

Religion and Well-being: Assessing the evidence

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Theos 

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Published by Theos in 2016

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ISBN 978-0-9931969-4-2

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executive summary

This study evaluates the evidence from 139 academic studies conducted over the last 30+ years examining the relationship between religion and well-being. Across the majority of these studies, the data show a positive correlation between religion and well-being. This study not only collates these data but aims to clarify the nature of the relationship between religion and well-being.

It does this by teasing apart the different ways 'religion' and 'well-being' have been understood in the academic literature and surveys. Although the precise categorisations are contestable and different studies sometimes spread over different categories, we identified five conceptions of religion and four of well-being. These are:

- Religion: religious affiliation, subjective religiosity, religious belief, religious group participation, and religious personal participation
- Well-being: subjective well-being, mental health, physical health, and health supporting behaviours
- The definitions of these categories are given in the report, and also in the footnotes to this executive summary.

Having been identified from within the academic studies, these various conceptions of religion and well-being were then used as a framework for analysing the findings.

The data show that the picture is not simply that 'religion' is good for 'well-being' but rather one in which certain aspects of religion are better correlated with certain aspects of well-being.

Social religious participation¹ evidenced the strongest positive correlation across all measures of well-being.

Many of the studies evidenced a straightforward, strong positive correlation between personal religious participation² and well-being, most notably mental health.³

Religious belief⁴ was found to have a largely positive, but more varied, impact on the different measures of well-being.

Subjective religiosity⁵ had mixed effects on different indicators of well-being, particularly in the categories of physical health⁶ and health supporting behaviours.⁷

The loosest category of our indicators of religion, religious affiliation,⁸ was shown to have the weakest effect on well-being.

Of the measures of well-being, subjective well-being⁹ seems to be the most sensitive to the effects of the different types of religiosity.

Higher levels of involvement in religion are more beneficial to mental health overall.

Within the category of physical health the phenomenon of religious coping¹⁰ is quite evident.

At the most generalised level, it seems that the more serious, genuinely held and practically-evidenced a religious commitment is, then the greater the positive impact it is likely to have on well-being.

references – executive summary

- 1 'Social religious participation' pertains to the active (and regular) participation in group religious worship services, although some studies include other forms of religious social participation, such as volunteering.
- 2 'Religious personal participation' pertains to engaging in acts of private devotion such as prayer, scripture reading, or listening to religious music.
- 3 'Mental health' pertains to measures of depression, anxiety and the like, and has a more clinical focus than subjective well-being.
- 4 'Religious belief' pertains to personal belief in God or a higher power, and assent to tenets or doctrines of a religious group, for example, belief in an afterlife.
- 5 'Subjective religiosity' pertains to the degree of influence that beliefs have on a person's decisions and lifestyle and the sense of having a personally meaningful relationship with God or a higher power.
- 6 'Physical health' pertains to indicators including chronic pain, recovery rate from illness, and mortality rate and like mental health is a more clinical category than subjective well-being.
- 7 'Health supporting behaviours' pertains to those activities that tend to have a positive effect on physical health, such as by preventing substance abuse or addiction, or by encouraging exercise or healthy eating.
- 8 'Religious affiliation' pertains to the extent to which an individual identifies with religion. Although this can range from a cultural affinity to full community participation, this is nonetheless is a "low threshold" category, i.e. it need not demand significant commitment on behalf of the respondent.
- 9 'Subjective well-being' pertains to measures of self-reported happiness, including life satisfaction, personal evaluation of progress towards life goals, and having a sense of meaning in life.
- 10 'Religious coping' pertains to the habit of religiosity (in different guises) being used as a way of offsetting the effects of poor health, and consequently promoting a better sense of well-being.

introduction

Public discourse about religion today is as criss-crossed by stories as battlefields once were by trenches. For all you might try to venture out into narrative no-man's-land and say something genuinely new or different, the likelihood is that you will stumble back into one of the enduring, deeply-embedded lines that we encounter with almost wearying familiarity. If, as Christopher Booker once wrote in a 700-page book on the topic, there are only "seven basic plots" to which all narrative art forms eventually conform, much the same idea, give or take a plot or two, seems to apply to religion in Britain today.

We might debate what those basic religious plots are. "Fundamentalist violence and radicalisation" is one. "Issues of sexuality" is obviously another, with "the Anglican Communion" being a third (or possibly only a sub-plot of the second). "Social activism" and "Pope Francis" both also make good claims. Alongside all these, however, one of the most frequent and best established stories is surely the one about "religion and well-being".

This states, in its various permutations, that religion is good for well-being (or life-satisfaction or happiness); that the religious are happier than the non-religious; that atheists are more miserable; that religious practices are good for you; and so forth. Thus, according to *The Week* in 2016, 'Middle-aged atheists [are] the 'unhappiest people' in Britain';¹ according to *Newsweek* in 2015, 'Religion [is] Better for Mental Health Than Sport';² and according to the *Daily Mail* in 2014, 'Religious people [are] much happier and have more 'life satisfaction' than others'.³

These newspapers are not the source of these claims. *The Week* was reporting on a substantial study conducted by the Office for National Statistics,⁴ *Newsweek* on another big study by the London School of Economics and the Erasmus University Medical Center in the Netherlands,⁵ and *The Mail* on one from the Austin Institute for the Study of Family and Culture.⁶ In other words, the findings are not only repeated but also robust and reputable.

It should not need saying, but probably does, that such research says nothing about the truth content of whichever religion is in question. Just because 'religion' (we shall return to what that means) apparently makes you 'happy' (ditto) that doesn't mean it's true.

That recognised, the repeated connection between religion and well-being has encouraged a certain shift in the broader intellectual climate – from seeing religion as an epiphenomenon, an incidental, secondary entity, essentially parasitic on political or economic injustice or intellectual backwardness and due therefore to disappear with the advent of communism, industrialisation or modernisation – to seeing it as intrinsic to and deeply-entrenched within human nature, and thereby more likely to morph than to disappear in the future.

Precisely what further conclusions one draws from these studies will depend on what we understand from ‘religion’ and what from ‘well-being’. The terms are susceptible to a range of different interpretations and meanings. Religion, for example, might mean affiliation – the extent to which I identify as ‘belonging’ to a particular religion. It might mean religiosity – the importance that I attach to religion in my life. It might mean belief – the extent to which I hold the creeds of a particular religion to be factually true. It might mean group participation – the extent to which I join in with what other people of that religion do. Or it might be personal participation – the extent to which I perform the practices of that religion personally. There are, no doubt, other ways of skinning that particular religious cat, but these five cover a good range of the options, moving broadly speaking from the more casual form of religious involvement to the more serious.

A similar approach is necessary when dealing with well-being, with the added challenge that the terminology is even more diverse and slippery, and often used interchangeably. Thus, not only do studies talk of ‘happiness’, ‘life-satisfaction’ and ‘well-being’ interchangeably, but those very terms are to some degree open to the interpretation of the subject: the difference between happiness, life-satisfaction and well-being is, to some degree, in the eye of the respondent.

The ONS study cited above in fact assesses four different dimensions – anxiety, happiness, life-satisfaction, and worthwhileness – in a way that intuitively progresses from the more ephemeral to the more permanent. Thus, of the first two they ask “Overall, how anxious did you feel yesterday?” and “Overall, how happy did you feel yesterday?”; of the third, “Overall, how satisfied are you with your life nowadays?”; and of the last, “Overall, to what extent do you feel the things you do in your life are worthwhile?” This movement – from anxiety and happiness on a day by day basis, through life-satisfaction on a slightly larger timescale (“nowadays”) to worthwhileness on a still larger timescale (“your life”) – is clearly measuring different things.

Unfortunately other studies – the study of the correlation of religion and well-being has been on-going for decades – are not always as carefully graded, and can talk of happiness, life-satisfaction or well-being in more generic or interchangeable ways. The ONS study assesses four different factors although they are still all factors of the same dimension,

namely subjective well-being. There are various other ways of assessing 'well-being'. Other studies look at what might be called objective well-being, measures of mental and of physical health that are somewhat less dependent on what the respondent themselves thinks of their condition. To these three categories – subjective well-being, mental health, and physical health – we can also add a fourth, under the category of "health supporting behaviours", in other words those habits and practices that prevent a subject from falling or feeling ill.

Our study adopts these two different categorisations – for religion: religious affiliation, subjective religiosity, religious belief, religious group participation, and religious personal participation; and for well-being: subjective well-being, mental health, physical health, and health supporting behaviours – as a means of understanding the true nature of the inter-relationship between 'religion' and 'well-being'.

Its objective, firstly, is to provide a long-term and detailed assessment of the "religion is good for well-being" story with which we started. Is it? And if it is, as these repeated news stories and academic studies claim (and here we move on to the second objective) what does that mean? Does it mean all kinds of religion support all kinds of well-being equally? Or that all kinds of religion support all kinds of welfare but to different degrees? Or that some kinds of religion support some kinds of welfare to some extent, whereas others are neutral to or even destructive of others?

Behind these various questions there lurks an ultimate one that the data cannot answer. Why? What is it about 'religion', however that is understood, that supports (if it does) 'well-being', however that is understood. Research can equip us to engage with this, by delineating the ways in which different aspects of religion are correlated with different kinds of well-being. Correlation is not causation, however, and whatever conclusions we draw from this delineation will invariably be tentative.

this study

This project is a summary study (not technically a meta-analysis as it has not sought formally to synthesise the results into a single, coherent study) of 139 individual studies⁷ that have been conducted into the relationship between religion and well-being over the last thirty or so years. Although studies of the relationship between religion and well-being have been conducted since the 1960s,⁸ the field only began to take off in the 1980s, with growing numbers in the last 20 years. The studies are taken from a wide range of academic sources, that range being so wide that attempting any kind of formal synthesis would be futile. What this study does try to do is categorise and assess these studies in such a way as to understand the true nature of the relationship between religion and well-

being. In effect, rather than stopping at the line “there is a correlation between religion and well-being,” it tries to disambiguate the two terms and then cross-compare the disambiguated terms. How does religious affiliation correlate with subjective well-being, for example? Or how does religious belief correlate with mental health? Or religious group participation with physical health?

Mathematically-acute readers will pick up on the fact that the breakdown of the terms along the lines mentioned above will mean that there are, in total, twenty different points of comparison, or graphically expressed, twenty different cells to fill in:

Well-being Religion	Subjective Well-being	Mental Health	Physical Health	Health Supporting Behaviours
Religious Affiliation				
Subjective Religiosity				
Religious Belief				
Religious Group Participation				
Religious Personal Participation				

This makes for a large study with plenty of sub-sections, which is precisely what this volume is, comprising five chapters (pertaining to the five different categories of religion) each with four sections in it (pertaining to the different categories of well-being). Hopefully this structure, coupled with fuller (and oft-repeated) definitions of the different categories used should make a long and detailed report easier to navigate and read.

What we have done here is to systematise, categorise and analyse the complex, multivalent relationship between religion and well-being from thirty years of academic literature in as consistent and coherent a way as possible.

All that duly acknowledged, however, it is important to enter a critical caveat at this juncture. The academic studies that make up the meat of this survey report do not always naturally limit themselves to these categories. Some focus tightly on religious belief or on mental health, for example, but others spread their interest across multiple categories, religious affiliation and subjective religiosity, for example, or subjective well-being and mental health. That means that a number of these studies appear in more than one of the twenty sections in the report.

Moreover, the fact that the studies do not always articulate their focus(es) in consistent or clear ways means that there are inevitably judgement calls to be made on where one slots different surveys. Readers who do make it through the meat of the study – and be warned, it is slow and not always gripping reading – may sometimes find themselves feeling that a particular study belonged in a different category, or perhaps more than one particular category. This is unavoidable in the context. What we have done here is to systematise, categorise and analyse the complex, multivalent relationship between religion and well-being from thirty years of academic literature in as consistent and coherent a way as possible. We hope that is what we have achieved but even if we have there will be rough edges, loose ends and grounds for re-consideration and revision.

Across the majority of the 139 studies analysed as part of this project, the data show a positive correlation between religion and well-being.

the findings

What did we find? There are various ways the findings of *Religion and Well-being* might be summarised, but the following points offer, we think, the best overview of the literature we have surveyed.

The picture is not simply that 'religion' is good for 'well-being' but rather one in which certain aspects of religion are better correlated with certain aspects of well-being.

