzochten we de samenhang tussen R/S en religieuze samenzweringstheorieën over de Covid-19-vaccinatie en hun samenhang met vaccinweigering en -aarzeling. We vonden dat religieuze samenzweringstheorieën samenhangen met spiritualiteit en met religieus fundamentalisme. Bovendien vonden we significant hogere niveaus van weigering van het Covid-19-vaccin bij mensen die een hoge spiritualiteit rapporteerden zonder religieuze overtuiging.

Hoofdstuk 8 vat de belangrijkste bevindingen van de voorgaande hoofdstukken samen en bespreekt deze. De resultaten van onze studies laten zien dat jeugdtrauma's en onzekere relaties met volwassenen samenhangen met R/S, met beelden van God en met een hogere mate van negatieve religieuze coping. Daarom kan onveilige hechting een van de oorzaken zijn van een negatieve perceptie van God, die daardoor een onderliggende oorzaak kan zijn van negatieve religieuze copingsstrategieën. Wij vonden ook dat R/S, negatieve religieuze coping en religieus fundamentalisme samenhangen met religieuze samenzweringstheorieën wat betreft de Covid-19-pandemie en vaccins. Daardoor hangen religieuze samenzweringstheorieën en een als negatief beoordeeld R/S samen met mentale gezondheidsproblemen en met vaccinweigering en-aarzeling tijdens de pandemie.

Dit proefschrift ondersteunt de bevindingen van andere auteurs wat betreft de samenhang van R/S met andere levensgebieden via een aantal eerder gesuggereerde paden, met name wat betreft negatieve religieuze coping, godsbeelden en religieuze samenzweringen. Het geeft ook meer inzicht in de factoren die de ontwikkeling en uitkomsten kunnen beïnvloeden van negatief ingestoken R/S.

SOUHRN

Nedílnou součástí života mnoha lidí jsou religiozita a spiritualita (R/S), které mohou pozitivně zasahovat do různých dimenzí lidské existence. V některých aspektech však může být vliv R/S na lidský život také negativní, např. v oblasti duševního a fyzického zdraví či chování. Abychom lépe porozuměli mechanismům, které se v této oblasti uplatňují, je zapotřebí prozkoumat asociace R/S a zdraví a také možné cesty, které k jejich souvislostem mohou přispívat. Cílem této práce je proto zkoumat souvislosti R/S, negativního náboženského copingu a náboženských konspiračních teorií s nejistou vazbou v dětství a dospělosti, stejně jako potenciální dopad R/S na duševní zdraví a postoje k očkování během pandemie Covid-19.

Kapitola 1 nabízí teoretické zázemí k otázkám R/S. Popisuje religiozitu a spiritualitu jako odlišné konstrukty, zaměřuje se na náboženský coping, obraz Boha, náboženské konspirační teorie a nastiňuje spojení R/S se zdravím. Dále uvádí, že trauma z dětství a vztahová zkušenost dospělých mohou být spojeny s R/S. Nastiňuje také chápání R/S a negativního náboženského zvládání v sekulárním kontextu, konkrétně v České republice.

Kapitola 2 popisuje vzorky použité ve studii. Ty tvoří národní reprezentativní vzorek, dílčí vzorek odvozený z reprezentativního vzorku a dva online vzorky. Kapitola také poskytuje přehled použitých měření, proměnných a stručný popis statistických metod.

Kapitola 3 zkoumá souvislosti různých typů dětských traumat s R/S. Zjistili jsme, že trauma z dětství je spojeno s R/S v dospělosti. Výrazně vyšší spiritualita po traumatickém zážitku byla pozorována u respondentů, kteří se označili jako nenáboženští, tedy bez náboženské příslušnosti. Zjistili jsme také, že emocionální zneužívání a zanedbávání souvisí se zkušeností náboženské konverze.

Kapitola 4 se zaměřuje na asociace dětského traumatu a zkušeností v blízkých vztazích s obrazem Boha. Naše výsledky ukázaly, že trauma z dětství a dospělá vztahová vazba jsou spojeny s méně pozitivním obrazem Boha. Respondenti se zkušenostmi s traumatem z dětství mají tendenci popisovat Boha negativnějšími termíny a váhají použít ty pozitivní. Totéž platí pro respondenty se zkušeností vztahové úzkosti nebo vyhýbání se. Kromě toho byly zjištěny různé vzorce pro náboženské a nenáboženské respondenty. Náboženští respondenti uváděli méně negativní a více pozitivní představy o Bohu než lidé bez vyznání.