1. The widely-reported correlation between religion and well-being – the deep narrative with which we began – holds well. Across the majority of the 139 studies analysed, the data show a positive correlation between religion and well-being.
2. While there is substantial evidence to suggest that religion largely has a positive effect on well-being, there is also evidence of variation. The picture is not simply that 'religion' is good for 'well-being' but rather one in which certain aspects of religion are better correlated with certain aspects of well-being.
3. Social participation evidenced the strongest positive correlation across all measures of well-being. The overwhelming consensus among the studies in our matrix was that religious social participation was conducive to all signals of well-being. Regular, frequent religious service attendance seemed to have the biggest impact on well-being, though lower levels of attendance and other types of participation, such as volunteering, also has some effect.
4. More private forms of participation – 'religious personal participation' – also evidenced a strong positive correlation, although to a lesser degree than religious group participation. In some cases more distress was associated with more

personal participation, though in the context of the study it is clear that the private religious activity did not cause the negative impact on well-being, but was a response to it. More broadly, many of the studies evidenced a straightforward, strong positive correlation between personal participation and well-being, most notably in the area of mental health.

Many of the studies evidenced a straightforward, strong positive correlation between personal participation and well-being, most notably in the area of mental health.

5. Religious belief was found to have a largely positive, but more varied, impact on the different measures of well-being. Subjective well-being evidenced a strong positive correlation with religious belief, with 18 of the 19 studies in this section supporting the notion that belief has a positive effect on subjective well-being. The effect of religious belief was less pronounced in relation to mental health, and significantly weaker correlations were found with physical health and health supporting behaviours.
6. Subjective religiosity had mixed effects on different indicators of well-being, particularly in the categories of physical health and health supporting behaviours. A significant number of studies evidenced a strong positive relationship between subjective religiosity and subjective well-being. To a lesser degree, there was also a positive correlation for another indicator of well-being, with higher levels of subjective religiosity having a positive impact on mental health. The effect of subjective religiosity on mental health was found to be ambiguous and inconclusive and there were not enough studies focused on health supporting behaviours to draw any clear conclusions.
7. Perhaps unsurprisingly the loosest category of our indicators of well-being, religious affiliation, was shown to have the weakest effect on well-being. Both subjective well-being and health supporting behaviours were impacted by some form of religious affiliation, though the results for the other measures of well-being were mixed. Once again, the studies in this category do not suggest that there are negative effects of religious affiliation on well-being, but there is not a strong positive correlation either.
8. Of the measures of well-being, subjective well-being seems to be the most sensitive to the effects of the different types of religiosity and is shown to be most strongly affected in each chapter. Subjective well-being also seems to be the category within well-being with the highest association with the phenomenon of religious coping. In each chapter there was evidence of a positive correlation, and in most cases it was noticeably strong. The weakest positive correlation was in the chapter on religious affiliation; perhaps because this signifies the lowest level of

involvement in religion and therefore reaps the least benefit in terms of well-being.

9. Mental health either showed a mixed correlation or a strong positive one. The mixed correlations were found in the chapters on religious affiliation and subjective religiosity, which are the lowest threshold categories of our indicators of well-being. Religious belief, social participation and personal participation all evidenced significantly stronger positive correlations. This indicates that higher levels of involvement in religion are more beneficial to mental health overall.
10. Within the category of physical health the phenomenon of religious coping is quite evident. Essentially this means that those with poor health often turn to religion as a source of comfort (rather than fall ill because of their religiosity). This works in the opposite way to most other categories, as the type of well-being is exerting an influence on aspects of their religion.
11. It is difficult to draw any strong conclusions on the measure of health supporting behaviours as there are significantly fewer studies in this area. This leads to varied results, with affiliation and belief evidencing a positive correlation, social participation showing a stronger positive correlation and both subjective religiosity and personal participation giving mixed results.

The loosest category of our indicators of well-being, religious affiliation, was shown to have the weakest effect on well-being.

what does this mean?

What can we draw from this closer examination of the various relationships between the different subcategories of religion and well-being?

There is undoubtedly a correlation between the two, although it is not entirely consistent or homogenous. Religion does, as a rule, lead to well-being although in a variety of ways. In some instances, religious belief can give people's suffering meaning, and provide an interpretive framework by means of which they can cope with it.

Social participation evidenced the strongest positive correlation across all measures of well-being.

That said, belief alone is not as strongly correlated with well-being as social and personal participation activities, with one study even reporting that those with religious belief, where it was not coupled with social and personal participation activities, could lead

Religious belief was found to have a largely positive, but more varied, impact on the different measures of well-being.

to higher levels of depression. Similarly, belief alone is not enough as there were signs that *types* of belief mattered. Different types of belief in God (punitive or benevolent) and different types of attachments (secure, avoidant, and anxious) could have different effects. One study, for example, reported that belief in the afterlife is inversely associated with feelings of anxiety, while strong beliefs in the pervasiveness of sin are positively linked to anxiety. Belief matters but it is not everything.

Personal and, even more, social religious participation seem to be the most strongly correlated with well-being, although, again, this is not straightforward. Thus, there is some evidence that group participation for extrinsic rather than intrinsic reasons – seeing participation as a means to another end (recognition or advancement, for example) rather than an end in itself – can wipe out any of the positive benefits of any such participation, and even be associated with negative benefits.

Similarly, just as not all social religious participation may be good (some cults or religious sects may encourage behaviours that do not support good health), other forms of social participation that have nothing to do with religion can be associated with well-being. No one has ever claimed that *only* religious social participation is good for you, or that such participation is *always* good for you.

For all the complexities, it is reasonably clear that affiliation is a weak correlate to well-being. What you call yourself does not correspond strongly to how well you feel, although even here one has to be alert to the shifting sands: how someone religiously affiliates means different things depending on which religion is being discussed in which culture and at which time. Affiliation is, as this report calls it, a low-threshold category, but one still has to be careful not to trip up.

Subjective religiosity had mixed effects on different indicators of well-being, particularly in the categories of physical health and health supporting behaviours.

It will be clear that summarising all these different findings neatly is problematic. As soon as you go beyond the main plot line that religion and well-being are positively linked, you are faced with such a plethora of sub-plots that you are in danger of losing the plot altogether.

One way of regaining it might be in the very idea of narrative with which we started. Humans live according to narratives, consciously and sub-consciously adopted. These articulate various understandings of who they are and what they are worth, what they do and what they should do, what they value and what they reject, what is their purpose and what is their destiny. One way of understanding negative well-being is as the adoption

of destructive or dehumanising narratives, that erode human worth, purpose and hope, sometimes as a result of and sometimes resulting in equally destructive habits. Reversing, retelling or extracting oneself from such narratives and habits is difficult, sometimes seemingly impossible.

Of the measures of well-being, subjective well-being seems to be the most sensitive to the effects of the different types of religiosity.

The findings of the studies in this research might be understood to be gesturing towards the conclusion that the more that someone believes in and inhabits an overarching narrative of love and generosity, which they believe is ontological (i.e. written into the very fabric of the universe) rather than contingent (i.e. simply an admirable but essentially arbitrary personal choice with no resonance beyond the individual), the more likely they are to enjoy better well-being (with one caveat, to which we will return below).

This statement, specifically the phrase “adheres to an overarching narrative of love and generosity”, requires clarification. The phrase is intended to mean two things: firstly, believing that one is placed within an overarching or ‘cosmic’ or spiritual story in which the divine is characterised by love, acceptance and generosity, and accordingly the human has some kind of worthwhileness and purpose; and secondly, that in response one acts out that belief and those values of love and generosity through personal affiliation, personal habits, and personal participation in a group – in effect, in spite of the vicissitudes of whatever life throws at you, you live according to the narrative in which love flows from above, through you, to others.

The caveat is no less important. This adherence needs to be authentic. As soon as the desire to achieve well-being becomes the goal of religiosity, rather than a side-effect, the whole system collapses in on itself. To join community for the sake of ‘me’ is to kill community. To be generous for the sake of receiving something is to obliterate the meaning of generosity. Prayer that is a shopping list directed at some cosmic cash card soon ceases to be prayer. If there is any well-being to be got from religion, it should be got on the way, almost accidentally. Instead, to adapt a phrase, the seeker after well-being should seek first the kingdom of heaven, because only then will these others things be given to him or her.

Higher levels of involvement in religion are more beneficial to mental health overall.

There is no guarantee in any of this. Adhering to a spiritual narrative of love and generosity will not protect you from ill-health (although it may cement a good many health supporting behaviours so as to make ill-health a rarer-than-average likelihood). Adhering to such a narrative will not guard you against all times of loneliness or worthlessness (although being part of a generous and supportive community should help you deal with

Adhering to a spiritual narrative of love and generosity will not protect you from ill-health.

such times). Adhering to this narrative will not indemnify you against those feelings of pointlessness and futility that all flesh seems heir to (although it should help you revise and rewrite those feelings when they do come). The relationship between religion and well-being is only ever going to be probabilistic.

To conclude with a point made earlier: none of this means that ‘religion’ is true. The surveys covered in this report cover a range of different religions, which do not believe or even do the same thing. What it does suggest is that religiosity is a complex phenomenon with complex but deep and inherent links with human well-being. However else we may see the religious narratives that criss-cross our public discourse change over the years to come, we can be confident that we will hear much more of this one.

note

A number of studies have come to our attention since this meta-study was completed. Most recently there have been the publication of Li Shanshan et al’s study in JAMA Internal Medicine, the peer-reviewed medical journal published by the American Medical Association, entitled ‘Association of Religious Service Attendance With Mortality Among Women’, and Gail Ironson et al’s study into the ‘Relationship Between Spiritual Coping and Survival in Patients with HIV’, published in the Journal of General Internal Medicine.

The former of these found that “frequent attendance at religious services was associated with significantly lower risk of all-cause, cardiovascular, and cancer mortality among women”; the latter reported that “overall positive spiritual coping significantly predicted greater survival over 17 years”, and claimed that theirs was the “first study showing a prospective relationship of spiritual coping in people who are medically ill with survival over such a long period of time”. In other words, both of these studies support the overall picture presented by those that are included within this analysis.

Shanshan’s study concluded that “religion and spirituality may be an underappreciated resource that physicians could explore with their patients, as appropriate.” This is precisely the kind of suggestion and ensuing debate that this particular meta-study is hoping to catalyse.

introduction – references

- 1 <http://www.theweek.co.uk/69192/middle-aged-atheists-the-unhappiest-people-in-britain>
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- 3 <http://www.dailymail.co.uk/news/article-2886974/Study-Religious-people-happier-life-satisfaction-others.html>
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- 5 <http://www.lse.ac.uk/newsAndMedia/news/archives/2015/08/Church&MentalHealth.aspx>
- 6 <http://relationshipsinafrica.com/religion/are-religious-people-happier-people>
- 7 Technically speaking, a small number of these individual studies are themselves summaries or meta-analyses, so the total number of individual studies surveyed is greater even than this, but for simplicity's sake we can say it comprises 139 studies.
- 8 A few of these earliest studies are actually included in one of the summary studies included in this report.

religious affiliation

1.1 religious affiliation and subjective well-being

introduction

The group of studies that fall in the cross section between religious affiliation and subjective well-being are perhaps the most challenging to analyse. These categories have the lowest threshold in our matrix, with minimal religiosity and well-being used as indicators, and they can be used to denote a range of characteristics within studies that do not provide further evidence for categorisation purposes, such as quantifiable data indicating mental or physical health. Religious affiliation is a low threshold category covering those who identify with religion to varying degrees, ranging from a cultural affinity to full community participation. Similarly, subjective well-being could be applied to varying contexts, from work and family life to recovery from a serious illness.

studies

The earliest study in our matrix that looks at both religious affiliation and subjective well-being is Alexander and Duff's (1992) comparison between two retirement communities, one of retired religious professionals and the other of retired secular professionals. Data were collected from 156 interviews with a specific focus on the influence of religiosity and alcohol use on personal well-being. Duff found that residents in the community with religious affiliations scored higher on measures of life satisfaction, social activity and religiosity, and lower on death anxiety and alcohol consumption.

In a different setting, Tix and Frazier (1998) looked at religious coping in stressful life events. They investigated the potential moderation of such effects by religious affiliation (i.e. Catholic, Protestant). The study was conducted among patients and significant others coping with the stress of kidney transplant surgery. At three and 12 months after transplantation the results showed there was better adjustment in both over time that could be generally associated with religious affiliation.

It is important to note that not all of the studies in this category on the matrix showed a positive correlation between religious affiliation and well-being. Iecovich (2002) looked at religiousness and subjective well-being among Jewish female residents of old age homes in Israel, with a sample of 464 respondents in 48 homes for the elderly. Iecovich made use of self-rated religiousness and religious faith scales (Ben-Meir & Kedem, 1979) and measured subjective well-being by the Philadelphia Geriatric Centre Morale Scale (Lawton, 1975). The findings reveal that the majority of the participants define themselves as traditional, orthodox, or ultra-orthodox. Multiple regression analysis found that religiousness did not affect the residents' subjective well-being. As we can see, in this case no positive correlation was found between religious affiliation and well-being, suggesting limitation and challenges to the relationship between the two.

Ball et al. (2003) provides us with an example of a study of a group that could potentially benefit from religion, as it has been found to be a significant protective resource against many types of maladaptive adjustment outcomes, among adolescent samples. This particular study focuses on African-American, female, urban adolescents who are at risk from adverse adjustment outcomes, and draws attention to the importance of identifying protective factors. The sample included 492 African American females aged between 12 and 19, who completed measures on religiosity, sexual activity, self-esteem, and psychological functioning. The study found that most of the adolescents identified as Christian, reported belief in God, and attended religious services. Greater overall religiosity was associated with greater self-esteem and better psychological functioning.

In contrast to the previous study, Suhail and Chaudhry (2004) worked to determine the prevalence and predictors of personal well-being in the Muslim culture of Pakistan. In addition, the study aimed to compare the current ratings of subjective well-being with those obtained from other areas of the world. To make this survey representative of Pakistani people, there were 1,000 participants, aged 16-80, living in diverse areas of the provincial capital, Lahore. Visits were conducted in ten localities, ranging from upper-class areas to congested inner-city locations and to Kacchi Abadies (slum settlements). Excluding demographic information, responses of the survey were collected on multiple dimensions, including religiosity. In this case, general well-being was assessed using the Faces Scale and Ladder Scale of Life Satisfaction. The study found that work satisfaction, social support, religious affiliation, social class, income level, and marital status and satisfaction were found to be good predictors of subjective well-being. This serves as an example where religious affiliation has a positive correlation with subjective well-being in a context where it is coupled with other factors indicating a comfortable lifestyle.

An interesting study for gauging the difference within the spectrum of religious affiliation is Green and Elliot's (2010) work on religion, health and psychological well-being, using

work and family as a control. The results of this indicate that people with religious affiliation tend to report better health and happiness, regardless of religious affiliation or activities, work and family, social support, or financial status. The study also showed that people with liberal religious beliefs tend to be healthier but less happy than those with fundamentalist beliefs. This is significant in making the distinction between liberal and fundamentalist involvement and shows evidence of different effects at different ends of the spectrum.

In addition to understanding the range of findings within these categories, it is important to draw attention to the spectrum of positive correlations. Snoep (2007) saw the benefit of making comparisons within this area and used data from three countries: the USA, the Netherlands and Denmark. Seven self-report indicators of religiosity were used, with happiness measured using a single question on life-satisfaction. Indicators included time spent belonging to a religious denomination, alongside other factors. It is noted that the correlations between religious affiliation and happiness appear to be positive but weak. The correlations are stronger in the USA than in the Netherlands and Denmark, indicating that the study's significance lies in the move to compare the USA with other countries rather than showing a correlation between religion and happiness. One finding of particular interest is that the pattern of correlation is not much different among people who might benefit more from the support of religion, such as widows. Again, this highlights the complexity of understanding the relationship between religiosity and well-being as it shows that a positive correlation between the two does not necessarily indicate that religiousness is always a blessing.

Religious and spiritual coping are concepts often associated with religious affiliation and well-being. These are the use of religious or spiritual beliefs, attitudes or practices to reduce emotional distress. Green et al. (2011) looked at the utilisation of religious and spiritual coping and their relationship to quality of life among patients with emphysema, in a two-year longitudinal follow-up study. Of the participants, 90% considered themselves at least slightly religious and spiritual. The patients reported using both negative religious coping, such as questioning God, and positive religious coping, such as prayer. The use of these coping strategies among the patients with emphysema was more than the healthy control subjects at follow-up. However, the study indicated that greater use of religious and spiritual coping was associated with poorer illness-related quality of life. Though this shows an inclination towards using religion as a coping method among patients with emphysema, in this instance, there is no indication that religious affiliation is conducive to well-being.

The most recent study in our matrix is the ONS study (2016) that measured personal well-being in the UK over three years from 2012 to 2015. While all religions except for Sikhs

showed higher levels of anxiety than those reporting no religion, overall religious people exhibited better subjective well-being. When measured on the indicators of happiness, life satisfaction and the extent to which participants felt the things they do in their life are worthwhile, those with a religious affiliation reported higher levels of well-being. There was variation in the results from different faiths, and in some cases a particular faith showed lower scores on an indicator of well-being, such as Buddhists reporting slightly lower life satisfaction than no religion. Looking at the results from all four measures, people with a religious affiliation consistently scored higher on measures of indicators of subjective well-being.

Hoeverd and Sibley (2013) tested a religious buffering hypothesis. They show that religious affiliation provides a protective buffer against the corrosive effects on subjective well-being of living in impoverished conditions. For the purpose of this study, a national probability sample was tested with an objective indicator of the deprivation of participants' local neighbourhood, derived from census data. This indicated that religious people living in deprived neighbourhoods were higher in subjective well-being than their non-religious counterparts living in the same neighbourhoods. It is key to note that it was in impoverished conditions that the difference in well-being between religious and non-religious people was apparent; those living in affluent neighbourhoods showed comparably high levels of subjective well-being regardless of whether or not they were religious. These findings cause us to consider the role of other factors in the correlations found between religious affiliation and subjective well-being.

conclusion

Our matrix shows that there is evidence of a positive correlation between religious affiliation and subjective well-being, with six of the eight studies included supporting this. However, the nature of the task at hand demands deeper analysis of this positive correlation and compels us to consider influential factors operating in the spectrums within this category. Not all of the studies show a strong correlation, indicating varying effects of religious affiliation on well-being. Furthermore, the disparity between those with liberal and fundamentalist involvement in religion in Green and Elliot's (2010) study and their health and happiness shows the complexity of working within general terms. Both Suhail and Chaudhry's and Sibley's studies draw attention to the effects of affluence and other factors in partnership with religious affiliation. Overall, we can see that there is a positive correlation, yet the extent of this correlation can be

There is evidence of a positive correlation between religious affiliation and subjective well-being, with six of the eight studies included supporting this.

challenged and cannot be fully understood without acknowledging other influential factors.

1.2 religious affiliation and mental health

introduction

This section concerns studies that examine the possible link between religious affiliation, that is, identification with a religion or religious group, and mental health. As intimated earlier, affiliation is a social or cultural indicator that is not necessarily related to religious belief or involvement, though some studies examine religious affiliation alongside other markers of religiosity. While the term 'mental health' can be used quite broadly to incorporate most indicators of inner well-being, in this section it is given a more narrow treatment. Whereas subjective well-being (covered earlier and in subsequent chapters) refers to self-reported states of life satisfaction, happiness and a sense of meaning, mental health is given a more clinical focus and refers to measures of depression, anxiety and the like.

studies

In a study of the influence of religiosity and alcohol use on personal well-being, Alexander and Duff (1992) compared indicators of health and well-being, including anxiety, between two retirement communities, the first of which was identified as secular while the second was religiously affiliated. Based on data from 156 interviews, it was found that residents of the religiously affiliated community scored lower on measures of anxiety and alcohol consumption and also higher on subjective well-being indicators, such as life-satisfaction and social activity.

Smith et al. (2003) investigated the relationship of religious affiliation, among other factors, on treatment outcomes of 251 female inpatients in an eating disorder treatment program. The analysis showed that religious affiliation was not associated with the outcome of their treatment and there was no correlation between religious affiliation and mental health in this instance. Ball et al. (2003) examined a sample of 492 African-American female adolescents living in cities, recording religious affiliation, belief, and social participation. While the study did not find strong correlations for affiliation and mental health on its own, it did find that greater religiosity on these three indicators combined was associated with better psychological functioning.

More directly, Koenig (2007b), in a study of religion and depression in older medical inpatients, examined 996 medical inpatients aged over 50 years who had been identified with depressive disorder via a structured psychiatric interview, compared with a group of 428 non-depressed inpatients across four hospitals. Religious characteristics were also measured. The study found that after controlling for demographic and physical health factors, depressed patients were more likely to indicate no religious affiliation, and more likely to identify as 'spiritual but not religious'.

In a more recent study, Balbuena et al. (2013) examined religious and spiritual self-identification and major depression for 12,583 subjects in a 14 year follow-up project, using the Canadian National Population Health Survey. It should be noted that this sample size is significantly larger than those in the other studies in this category. The research found that neither subjective religiosity nor affiliation was related to major depressive episodes. This commands our attention, as the largest effort to examine the link between religious affiliation and mental health evidenced no relationship.

conclusion

Overall, there is some evidence to suggest that religious affiliation can have a positive effect on mental health. In the instance of Ball et al. (2003) the correlations were not strong, but religious affiliation was seen to have a positive effect when combined with belief and social participation. As affiliation is not dependent on further measures of religious involvement, but does incorporate those with greater religious involvement, the mixed results within this group of studies is not surprising. One study did not show religious affiliation as a positive influence on mental health, with Balbuena et al. (2013) reporting no relation to major depressive episodes. This is perhaps the most significant result, as it is by far the largest study, with a sample size of 12,583. None of the studies evidenced a negative effect of religious affiliation on mental health, but the lack of a relationship in the study with the most participants challenges the notion that mere affiliation with a religion can have a noticeable effect on mental health.

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1.3 religious affiliation and physical health

introduction

The list of studies that explores the relationship between religious affiliation and physical health is scarcely populated. There are a few reasons for this. Affiliation, that is identification with a religion or religious group, is the loosest of the religiosity markers identified, as it can often be a social or cultural indicator that is not necessarily predicated on religious belief or involvement. Subjective religiosity or religious attendance are generally preferred as indicators of religiosity in the research, as providing a more robust measure of a person's religiosity.

There are also limitations for the second variable, physical health. Where physical health is examined in the research, it is often linked to health supporting behaviours (another variable examined in this project) that in turn maintain a person's physical health or support their recovery from illness. Or else, some studies find a link between a person's outlook, related to their subjective well-being, as encouraging faster or more effective recovery. As such, where links between religious affiliation and physical health do exist, they are often the consequence of other stronger correlations.

studies

Friedlander et al. (1986) provides one of the earliest studies in the area of religious affiliation ('orthodoxy'), determined by interview, and physical health. The study examined the degree to which religious affiliation is an independent risk factor for incidents of coronary heart disease for 539 individuals who had suffered heart attacks against a control group. Among other findings, the study showed that secular subjects had a significantly higher risk of myocardial infarction compared to religiously affiliated subjects, independent of other variables in the study. The correlation continued in a subsample of cases examined a few months after the acute phase of infarction. The study concluded that it would be important to identify which further components of religiosity were associated with reduced risk.

Second is a meta-analysis of studies in the field from 1965 to 1995. In 'The role of religion in promoting physical health', Hill and Butter (1995) found a positive relationship between affiliation and physical health indicated in the research over this period, but that empirical evidence had not been entirely consistent. Certain illnesses, including cardiovascular disease, gastrointestinal disorders, and a number of forms of cancer, were less prevalent among those identifying as religious. They also suggested a connection between health supporting behaviours of the religiously affiliated and improved physical health outcomes.

Green and Elliott (2010) compared the effects of religiosity, including affiliation, on physical health as well as well-being. The results of health and well-being were self-reported by the subjects. The results in this study indicate that those who identified as religious tended to report better health outcomes. This correlation persisted regardless of the particular affiliation and activities, as well as other social factors and economic status.

Schnall et al. (2010) took a study of 92,395 participants from the Women's Health Initiative Observational Study and examined the association of religious affiliation, social participation, and subjective religiosity with cardiovascular outcomes and death. Self-reported religious affiliation was associated with a reduced risk of death, as were frequent social participation and subjective religiosity. However, the study also found self-reported religiosity associated with higher risks of coronary heart disease mortality in some models.

It is difficult to attribute religious affiliation alone to supporting physical health, and it may be that other variables, such as belief and social participation, have a greater part to play in the connection.

conclusion

Each of the studies in this section found some positive connection between religious affiliation and physical health, though there was variation in the results. The small number of studies in this category of the matrix presents us with a problem, as it is simply not enough to evidence a link between religious affiliation and physical health. Instead, the lack of studies causes us to consider that other factors are likely to be more influential in improving physical health. Therefore, it is difficult to attribute religious affiliation alone to supporting physical health, and it may be that other variables, such as belief and social participation, have a greater part to play in the connection.