Kapitola 5 zkoumá, zda nejistá vazba dospělých a trauma z dětství souvisí s negativním náboženským copingem. Zjistili jsme, že úzkostná a nejistá vztahová vazba mezi dospělými a všechny druhy dětských traumat byly významně spojeny se zvýšeným používáním negativních náboženských strategií zvládání. Naše zjištění tedy naznačují, že jedinci s určitou formou nejisté vazby mohou mít tendenci být si méně jistí v oblasti R/S, a proto mohou s větší pravděpodobností používat maladaptivní náboženské strategie.

Kapitola 6 posuzuje možné vazby mezi R/S a náboženskými konspiračními teoriemi o pandemii Covid-19 a zkoumá souvislosti těchto přesvědčení s duševním zdravím. Během první vlny pandemie Covid-19 jsme nenašli žádné souvislosti mezi náboženskými konspiracemi a zhoršením negativních pocitů. Zjistili jsme však významně vyšší úroveň paranoie, deprese a

úzkosti u těch, kteří uvedli víru v některou z náboženských konspirací nebo/a negativní náboženský coping, což naznačuje negativní vliv náboženských konspiračních teorií a negativních copingových strategií na duševní zdraví.

Kapitola 7 zkoumá souvislosti mezi R/S a náboženskými konspiračními teoriemi o očkování proti Covid-19 a jejich spojitost s odmítáním očkování nebo váháním nad možností nechat se naočkovat vakcínou proti Covid-19. Zjistili jsme, že náboženské konspirační teorie jsou spojeny se spiritualitou a náboženským fundamentalismem. Kromě toho jsme zjistili výrazně vyšší míru odmítání vakcíny proti Covid-19 u těch, kteří uvedli spiritualitu bez příslušnosti k náboženské instituci.

Kapitola 8 shrnuje hlavní zjištění předchozích kapitol. Výsledky našich studií ukázaly, že trauma z dětství a nejistá vztahová vazba mezi dospělými jsou spojeny s R/S, obrazy Boha a vyšší mírou negativního náboženského copingu. Proto může být nejistá vztahová vazby jedním z kořenů negativního vnímání Boha, které se následně může stát jedním ze základních prvků k používání negativních náboženských copingových strategií. Zjistili jsme také, že R/S, negativní náboženský coping a náboženský fundamentalismus jsou spojeny se vznikem náboženských konspiračních teorií ohledně pandemie Covid-19 a vakcín proti Covid-19. V důsledku toho jsou náboženské konspirační teorie a negativně vnímaná R/S spojeny s problémy duševního zdraví, váhavostí ohledně očkování a odmítáním očkování během pandemie.

Tato práce podporuje výsledky jiných autorů ohledně propojení R/S s dalšími oblastmi života podle navržených cest, zejména pokud jde o negativní náboženský coping, obrazy Boha a náboženské konspirace. Poskytuje také lepší pochopení faktorů, které mohou ovlivnit vývoj a výsledky negativně vnímané religiozity a spirituality.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to all those who made my study possible, stood by me and supported me during my PhD studies and in writing this thesis.

I would like to thank my supervisors. First, my big thanks go to assoc. Prof. Jitse P. van Dijk from the University of Groningen. Thank you for your time, sharing your knowledge and professional guidance whenever needed during the running of this research. Furthermore, I would like to thank Prof. Peter Tavel from Palacký University Olomouc. Thank you for your consistent support and great research environment within the Sts Cyril and Methodius Faculty of Theology, where I had the opportunity to return to study again after several years.

I would like to extend my sincere thanks to Klara Malinakova, PhD, who became my tutor and an indispensable support in discovering the world of research and writing articles. Many thanks for your patience, continuously providing encouragement and that you were always willing and enthusiastic in supporting me. Your guidance, insightful comments and suggestion pushed me to sharpen my thoughts, brought my work to a higher level and were an amazing and inspiring experience for me.

I want to thank all my colleagues and research fellows who contributed to this thesis and collaborated during the data collection and analyses. I am grateful for sharing their knowledge, plentiful experience and encouragement throughout the time of my academic research. I would also like to thank David McLean for the language proof of this thesis.

My special thanks go to my near friends for their enthusiasm, support and sympathetic ear. Thank you, Andrea, Jana, Petr and Daniel, for standing by me and sharing with me the joys and worries of my PhD journey.

Finally, I would like to thank the most important people – my family. I want to express my gratitude to my parents for all their love and support. I want to thank my children for their patience and efforts to give me space and silence while studying and writing. My biggest thanks go to my husband. Jenda, thank you for the love you give me every single day, for your patience and readiness to hug me whenever needed. I am forever thankful for your unconditional love and support throughout the entire thesis process and every day.