1.4 religious affiliation and health supporting behaviours

introduction

In comparison with other categories in our matrix, this one is scarcely populated, with only five studies meeting the criteria. Religious affiliation is simply identification with a religious group, including those who nominally associate with a particular religion while not actively engaging in activities or assenting to tenets. Health supporting behaviours are those that tend to have a positive effect on physical health, such as by preventing

substance abuse or addiction, or by encouraging exercise or healthy eating. The reason for a lack of studies in this area may be that health supporting behaviours do not give an immediate positive outcome. The studies do not determine whether religious affiliation is good for us; rather, that it is related to behaviours that may be good or bad for us. Though any links found may support the case for the effect religion has on well-being, we cannot see the benefits of religious affiliation in these studies themselves and so there is perhaps less motivation to look at health supporting behaviours, even in conjunction with health itself.

studies

The earliest study in our matrix dealing with religious affiliation and health supporting behaviours is from Alexander and Duff (1992) on the influence of religiosity and alcohol use on personal well-being. The sample included participants from two communities, one of retired secular professionals and one of retired religious professionals. Data from 156 interviews were examined dealing with factors including religious affiliation in the form of religiosity and the extent of alcohol use, death anxiety and perceived health. The study showed that the residents of the religious community scored higher on measures of religiosity, thus confirming their religious affiliation, and lower on death anxiety and alcohol consumption.

Hill and Butter (1995) looked at the role of religion in promoting physical health in a literature review of studies from 1965-1995. Overall, a positive relationship between religion and physical health is suggested, though empirical evidence has not been entirely consistent with this relationship. In terms of health supporting behaviours, studies showed a negative relationship between various measures of religious commitment and drug use, and show that one's connection with others may influence health.

In a study on race, religion and abstinence from alcohol in late life, Krause (2003b) aimed to see whether involvement in religion helps to explain racial differences in alcohol consumption. A nationwide sample in the U.S. was assessed and the respondents asked whether they consume alcohol and whether they affiliate with 'fundamentalist' congregations, among other factors. The findings were that older people who affiliate with fundamentalist churches and who find meaning in religion are more likely to avoid drinking.

Race differences in drinking were no longer statistically significant once the religion measures were added to the model.

There is a strong consensus among these studies that religious affiliation is positively related to health supporting behaviours.

Moving away from substance use to other behaviours, Trinitapoli and Regnerus (2006) looked at religious affiliation and HIV risk behaviours among married men in rural Malawi. The data showed substantial variation according to religious affiliation. Men belonging to Pentecostal churches consistently report lower levels of both HIV risk behaviour and perceived risk.

In a less specific context, Hill et al. (2007) looks at the relationship between religious affiliation and healthy lifestyles, using evidence from a survey of 1,396 Texan adults. The purpose of the study was simply to test whether religious individuals tend to engage in healthier lifestyles than individuals who are less religious. The results indicated that religious individuals do tend to engage in healthier lifestyles; this pattern is similar for men and women and across race/ethnic groups. Interestingly, this association between religious affiliation and healthy lifestyle may be present to a lesser degree in old age.

It is important to remember that there are only a few studies evidencing this link.

conclusion

Overall, there are fewer studies that deal with health supporting behaviours than other measures of well-being. There is a strong consensus among these studies that religious affiliation is positively related to health supporting behaviours. In all of the studies there was shown to be a link, with some going even further and ruling out other factors. It is, however, important to remember that there are only a few studies evidencing this link. Though the evidence is wholly positive, it is difficult to confirm a definite link on the basis of only five studies.

subjective religiosity

2.1 subjective religiosity and subjective well-being

introduction

This is a fairly large category, with 20 studies considering the relationship between subjective religiosity and subjective well-being. This is unsurprising, as both are the loosest categories in our matrix. Subjective religiosity is the degree of influence that beliefs have on a person's decisions and lifestyle and the sense of having a personally meaningful relationship with God or a higher power. Subjective well-being is measured in terms of self-reported happiness. It includes life satisfaction, personal evaluation of progress towards life goals, and having a sense of meaning in life. In this section, we can see the phenomenon of religious coping. Religious coping is an increase in subjective religiosity in response to factors that have a negative impact on well-being. The person's well-being affects their religiosity rather than the other way around. In some cases, religious coping can ultimately improve well-being by off-setting the effects of illness.

studies evidencing a positive relationship

A significant proportion of the studies in this section of our matrix indicate that higher levels of subjective religiosity have a positive effect on subjective well-being. Ellison (1991) analysed the relationship between religious involvement and subjective well-being. Results showed that individuals with strong religious faith reported higher levels of life satisfaction, greater personal happiness, and fewer negative psychosocial consequences of traumatic life events. Similarly, Krause (2002) studied religious meaning and subjective well-being in late life and found that those who derive a sense of meaning from religion tend to have higher levels of satisfaction, self-esteem, and optimism.

Krause and Ellison (2003) looked at forgiveness by God, forgiveness of others, and psychological well-being in late life. Results suggested that forgiving others tends to enhance psychological well-being and that forgiveness by God may be a factor in this

process. Older people who feel they have been forgiven by God are less likely to expect transgressors to perform acts of contrition.

In a sample with younger participants than most studies in this matrix, Milevsky and Levitt (2004) studied intrinsic and extrinsic religiosity in preadolescence and adolescence in a sample of 649 students. Participants who scored higher on both intrinsic and extrinsic religiosity had more positive scores on psychological adjustment measures than the nonreligious. In another study within a specific age-group, Branco (2007) looked at religious activities, strength from faith, and social functioning among a sample of 172 African American and 1,595 white nursing home residents from 270 nursing homes. It was found that drawing strength from faith was positively related to social functioning.

Lavric and Flere (2008) considered the role of culture in the relationship between religiosity and psychological well-being in five different cultural environments. The data showed that higher general levels of religiosity in society are linked to more positive correlations between religiosity and psychological well-being.

Several studies indicating a positive relationship between subjective religiosity and subjective well-being were conducted in a medical context, though they use self-reported measures of well-being rather than mental or physical health as indicators. O'Brien (1982) looked at religious faith and adjustment to long-term hemodialysis (a process used to restore the proper balance of electrolytes in the blood). The patient's perception of the importance of religious faith was found to be positively related to interactional behaviour. Perceived importance of religious faith revealed a pattern of increasingly positive patient attitudes occurring over time.

In the context of mental health, Krause (2009) looked at religious involvement, gratitude, and change in depressive symptoms over time. Using data from a national longitudinal study of older adults in the U.S., they showed that individuals with a strong sense of God-mediated control will also feel more grateful. McNulty et al. (2004) looked at perceived uncertainty, spiritual well-being, and psychological adaptation in a sample of 50 individuals with multiple sclerosis. They found that spiritual well-being exerts an appreciable influence on adaptation to MS and also mitigates the impact of uncertainty or adaptation. In a study on the influence of religion on patient satisfaction, Benjamins (2006) used data from the national Health and Retirement Study to assess the relationship between the two. Results showed that higher levels of religious salience are significantly related to higher levels of satisfaction with one's healthcare.

Religious coping has emerged as a theme in this category, with seven studies alluding to it in connection with subjective religiosity and well-being. Acklin et al. (1983) considered the role of religious values in coping with cancer in a sample of 44 people, some of whom

did not have cancer, but had other medical conditions. In this instance, religious values included attribution, religious orientation, and psychological well-being. In the group of cancer patients, higher levels of attributed life meaning were positively linked with intrinsic religious orientation, and associated with lower levels of despair, anger-hostility, and social isolation. Similarly, Johnson and Spilka (1991) looked at the roles of clergy and faith in coping with breast cancer. They found that religion is an important resource for the majority of these breast cancer patients, and an intrinsic religious orientation helps one cope with breast cancer.

Religious coping can be used as a way to deal with terminal illness and fear of death. Roberts et al. (1997) considered factors influencing views of patients with gynaecologic cancer about end-of-life decisions. A self-administered questionnaire was completed by 108 women with various stages of cancer and 39 women with benign gynaecologic disease. They found that 76% of respondents felt that religion had a serious place in their lives, with 49% becoming more religious since their cancer diagnosis, whereas no one became less religious. In addition, 93% of patients reported their religious lives helped sustain their hopes, 41% felt they supported their self-worth, 17% indicated they helped give their suffering meaning. Shaw et al. (2006) considered the effects of prayer and religious expression within computer support groups on women with breast cancer. It appeared that several different religious coping methods were used such as trusting God in regards to the cause of their illness, believing in an afterlife and therefore being less afraid of death, finding blessings in their lives and appraising their cancer experience in a more constructive religious light.

There are a few studies that pick up on a theme of religious coping in studies focused on older patients. Ayele et al. (1999) considered whether religious activity improves life satisfaction for some physicians and older patients. Of the sample of 55 patients, 86% used religion as a coping resource, and intrinsic religious activity had positive associations with life satisfaction, even after controls were taken into consideration. Krause (1992) looked at stress, religiosity, and psychological well-being among older black people. The research used data from a nationwide survey and found that religiosity tends to counterbalance or offset the deleterious effects of physical health problems and deaths among family members by bolstering feelings of self-worth. Fehring et al. (1997) looked at spiritual well-being, religiosity, hope, depression, and other mood states in elderly people coping with cancer. The sample consisted of 100 people with a diagnosis of cancer and a mean age of 73 years. They found a consistent positive correlation among the factors of religiosity, spiritual well-being, hope, and other positive mood states. Patients with higher levels of intrinsic religiosity and spiritual well-being reported having significantly higher levels of hope and positive moods.

difficult to categorise

Two of the studies in this category did indicate a relationship between these indicators of religiosity and well-being, but in a way that is difficult to categorise. In contrast to most of the studies, Kallay (2008) considered how subjective well-being affects subjective religiosity in an investigation of the relationship between religious growth, positive affect, and meaning in life in a sample of female cancer patients. It was found that the relationship between positive affect and religious growth is mediated by the individual's ability to find positive meaning for her life. This introduces another factor in the relationship between subjective religiosity and subjective well-being, rather than showing a straightforward causal relationship.

In a study on happiness, materialism, and religious experience in the US and Singapore, it was found that happiness was not associated with people's material accumulation, but with their perceived inner world. Happy people see their religion as something they are rather than something they do. This offers an insight into what sort of subjective religiosity might have the most positive effect on a subjective sense of well-being.

no correlation

Only one study found no evidence of a correlation between subjective religiosity and subjective well-being. Iecovich (2002) looked at religiousness and subjective well-being among 464 Jewish female residents of 48 homes for the elderly in Israel. Their religiousness was measured with self-rated scales of religiousness and religious faith. Multiple regression analysis revealed that religiousness did not affect the residents' subjective well-being.

conclusion

There are a great deal of studies on the relationship between subjective religiosity and subjective well-being, with all but one study evidencing this measure of religiosity as having some sort of effect on subjective well-being. The study that showed no correlation is based on a good sample size; however, it is rooted in the very specific context of elderly Jewish women living in Israel. This suggests that the anomaly may be a result of cultural factors, and this may not be indicative of significant variation in the effects of subjective religiosity on subjective indication of well-being. Of the studies that showed subjective well-being as being positively affected by subjective religiosity, a large number of them were conducted in a medical context, using samples of people with poor health. For this, the phenomenon of religious coping emerged, with religiosity being used as a way to offset the effects of poor health, and consequently promoting a better sense of well-being. There are also several studies indicating a relationship between the two in a more general

sense, not specifically tied to a medical context. All of this considered, there is a substantial amount of evidence to suggest that those who report higher levels of subjective religiosity tend to indicate a better degree of subjective well-being.

2.2 subjective religiosity and mental health

introduction

Subjective religiosity refers to the degree of influence that a person's religious beliefs have on his or her decisions and lifestyle, as well as the sense of having a personally meaningful relationship with God or a higher power. It is often expressed in the research in terms such as 'intrinsic religiosity', 'religious well-being', 'strength from faith' and similar. The wide range of studies that examine religious coping often draw on concepts of intrinsic religious orientation, though are often concerned with the practices that subjective religiosity often manifests as, such as personal prayer.

The overall thrust of the research in this category indicates that higher degrees of subjective religiosity tend to correlate with improved mental health outcomes. Most studies found a direct connection, while two found no correlation.

studies

Fehring et al. (1997) conducted a study of spiritual well-being, religiosity, hope, depression and other mood states in 100 elderly cancer patients with high and low subjective religiosity from acute care units of two hospitals in the U.S. Those who identified as religious were found to be less likely to exhibit negative moods and depressive symptoms. Maltby and Day (2000), in a study of 360 English university students, found that depressive symptoms are significantly associated with lower scores on measures of subjective religiosity. Laurencelle et al. (2002) also found a direct correlation between subjective religiosity and mental health outcomes. In a sample of 210 adult participants, the results showed that subjects with high subjective religiosity, including reliance on a higher power, had significantly lower anxiety and depression scores than subjects with lower subjective religiosity scores.

Koenig (2007b), in a study of 996 older medical inpatients with depression and 428 non-depressed inpatients, found that depressed patients were more likely to score lower on subjective religiosity. Further, depression severity was associated with lower subjective religiosity. Social factors only partly explained these relationships.

Chang and Skinner (2003) examined longitudinal data from 2,427 male veterans who received outpatient care, assessing indicators of subjective religiosity and mental health. Ninety-six of the subjects reported sexual assault in the survey. The data showed that these subjects had significantly lower mental health status and higher levels of depression. However, the degree of depression associated with sexual assault was lower for those who had a higher level of subjective religiosity.

Tarakeshwar et al. (2003) looked at religious coping among Hindus in the US along with measures of mental health. Religious coping is a tool used by patients to cope with the fears, helplessness or uncertainty that accompany their illnesses and is closely linked to subjective religiosity. Religious coping tends to increase with the severity of the illness, though it is also used by those without a serious illness, in the midst of daily stresses. Generally, religious coping is related to better mental health outcomes and faster adaptation to stress. The research showed that religious coping was an important construct for Hindus and connected to better mental health. In another study of religious coping and mental health by Johnson and Spilka (1991), it was found that subjective religiosity helped breast cancer patients mentally cope with their illness.

Subjective religiosity can also interact with other religiosity indicators. For instance, Jeppsen et al. (2015) looked at the relationship between prayer and mental health, and found that subjective religiosity (closeness to God and a sense of God-mediated control) was an important mediator in the correlation between personal participation and mental health. Closeness to God proved to be a superior mediator.

Rippentrop et al. (2005) studied the relationship between subjective religiosity (linked to religious coping) and mental health in a chronic pain population. The research showed that self-rankings of subjective religiosity significantly predicted mental health status. A lack of forgiveness and negative religious appraisals were associated with poorer mental health outcomes.

Barber (2001) surveyed a systematic sample of 6,923 Palestinian secondary school students living in the West Bank and the Gaza Strip, measuring subjective religiosity among other factors of religiosity, and depression. Ninety-eight percent of subjects were Muslims. Subjective religiosity and other measures of religious involvement were significantly and inversely related to depression, especially in female students.

no correlation

Not all the studies found a positive link between subjective religiosity and mental health. Smith et al. (2003) investigated the relationship of various measures of religiosity with the treatment outcomes in an eating disorder inpatient treatment program, which included

251 women diagnosed with an eating disorder. The analyses revealed that neither subjective religiosity nor affiliation were associated with treatment outcomes.

Bussing et al. (2009) analysed whether subjective religiosity, measured as reliance on God's help, was associated with mental health-related quality of life for 5,248 patients with chronic diseases. Analysis revealed that reliance on God's help was not generally associated with improved mental health-related quality of life. Only in small subgroups were marginal correlations found. However, the research did show the perceived importance of religion in coping with illness for many subjects.

conclusion

In conclusion, the majority of studies evidenced a negative correlation, suggesting that higher levels of subjective religiosity had a positive impact on mental health, while depressive symptoms are associated with lower scores on measures of subjective religiosity. Of the 12 studies, only two did not support this relationship. In the case of one study, this may have been due to the specific context of women diagnosed with eating disorders. The other, with a significantly larger sample size, was more general in focus and considered the effects of reliance on God's help on mental health-related quality of life. No correlation was found between the two, though it did show the perceived importance of religious coping with illness for many of the participants. While these studies did not show a direct correlation between levels of subjective religiosity and well-being, they do not contradict the consensus among the majority of studies. From this, it seems that higher levels of subjective religiosity have a direct, positive effect on mental health.

Higher levels of subjective religiosity had a positive impact on mental health, while depressive symptoms are associated with lower scores on measures of subjective religiosity.

2.3 subjective religiosity and physical health

introduction

This is a fairly small category, with only five studies examining the relationship between subjective religiosity and physical health. Subjective religiosity is the degree of influence that a person's beliefs have on their decisions and lifestyle and the sense of having a personally meaningful relationship with God or a higher power. Physical health is distinct from subjective well-being, mental health, or the behaviours that support physical health. This is measured by indicators including chronic pain, recovery rate from illness, and

mortality rate. There may be fewer studies in this area because looking at self-reported religiosity alongside medical data seems counterintuitive as opposed to two self-reported measures or two 'objective' sets of quantitative data.

positive effect

Tartaro et al. (2005) studied the effects of self-reported religiosity or spirituality and gender on blood pressure and cortisol stress responses. They found that participants with higher composite religiosity or spirituality scores, levels of forgiveness, and frequency of prayer showed lower cortisol stress responses. In another study, Dalmida et al. (2009) looked at spiritual well-being, depressive symptoms, and immune status among 129 predominantly African-American women living with HIV/AIDS. The data showed that spiritual well-being and religious well-being accounted for a significant amount of variance in CD4 cell percentages (CD4 is a type of white blood cell that helps fight infection). These studies both suggest that subjective religiosity has a positive impact on physical health.

no correlation

McIntosh and Spilka (1990) looked at the relationship between religion and physical health in 122 patients with chronic musculoskeletal pain. Interestingly, they found that subjective religiosity in the form of self-rankings of religious/spiritual intensity had a significant effect on mental health status. They found that subjective religiosity was inversely related to physical health outcomes. There is no mention of a direct relationship between any form of subjective religiosity and physical health, indicating that they did not find a relationship between the two.

Bussing et al. (2009) considered reliance on God's help as a measure of intrinsic religiosity in healthy elderly patients with chronic diseases and whether there are correlations with health-related quality of life. Findings from a sample of 5,248 individuals indicated that reliance on God's help was not generally associated with better physical health-related quality of life; they suggested it should be used as a resource to cope rather than an independent contributor to health related quality of life.

mixed results

Schnall et al. (2010) looked at the relationship between religion and cardiovascular outcomes and all-cause mortality using data from 92,395 participants of the Women's Health Initiative Observational Study. They considered the relationship between strength and comfort from religion with subsequent cardiovascular outcomes and death and found that religious strength and comfort were associated with a reduced risk of all-cause

mortality. The results for coronary heart disease (CHD) were different and no association was found between measures of religiosity and CHD. Subjective religiosity was shown to have an effect on mortality rates overall, indicating that it is related to physical health. This is by far the largest sample size in this category and gives some weight to the notion of a relationship between subjective religiosity and physical health. That said, the mixed results show that not all aspects of physical health are affected.

conclusion

It is difficult to make assertions about the nature, or even existence, of a relationship between subjective religiosity and physical health based on the evidence of only five studies. Though one of the studies evidencing a relationship is based on a significant sample size, the results are mixed and only indicate a link with reduced mortality risk without further information as to why this may be the case. Two of the studies included could not find evidence to suggest that subjective religiosity has an effect on physical health. This is not enough to support even a relationship between them, let alone a positive effect of subjective religiosity on physical health.

2.4 subjective religiosity and health supporting behaviours

introduction

There are not many studies on both subjective religiosity and health supporting behaviours in our matrix. Subjective religiosity is the degree of influence that beliefs have on a person's decisions and lifestyle and the sense of having a personally meaningful relationship with God or a higher power. Health supporting behaviours are those that tend to have a positive effect on physical health, such as by preventing substance abuse or addiction, or by encouraging exercise or healthy eating.

It is noticeable that there are fewer studies focused on health supporting behaviours as an indicator of well-being, perhaps because the presence of these behaviours is of less interest than, say, mortality rates as an indicator. There are far more studies concerned with whether religion may help us to live longer than if it is likely to have an effect on the amount of alcohol we drink. That said, health supporting behaviours are valuable measures of well-being and can inform our understanding of how religion makes us "well", particularly in the physical sense.

positive effect

In a study on race, religion, and abstinence from alcohol in later life, Krause (2003b) aimed to see whether involvement in religion helps to explain why older black people are more likely to avoid drinking alcohol than older white people. Results from a series of interviews showed that older people who affiliate with fundamentalist Churches and who find meaning in religion are more likely to avoid drinking. Older blacks were shown to find more meaning in religion, and had stronger relationships between religious meaning, self-esteem, optimism and life satisfaction.

Nonnemaker et al. (2003) looked at public and private domains of religiosity and adolescent health risk behaviours using evidence from the National Longitudinal Study on Adolescent Health. Results showed both public and private religiosity was protective against cigarettes, alcohol, and marijuana use. A closer analysis of the results revealed that private religiosity was more protective against experimental substance use as opposed to regular use.

negative effect

Horton et al. (2012) examined attachment to God and health risk-taking behaviours in college students drawing on insights from attachment theory. They considered whether three types of attachment to God (secure, avoidant, and anxious) were associated with health-risk behaviours in a sample of 328 undergraduate college students. Contrary to prior assumptions, secure attachment to God was not found to be inversely associated with recent alcohol or marijuana use. Avoidant and anxious attachments to God were found to be associated with higher levels of drinking. Anxious attachment to God was associated with marijuana use; and avoidant attachment to God was associated with substance use. The patterns were gender specific and showed that problematic attachment to God is more often linked to negative outcomes among men.

conclusion

There are not enough studies in this area to draw any clear conclusions on the relationship between subjective religiosity and health supporting behaviours. From the studies we do have, two suggest that subjective religiosity encourages good health supporting behaviours and one indicates that this is not the case. The results are mixed, suggesting that, even if there were more studies, there is a possibility of variation in the type of effect subjective religiosity has on health supporting behaviours.

religious belief

3.1 religious belief and subjective well-being

introduction

In this section, we will look at the variable of religious belief, that is, belief in God or a higher power, and assent to tenets or doctrines of a religious group, for example, belief in an afterlife. The effect of religious belief will be examined in studies on subjective well-being. In the context of this study, subjective well-being refers to self-reported happiness, life satisfaction (a personal evaluation of progress towards life goals), and a sense of meaning in life. Again, this is a low threshold category, with no medical evidence required, instead relying on self-measured indicators of well-being. Many of the studies refer to religious coping as a tool to support subjective well-being. This is important to bear in mind as, at a first glance, a positive correlation between the two may seem to imply a causal relationship where there is not one. To safe-guard against this, due attention must be given to whether or not religious coping is a factor.

studies evidencing relationship

One of the earliest studies in our matrix evidences a positive relationship between religious belief and subjective well-being. Spilka et al. (1991) looked at the role of religious beliefs as part of religiosity in coping with childhood cancer, interviewing 265 members of 118 families. Evidence showed that religion, including belief, appeared to act as a protective-defensive system that encouraged efforts by family members to cope constructively with the crisis of illness, supporting their subjective well-being.

Raleigh (1992) studied 90 patients, 45 with cancer and 45 with other chronic illnesses. It found that the most common resources for supporting hopefulness, linked to subjective well-being, were family, friends, and religious belief. Patients were able to identify specific ways in which resources including subjective well-being supported hope, including helping to keep a positive outlook in the face of illness, and working as part of a behavioural strategy for maintaining hope. Carver et al. (1993) showed similar findings in a study of

women with early stage breast cancer. Religious belief provided one of the most common coping resources, which helped to mediate the effect of a positive outlook on distress.

Fehring et al. (1997) examined 100 elderly people diagnosed with cancer, measuring for religiosity, depression, hope, and other mood states. They found a consistent positive correlation between 'intrinsic religiosity' encompassing religious belief, and hope and other positive mood states associated with subjective well-being. A consistent negative correlation was found between religious belief and other measures, and negative mood states. In a study by Roberts et al. (1997), the same year, 108 women with cancer and 39 women with benign gynaecologic disease were surveyed. Ninety-three percent of participants reported their religious beliefs helped to sustain their hopes, 41 percent their sense of self-worth, and 17 percent indicated they gave their suffering meaning, all of which support strong subjective well-being.

Holland et al. (1999) examined the role of religious beliefs in coping with malignant melanoma. Religious coping is a tool used to cope with the fears and feelings of helplessness or uncertainty that accompany illnesses and other difficult situations. Religious coping relates to behaviours and patterns that are based on a person's religious beliefs, and their reliance on those beliefs (subjective religiosity). Generally, religious coping is related to faster adaptation to stress and can have an impact on a person's subjective well-being. The research found that there was a correlation between greater reliance on religious beliefs and the use of active coping mechanisms. They suggested that beliefs provide a helpful cognitive framework to help subjects face the existential crises of life-threatening illness.

Siegel et al. (2001) looked at various aspects of religion and coping with health related stress as a buffer or deterrent (this is categorised under subjective well-being rather than physical health as it is concerned with stress). Evidence for religion as a stress buffer and stress deterrent were found, as belief can provide an interpretive framework among other factors.

Ferriss (2002) carried out research on religion and quality of life, testing relationships between subjective well-being in terms of quality of life and religious social participation and belief. The study showed that happiness was associated with doctrinal beliefs, in particular the belief that the world was evil or good. The study illustrates that the content of a person's religious belief is important in relating to subjective well-being.

Studies that explore religious belief often do so alongside other measures of religiosity. For example, Ball et al. (2003) took a survey of 492 African-American females aged 12 to 19 living in urban environments, testing for a range of indicators of religiosity, including religious belief, and subjective well-being. They found that greater overall religiosity, specifically affiliation, belief, and social participation, was associated with greater self-

esteem and better psychological functioning. Belief was shown to be one of several factors positively correlated to subjective well-being.

Corrigan et al. (2003) focused on self-reported measures of religiousness (again this is assumed to encompass their own belief) and well-being in the lives of people with serious mental illness. The results from the sample of 1,824 people showed that both religiousness and spirituality were significantly associated with proxies of well-being and symptoms, but not of life-goal achievement, which would suggest some dissatisfaction related to well-being.

Kirby et al. (2004) surveyed 233 British older adults, both frail and non-frail. The results showed that, after controlling for marital status, age, education, gender and other health problems, the degree of frailty in older people had a negative effect on their subjective well-being. However, religious belief was a significant predictor of subjective well-being and moderated the negative effects of frailty.

Cohen et al. (2005) posited that one way in which religiosity could promote well-being was by reducing fear of death. The aim of the study was to explore various facets of religiosity, including afterlife belief, and life satisfaction (subjective well-being) in young Catholics and Protestants. The findings were as hypothesised, as there were relationships between intrinsic and extrinsic religiosity scales alongside factors including death anxiety and afterlife belief. Baroun (2006) investigated correlations among religiosity, including presence and strength of religious belief, with happiness and life satisfaction for 941 Kuwaiti adolescents. Analysis showed significant and positive correlations among the variables.

Lelkes (2006) used Hungarian survey data to study the impact of religion and economic transition, meaning the transition from a centrally planned to a free-market economy, on happiness. It was found that religious involvement, which presupposes belief and does not specify personal or social participation, contributes positively to individuals' self-reported well-being. Greater ideological freedom was implied among the religious as a contributing factor.

Lavric and Flere (2008) examined several measures of religiosity against subjective well-being in a cross-cultural survey of undergraduate students from five different religious environments: Slovenia, Bosnia and Herzegovina, Serbia, the US, and Japan. Results suggested that the strength and direction of the correlation between subjective well-being and particular aspects of religiosity, including 'intrinsic religiosity' based on religious belief, depended substantially on culture as an influential factor, and found that higher general levels of religiosity at the societal level were linked to more positive correlations.

Noor (2008), in a sample of 389 Malay Muslim women, predicted that religious belief, among other factors, would moderate the relationship between work experience and well-being as opposed to being an additive factor. They observed significant interactions between work experience and religious belief in predicting subjective well-being when measured with reference to life satisfaction, with some variation between older and younger women.

Green and Elliot (2010) also showed the importance of the content of religious beliefs in shaping the interaction with a person's subjective well-being. Using 2006 General Social Survey data, the results indicated that people with fundamentalist religious beliefs tended to be happier than those with liberal religious beliefs. Overall, those with religious beliefs tended to report better happiness regardless of affiliation, social participation, and other social or economic factors.

Schieman et al. (2010), as part of their study on religious involvement among older adults in Washington DC, examined the associations among the belief in divine control and the sense of mattering, a component of the self-concept and subjective well-being. They found that divine control beliefs have particularly strong associations with a sense of mattering among women, African Americans, and those with less education.

no positive correlation

Iecovich (2002) explored the relationship between self-rated religiousness, presumably including belief, and subjective well-being among 464 Jewish female residents of 48 homes for the elderly in Israel. Religiousness was measured through self-rated religiousness and religious faith scales. Subjective well-being was measured by the Philadelphia Geriatric Centre Morale Scale. The findings revealed that the majority of participants defined themselves as traditional, orthodox, or ultra-orthodox, indicating high levels of religious belief. Multiple regression analysis revealed that their subjective well-being was unaffected.

conclusion

A large number of studies fall under the criterion of both religious belief and subjective well-being. This is not surprising, as religious belief is a low threshold category and is a relatively low level of involvement in the context of this matrix, though enough to make a difference. In this instance well-being is subjective and so could mean different things to different people, as opposed to, say, physical health where results are often numerical and quantifiable. Though this may facilitate a heavily populated category, it does cast a shadow of doubt on the overwhelmingly positive result. It is crucial to remember that this is based on subjective evidence and relies mostly on self-reported indicators of well-being rather than an objective measure.

As we can see, 18 out of the 19 studies in this category support the notion that religious belief has a positive effect on subjective well-being. This is a significant majority and causes us to consider religious belief as having a positive effect on well-being overall. The results used to show this may not be the most reliable data in all cases, yet the sheer volume of participants surveyed in such a diverse array of studies indicates that those who hold religious beliefs tend to report higher levels of well-being than those who do not.

The only study that did not produce evidence in accordance with the others was Iecovich (2002). Though other studies in this category used samples of elderly participants, this study is unique in that the majority of responses were from Jewish women who consider themselves from traditional to ultra-orthodox. There is not another study in this category with a similar sample to compare this to, and so there may be other factors at play affecting their well-being in relation to their self-reported religious belief. It is important to note that this study did not support belief as in any way a negative influence on subjective well-being. Therefore, we can come to the conclusion that, overall, religious belief seems to be conducive to subjective well-being.

3.2 religious belief and mental health

introduction

In this section the focus will be on religious belief and mental health. This is a low threshold category, as it only asks for belief in God with no further indication of religious behaviours. It is perhaps easier to distinguish believers from non-believers than it is to categorise or measure affiliation, participation, or religiosity. For this reason, we can expect an analysis of these studies to be a fairly reliable indicator of, at the very least, whether religious belief seems to have an effect on mental health.

Similarly, mental health can be determined through the presence and severity of conditions including depression, anxiety and schizophrenia or data related to depression such as suicide rates. This is a fairly substantially populated category with 16 studies providing evidence on the relationship between religious belief and mental health.

positive effect

Fehring et al. (1997) carried out a study to determine the relationship between depression and religiosity among elderly people diagnosed with cancer. The research found a consistent negative correlation between religious belief and depression for those coping with cancer. This was also supported by Laurencelle et al. (2002), which found that subjects

with a belief in, and reliance on, a higher power had significantly lower anxiety and depression scores in a sample of 210 adult participants.

Krause et al. (2002) examined whether belief in the afterlife might buffer the effect of the death of a significant other on change in self-reported hypertension over a period of three years, in a study of 1,723 Japanese adults aged 60 years and over. Hypertension refers to abnormally high blood pressure that is often the result of significant stress. The results suggested that subjects who experienced the death of a loved one but who believed in a good afterlife were less likely to report hypertension over time compared to those who did not believe in a good afterlife. Similarly, Flannelly et al. (2006) used data from a national survey of 1,403 adult Americans and revealed a statistically significant inverse relationship between belief in life after death and severity of symptoms for a range of psychiatric states including depression, anxiety, obsession-compulsion, and paranoia.

Wong YJ et al. (2006) was a systematic review of 20 articles from between 1998 and 2004, on adolescent religiosity and mental health. Ninety percent of the studies showed that higher levels of religiosity, which we can assume includes religious belief, were associated with better mental health in adolescents. This was shown to be stronger for males and older adolescents than for females and younger adolescents.

Flannelly et al. (2012) studied belief in life after death and beliefs about the world in relation to psychiatric symptoms using data from the 2012 Baylor Religion Survey. As hypothesised, religious commitment was positively related to belief in life after death and belief in life after death was negatively associated with belief in a cynical world. It was found that belief in a cynical world had a significant pernicious association with all five classes of psychiatric symptoms, whereas belief in an equitable world had a weaker and less consistent association with psychiatric symptoms.

However, not all studies showed such a clear positive relationship between religious belief and mental health. In a study of religious involvement and depressive symptoms in 142 patients recovering from heart surgery, Contrada et al. (2004) found that those with stronger religious beliefs subsequently had fewer complications and shorter hospital stays. Depressive symptoms were associated with longer hospital stays. So, the inverse relationship between belief and depressive symptoms, although apparent, was indirect and mediated by the length of recovery time.

negative effect

Kao et al. (2003) studied 86 chronic peritoneal dialysis patients at two major hospitals in Taiwan to assess the impact of religious activity, including religious belief, on depression and quality of life. The research found that those with religious belief, where it was not

coupled with social and personal participation activities, showed higher depression scores. It also found that the depression ratings for patients with no religious belief were comparable to those with high religious involvement.

Baetz et al. (2004) looked at the association between spiritual and religious involvement and depressive symptoms in a Canadian population. Interestingly, those who stated spiritual values or faith were important or perceived themselves to be spiritual or religious had higher levels of depressive symptoms. This study underscores the complexity of the relationship between religious belief and mental health with its definite negative correlation.

Baroun (2006) measured relations among religiosity, health, happiness and anxiety for Kuwaiti adolescents with a sample size of 941 secondary school students selected at random. Scales used to measure the participants include the Kuwait University Anxiety Scale as well as a self-rating scale assessing strength of religious belief. Analysis showed boys had significantly higher scores than girls on all measures excluding anxiety, on which girls scored significantly higher than boys.

types of belief

Ellison et al. (2009a), in a study of religion and anxiety among US adults, showed that belief in the afterlife is inversely associated with feelings of anxiety, while strong beliefs in the pervasiveness of sin are positively linked to anxiety.

Pargament et al. (2004a) studied religious coping methods as predictors of psychological, physical and spiritual outcomes among 268 medically ill, elderly, hospitalised patients in a two-year longitudinal study. Religious coping was correlated with spirituality and changes in mental health. Generally, positive methods of religious coping were associated with improvements in health, whereas negative methods of religious coping, including interpersonal religious discontent, were predictive of declines in health.

mixed results

Masters and Bergin (1992) reviewed studies relating to religious orientation and mental health using a framework of intrinsic and extrinsic religiosity. The intrinsically religious 'internalise their beliefs' and live according to them. In this way, intrinsic religiosity touches on both the 'belief' and 'subjective religiosity' categories that we cover in this volume. Masters and Bergin concluded that the existing research showed a relationship between a person's religious beliefs and their mental health, though how it is that religious beliefs are beneficial for mental health was more difficult to determine. They pointed to studies to suggest that certainty of belief (which religious doubt can interact

with and strengthen over time) is particularly important in the connection to mental health, as is strength of commitment and the ensuing behaviour linked to a person's religious beliefs. The content of a person's religious belief is significant in how it relates to mental health. For instance, Silton et al. (2014) separately tested three beliefs about God to predict five classes of psychiatric symptoms: general anxiety, social anxiety, paranoia, obsession, and compulsion. Belief in a punitive God was positively associated with four of those symptoms, while belief in a benevolent God was negatively associated with four psychiatric symptoms. However, a subject's overall belief in God was not significantly related to psychiatric symptoms.

conclusion

The evidence from the studies in this category suggests that, though religious belief may have an effect on mental health, it is varied. Of the 14 studies, only six showed a clear positive relationship between the factors of religious belief and mental health. This was a marginal majority, as some studies were difficult to label as evidencing support or not doing so. It is significant that four of the studies suggested a negative relationship between religious belief and mental health, and although this is not a majority, it is a large proportion in comparison to other categories in our matrix. This causes us to consider that, in some cases; religious belief may have a negative effect on mental health.

There are no common factors within the studies that evidenced a positive relationship, and so we cannot know for certain why, in these particular instances, religious belief had a positive effect on mental health. Three of the studies in this category indicated that religious belief could be bad for mental health, with one specifying that belief alone is worse for mental health than more religious involvement. Again, these studies had little in common and did not indicate any underlying causes for the negative correlations. One study had mixed results and three of the studies were difficult to categorise, showing no significant relationship, or in one case, a relationship difficult to determine. Though the results are in favour of a positive relationship above any other kind, the effect of religious belief on mental health can, at best, be described as varied.

Though religious belief may have an effect on mental health, it is varied.

3.3 religious belief and physical health

introduction

This section concerns studies that examine the influence of religious belief, that is, beliefs in and about God or a higher power and the core tenets or doctrines of a religious group. We will be looking at the effect it has on physical health, which involves both recovery from illness and maintenance of good health. Nevertheless, the majority of studies that did examine the interaction between religious beliefs and physical health found a connection. As we might expect, the specific content of a person's religious belief matters, as well as its presence and strength, in affecting physical health.

studies

An early study, Pressman et al. (1990), looked at the relationship between religious belief and psychiatric and medical status in 30 elderly women recovering from the surgical repair of broken hips. The limited sample size of this particular study is worth noting. Still, the research found that religious belief was associated with a better recovery of the subjects.

Researchers found that cardiovascular disease, gastrointestinal disorders, many forms of cancer and hypertension were less prevalent among those with religious beliefs.

On a much larger scale, a literature review by Hill and Butter (1995) examined studies from 1965 to 1995 regarding the effect of religion in the promotion of physical health. Overall, researchers found that cardiovascular disease, gastrointestinal disorders, many forms of cancer and hypertension were less prevalent among those with religious beliefs. The review also pointed to the ways that religious involvement of different forms may encourage health supporting behaviours and emotional well-being,

which in turn affect physical health.

Following on from the review's findings, Krause et al. (2002) examined whether private religious practices and belief in the afterlife buffer the effect of the death of a significant other on change in self-reported hypertension over time (hypertension refers to abnormally high blood pressure that is often the result of significant stress and increases a person's risk of heart attack, heart failure, kidney disease and stroke). The study involved interviews with 1,723 adults in Japan aged 60 and over at two stages, three years apart. The study found that those who experienced the death of a significant other but who believed in a good afterlife were less likely to report hypertension at the second interview than those who did not believe in a good afterlife.

Contrada et al. (2004), in a study of religiousness and recovery from heart surgery, found that those with stronger religious beliefs had fewer medical complications following surgery and shorter hospital stays. Effects of religious beliefs were stronger among women than men.

In a study of 1,010 oral cancer patients in Taiwan over a five year period, Wong Y et al. (2006) investigated the influence of various socio-demographic factors, including religious belief, on survival. They found that those without religious beliefs tended to have higher probability of death than those who had religious beliefs.

Like Krause et al. (2001), Green and Elliot (2010) examined the content of subjects' religious beliefs. Using data from the 2006 General Social Survey, which monitors large-scale changes in American society, the study found that while those identifying as religious tended to report better health status, subjects with liberal religious beliefs in particular tended to be physically healthier than those with fundamentalist religious beliefs.

The study found that while those identifying as religious tended to report better health status, subjects with liberal religious beliefs in particular tended to be physically healthier than those with fundamentalist religious beliefs.

The importance of the content of a person's religious beliefs in regards to its impact on health was further highlighted in a study by Ironson et al. (2011), where the disease progression of a diverse sample of HIV positive patients was monitored over a four year period. This study established that a view of God as benevolent and forgiving predicted significantly slower disease progression, including better preservation of CD4 cells (the strongest indicator of immune functioning and HIV progression) and control of VL (viral load, which refers to the amount of HIV in a blood sample). On the other hand, a view of God as harsh, judgemental and/or punishing predicted faster disease progression over the four year period. Results remained significant even after adjusting for social participation and health behaviours.

conclusion

While the association between religious belief and physical health has not been as thoroughly researched or pronounced as other categories, these studies do indicate a positive relationship. Generally those studies that examined the content of the religious beliefs themselves produced more robust findings in support of the link between the two. The studies give us more information on the type of effect religious belief has. For example, that those with liberal religious beliefs tended to be healthier than those with 'fundamentalist' religious beliefs, and that a negative view of God often predicted faster

disease progression. It seems that the type of religious belief is significant. Furthermore, we should consider other factors that are likely to have an effect; for instance, religious beliefs may foster a drive to social participation that encourages health supporting behaviours, which in turn encourage better physical health. These studies show a positive relationship between religious belief and physical health, though it is a relationship seemingly reliant on the type of belief and other factors such as social participation that follow on from belief.

3.4 religious belief and health supporting behaviours

introduction

There are comparatively few efforts to explore the relationship between religious belief and health supporting behaviours, with only six studies focused on the relationship between the two. In the context of our matrix, religious belief is belief in God or higher power, with conformity with the core principles or doctrine of a religious group. This is a fairly low threshold category, which may account for there being fewer studies than in other categories as many specify religious practices rather than examining belief on its own.

Health supporting behaviours are those that tend to have a positive effect on physical health, such as by preventing substance abuse or addiction, or by encouraging exercise or healthy eating. Once again, this is a lower threshold category compared with, for example, physical health, as behaviours can be interpreted more loosely than the presence of illness. Furthermore, there is likely to be less interest in this as it is more a supportive factor of well-being rather than an indicator of well-being in itself. As such, we must recognise that the lack of studies may be due to lack of research as opposed to lack of evidence.

studies

One of the earliest studies in the area of religious belief and health supporting behaviours is provided by Alexander and Duff (1992), who looked at the influence of religiosity and alcohol use on personal well-being. In a sample of two retirement communities, one of retired religious professionals and the other of secular professionals, 156 interviews were conducted to determine the relationship between religiosity and alcohol use, death anxiety, and perceived health. It was found that those in the community with religious beliefs scored higher on measures of life satisfaction and religiosity, and lower on alcohol

consumption. The study does not offer further explanation of the extent to which alcohol affects health.

Zaldivar and Smolowitz (1994) focused on perceptions of the importance placed on religion and folk medicine in the context of non-Mexican-American Hispanic adults with diabetes. This study emerged from a concern among healthcare providers in the US at the high incidence of diabetes and diabetes-related complications in Hispanic adults, perhaps caused by underuse of screening services and early treatment. The study aimed to examine whether religious or spiritual beliefs, or beliefs in folk medicine influence the patient's treatment choices. A sample of 104 adults from this group answered a self-report questionnaire. It was found that 78% believed they had diabetes because it was God's will. This is a significant proportion and highlights the extent of the influence of religious beliefs on behaviours that directly impact health.

In a literature review (1965-1995), Hill and Butter (1995) considered the role of religion in promoting physical health. A positive relationship between religion and physical health was suggested by the studies, although empirical evidence was not entirely consistent with this relationship. One of the studies included in the review, Jarvis and Northcott (1987), showed that some cults or religious sects may encourage behaviours that do not support good health. Research on lifestyle issues, social networks, promotion of well-being, and coping with stressful agents revealed a negative relationship between religious commitment, presupposing belief, and drug use. This suggests that the relationship between belief and health supporting behaviours is affected by the type of belief and perhaps other factors such as social participation.

The influence of religion on patient satisfaction was measured in Benjamins (2006) using data from the Health and Retirement Study. This was a nationally representative sample of older adults in the US, and they were assessed by how important religion was to them and their satisfaction with healthcare encounters. Results showed that there is a significant relationship between higher levels of religious salience, that is, the importance of religion to the individual, and being satisfied with one's health care.

In a later study, Benjamins (2007) looked at the role of religion as a predictor of preventative health care use among middle-aged and older adults in Mexico, using a nationally representative sample of 9,890 people. It was found that religious salience has a significant relationship with the use of blood pressure and cholesterol screenings. Further participation in religious activities also evidenced a relationship with preventative care such as diabetes screenings.

Kim (2006) explored the areas of religion, body satisfaction and dieting. This was in response to a perceived pressure in Western society to be thin and its contribution to

body dissatisfaction and dieting. The study considered religious belief as a social factor that may provide an alternative understanding of the worth of the body, and this was examined in a sample of 546 people. Religion was found to be significantly related to greater bodily satisfaction and less dieting, though negative aspects of religion, such as blaming God as part of negative religious coping, were related to lower body satisfaction and greater dieting. Overall, religion was related to body satisfaction and dieting, with negative aspects of religious belief having more consistent and stronger relationships than other components. As in Hill and Butter (1995), we can see the significance of the type of religious belief in its effect on health supporting behaviours.

conclusion

Overall, evidence from the six studies suggests that religious belief seems to influence health supporting behaviours. All of the studies included implied a link, though in some instances it was not a positive relationship. It is clear that the type of religious belief in question is especially significant in the context of health supporting behaviours, with negative religious beliefs being shown to have an impact, which is stronger than positive beliefs in some cases. In terms of positive religious beliefs, most of the studies allude to a correlation between increasing religious involvement following on from belief and health supporting behaviours. In a similar way to how health supporting behaviours promote good health, positive religious belief seems to promote further involvement and this has a greater effect on overall well-being.

The type of religious belief in question is especially significant in the context of health supporting behaviours, with negative religious beliefs being shown to have an impact, which is stronger than positive beliefs in some cases.

religious group participation

4.1 religious group participation and subjective well-being

introduction

There are a large number of studies that examine the connection between social or 'religious group' participation and subjective well-being. First it is helpful to explain those terms. In most studies, social participation pertains to attendance of religious services, though it may also include social activities such as volunteering in a faith community. Subjective well-being refers to self-reported happiness, life satisfaction (a personal evaluation of progress towards life goals), and a sense of meaning in life.

Perhaps the intuitive link between positive socialisation and a person's sense of well-being has resulted in greater interest and a multitude of studies in this category. The vast majority of studies find a positive correlation between social religious participation and subjective well-being, though the strength of the relationship varies. While some find a direct link between the two, others see an indirect effect via other factors. Some studies find a negative correlation between social participation and subjective well-being. A few studies highlight the importance of context and point to cultural elements as playing a role in the relationship.

The vast majority of studies find a positive correlation between social religious participation and subjective well-being, though the strength of the relationship varies.

direct correlation

Many of the studies evidence a direct connection between social participation and subjective well-being. Krause (1992) found from a nationwide survey of older black people in the US that religious involvement in the community church tends to bolster feelings of self-worth, and this persisted after controlling for the effects of informal emotional support. Similarly, Levin and Chatters (1998) focused on religion, health and psychological

well-being in older adults, using findings from three national surveys. In the results, statistics showed the significant effects of religion. This was most notably found in organised religion, which implies the aspect of attendance as opposed to individual spirituality.

In a later study, Siegel et al. (2001) concluded that the social aspects of religiosity were consistently associated with emotional adjustment to illness, serving as a stress buffer and deterrent. A direct link was also found in studies by Ferris (2002) and Cohen (2002), where attendance at religious services was associated with life satisfaction and happiness.

In a study on religiosity, economics and life satisfaction, Greene and Yoon (2004) used data from the Euro Barometer Survey (ICPSR 1993) to estimate the influence of religious phenomena on self-perceived satisfaction of an individual. It was found that life satisfaction was related to measures of strong religious attachment in the sense of being willing to commit to attending religious services frequently. In another study that alludes to the benefits of more frequent attendance, Krause (2009) considered religious involvement, gratitude, and change in depressive symptoms over time, with the intention of finding out whether people who go to church more often are more likely to feel grateful. Results showed that more frequent Church attendance was associated with positive changes in gratitude over time.

In a study of church attendance and health, Koenig and Vaillant (2009) followed a sample of inner-city men throughout the course of their life. The results found that the link between church attendance and well-being was stronger and more direct than the correlations between well-being and physical or mental health.

Connor (2010) considered the relationship between religion and emotional well-being in immigrants, using data from the US, Australia, and Western Europe. It was found that regular religious participation was associated with better emotional health outcomes. In contrast, non-religious group involvement, such as ethnic associations, leisure groups, or work groups, did not have as much of a positive association with emotional well-being.

In a study on stress, religiosity, and psychological well-being among older black people, Krause (1992) considered the role of religiosity as a potential coping source due to the prominent position of the church in the black community. The findings indicated that, in this context, religiosity tends to counterbalance or offset the deleterious effects of physical health problems and deaths among family members by bolstering feelings of self-worth among elderly black people.

other measures of religiosity

A number of studies that explored the relationship between social participation and subjective well-being did so among several other measures of this type of religiosity (such as personal participation and subjective religiosity). For instance, Lelkes (2006) found that religious involvement contributes positively to a person's subjective well-being. Tiliouine et al. (2009) examined Islamic religiosity and subjective well-being, finding that religious practice (incorporating personal participation and social participation) was strongly and positively correlated to subjective well-being in a sample of 2,909 participants from Algeria.

Maltby et al. (1999) studied religious orientation and psychological well-being and focused primarily on the role of the frequency of personal prayer, using church attendance as a measure of religious orientation in 474 UK students. A direct link was found between church attendance and well-being, with the results showing significant correlations between the two. Though it was found that frequency of personal prayer was the dominant factor, church attendance did have a positive effect on psychological well-being.

indirect correlation

A number of studies, while recognising a relationship between social participation and subjective well-being, found that this was indirect and the result of other factors. Rote et al. (2012) explored religious attendance and loneliness in later life, using a large US national probability sample of adults aged 57-85 years. The research found that social participation is associated with higher levels of integration and support, and that the latter is then associated with lower levels of loneliness. Greenfield and Marks (2007), investigating the connection between social participation and subjective well-being in 3,032 respondents aged 25 to 74 from a nationwide US survey, found that more frequent social participation correlated to indicators of subjective well-being, such as more life satisfaction, but that this relationship was mediated by greater social identity, that is having closer identification as a member of one's religious group.

In a study on religious involvement and subjective well-being, Ellison (1991) examined the multifaceted relationships between the two. It was found that the positive effects of religious attendance were, primarily, indirect. A more substantial factor was religious certainty, which is not directly related to social participation.

Ball et al. (2003) found that most participants said they attended religious services, though this was shown to have an indirect effect. Their higher levels of self-esteem and psychological functioning were associated with their greater religiosity rather than their service attendance. The reference to social participation indicates that it may have been an

indirect factor, however, and the positive link between religiosity and well-being was not directly attributed to attendance of religious services.

Using data from a sample of adults aged 65 and over in Washington DC, Schieman et al. (2010) looked at religious involvement, beliefs about God, and the sense of mattering among older adults. Frequency of attendance at religious services was used as a measure of involvement. It was found that service attendance had indirect effects on meaning, with belief in divine control having a more direct influence.

importance of context

A theme that emerged in a few of the studies was the importance of context in affecting the relationship between social participation and subjective well-being. Snoep (2007) used data from the World Values Survey to compare religiosity and subjective well-being (happiness) in three countries: the USA, the Netherlands, and Denmark. Religiosity indicators included time spent with people at your church and frequency of service attendance. The correlations between religiosity including these social participation measures and subjective well-being appeared to be positive but weak. They were found to be significantly stronger in the USA compared to the other two countries. The role of context was also echoed in research by Lavric and Flere (2008), where it was found that the cultural environment played a crucial role in shaping the relationship between measures of religiosity including social participation and subjective well-being, and that there was no culturally universal pattern in the relationship.

Branco (2007) considered religious activities, strength from faith, and social functioning among 172 African American and 1,595 white nursing home residents in 270 different homes. In the sub-sample of white people, it was found that being female and preferring religious activities were positively related to social functioning. Similarly, among African Americans a preference for religious activity was positively related to social functioning.

negative effects

Kim (2006) found that Western societal pressures of thinness have increased pressure to have an ideal body, contributing to body dissatisfaction and increased dieting. A social factor that may serve as an alternative way of understanding self-worth is religion. Survey data from a community sample of 546 people was collected and they found a significant correlation showing that, overall, religion was related to greater body-satisfaction and less dieting, though negative religious experience had different effects.

Brown and Tierney (2009), studying religiosity and subjective well-being among the elderly in China, found a strong negative relationship between religious social participation and

subjective well-being, and also pointed out that some faith traditions such as Buddhism do not place as strong an emphasis on social participation as others. This relates to the importance of context that we have seen in some other studies.

Burgener (1994) looked at caregiver religiosity and well-being in dealing with Alzheimer's dementia. The sample included 84 caregivers of Alzheimer's patients and 81 control subjects. The results showed no difference between groups in religious practices, though caregivers did report visiting members of the clergy more frequently and control subjects indicated that their needs were being met to a greater extent in terms of contact with their church or synagogue. It was found that the control subjects showed higher levels of well-being and social functioning than caregivers. In caregivers, significant links were found between religiosity variables, stress and well-being.

conclusion

It is noticeable that all of the studies in this category seem to indicate a link between religious social participation and subjective well-being, though this relationship does not provide strong evidence to indicate that social participation is *always* conducive to a better sense of well-being. Four of the studies showed negative effects of unpleasant experiences of social participation on subjective well-being. There were also quite a few instances where the link was indirect or limited to a very specific context. As we can see, there is some evidence to suggest a link, but social participation does not always have a positive influence on subjective well-being.

4.2 religious group participation and mental health

introduction

This category in our matrix is one of the largest, with 31 studies included in the criterion of social participation and mental health. In this context, social participation is used to denote participation in organisational activities of a religious group. The primary example of this would be attending a service, although volunteering and other social involvement also count. The category of mental health is distinct from subjective well-being as it is focused on medical conditions, such as depression rate and remission, anxiety, suicide rate, and other conditions such as schizophrenia. Accounting for all of these studies in chronological order would be a laborious task and would make difficult reading, therefore the studies have been categorised first in terms of whether they show a positive or negative relationship,

and subsequently according to degrees of social participation. Ultimately, we hope to see whether religiosity in the form of social participation has a positive effect on mental health.

social participation

First are the studies that mention social participation or social support without going into further detail. Ell et al. (1989) focused on social support (among other factors) in 369 patients with a first cancer diagnosis. They found significant associations between social support and their adaptation to their diagnosis. Pargament et al. (2004) looked at religious coping methods among a total of 268 medically ill, elderly, hospitalised patients. Positive methods of religious coping, such as seeking spiritual support, were associated with improvement

Institutional and existential dimensions of religiosity had the most robust relationships with mental health, suggesting the positive effects of social participation on mental health.

in health. However, it must be noted that negative methods of religious coping, including discontent with interpersonal relationships, were predictive of declines in health. Wong YJ et al. (2006) found that higher levels of religiosity were associated with better mental health in adolescents. Institutional and existential dimensions of religiosity had the most robust relationships with mental health, suggesting the positive effects of social participation on mental health.

Koenig (2007a) considered the impact of religious involvement on time to remission of depression in patients with heart failure and/or chronic pulmonary disease. Participants considered highly religious by multiple indicators, particularly those involved in community religious activities, remit faster from depression. Religious social identity as an explanatory factor for associations between more frequent formal religious participation and psychological well-being were investigated in Greenfield and Marks (2007), the results support the hypothesis. Branco (2007) found that the positive effects of religious activities and strength from faith operated primarily through deterring distress.

Joshi et al. (2008) confirm the positive link between religiosity and psychological well-being. Social and emotional support is mentioned in the study as a factor promoting healthy life styles. Pearce et al. (2008) asserted that the mechanisms through which the spiritual focus of Alcoholics Anonymous may influence recovery from alcoholism may be similar to the mechanisms through which spirituality may influence mental health. The provision of community is included as a potential explanatory mechanism. Webb et al. (2011) explored whether support and enduring with faith were positively associated with recovery. Thus, nine of the 30 studies suggest that some sort of *social participation* or support has a positive effect on mental health.

church attendance

Moving on to studies that make reference to some form of church attendance to meet the criterion of social participation, Strawbridge et al. (2001) focused on whether religious attendance increases survival by improving and maintaining good health behaviours, including mental health. Weekly religious attendance was associated with improving and maintaining good mental health and results were stronger for women. Barber (2001) looked at the relationship between religion and depression in Palestinian youth. It was found that religious involvement was significantly and inversely related to depression, especially in female students. Ball et al. (2003) studied religiosity and adjustment in African-American, female, urban adolescents. Greater overall religiosity, including religious attendance, was associated with better psychological functioning.

Chang and Skinner (2003) studied the relationship between sexual assault, religiosity, and mental health among male veterans. The results showed that the decrement in mental health and increment in depression associated with sexual assault were lesser in degree among patients who attended religious services frequently than among those who never did. Baetz et al. (2004) found that frequent worship service attendees had significantly fewer depressive symptoms. However, it is important to note that those who perceived themselves as religious had higher levels of depressive symptoms, thus underscoring the complexity of the relationship between the two. Koenig (2007b) measured religion and depression in older medical inpatients and found that depression severity was associated with lower religious attendance, with a relationship only partially explained by social factors.

In Corsetino et al. (2009) greater religious attendance was related to less cognitive decline and there was a three-way interaction between religious attendance, gender, and depressive symptoms. Religious attendance may offer mental stimulation that helps to maintain cognitive functioning in later life, particularly among older depressed women. In Maselko et al. (2009) religious service attendance was associated with 30% lower odds of depression. Ellison et al. (2009a) showed that frequency of religious attendance and the belief in an afterlife are inversely associated with feelings of anxiety and positively associated with feelings of tranquillity.

The relationship between attending religious services and Coronary Heart Disease (CHD) and related risk factors in older adults was investigated in Banerjee et al. (2013). In a qualitative response, all participants claimed that religious service attendance enhances mental health. Balbuena et al. (2013) sought to examine the effect of religious attendance, among other factors, on major depression. They found a 22% lower risk of depression for monthly attenders, compared with non-attenders. This serves as evidence to suggest that religious attendance has a positive relationship with better mental health. Furthermore, a

total of 11 of the 30 studies indicate that social participation in the form of any religious service attendance is beneficial to mental health.

frequent attendance of religious services

There are some studies with a more specific focus on frequent attendance of religious services, as opposed to infrequent attendance. In Koenig et al. (1997), frequency of church attendance was found to be positively related to physical health and negatively related to depression, but was surprisingly unrelated to social support. Perhaps most significantly for this category, frequent churchgoers were about half as likely to be depressed. Simoni and Ortiz (2003) focused on mediational models of spirituality and depressive symptomatology among HIV positive Puerto Rican women. A survey of 142 Puerto Rican women living with HIV/AIDS in New York City revealed high Centres for Epidemiological Studies Depression (CES-D) scores. Of the respondents, 30% reported attending religious services 1-3 times a month and among these, as predicted, spirituality was high and negatively associated with CES-D scores.

Reyes-Ortiz et al. (2008) examined how the effect of depressive symptoms on cognitive function is modified by church attendance. Church attendance was dichotomised as frequent attendance (e.g. going to church at least once a month) versus infrequent attendance. The findings indicate that church attendance appears to be beneficial for maintaining cognitive function of older persons and moderates the impact of clinically relevant depressive symptoms on subsequent cognitive function. A sample of 92,539 postmenopausal participants of the Women's Health Initiative Observational Study was used to consider psychological and social characteristics associated with religiosity. Women attending weekly services in the past month, compared with those who had not attended, were less likely to be depressed. Though there are fewer studies with a focus on frequent religious service attendance, these four add to the majority of studies indicating that social participation in the form of religious attendance has a positive effect on mental health.

mixed – social and private religious participation (limited effect)

Two of the studies – King et al. (2006) and King et al. (2013) – assessed the impact of religious practice, including both public and private practices (religious services, private meditation, etc). Thus these studies do measure the effect of social participation (defined as religious service attendance) but any effects therein are mixed/joint with the effects of private religious practice.

Both studies showed a limited effect of religious practice on mental health; namely, that it is associated with a lower prevalence of ill mental health, but only among those who have spiritual beliefs about life. King et al. (2006) concludes that being religious and spiritual is associated with a lower prevalence of common mental disorders (CMD) than being only spiritual, but being religious and spiritual is no less associated with the prevalence of CMD than being neither religious nor spiritual. In other words, the positive effect of religious practice was limited to those who already had spiritual beliefs.

Similarly, King et al. (2013) concluded that “people who have a spiritual understanding of life in the absence of a religious framework are vulnerable to mental disorder” (p. 68), while there was no significant difference in the prevalence of mental disorders between those who were religious and those who were neither religious nor spiritual. Thus, these studies show a limited (and mixed – with the effect of private religious practice) positive effect of religious service attendance.

other kinds of social participation

We found only one study that used volunteering as an indicator of social participation, as opposed to religious service attendance. Musick and Wilson (2003) reveals that volunteering does lower depression levels for those over 65, while prolonged exposure to volunteering benefits both (under and over 65) populations. Volunteering for religious causes is more beneficial for mental health than volunteering for secular causes but, again, the effect is confined to the elderly. This is the only study that evidences social participation in another form. It shows a positive relationship, indicating that religious service attendance is not the only form of social participation that can have a positive effect on mental health. There is a substantial amount of evidence to suggest that social participation has a positive effect on mental health, with 25 of the 30 studies indicating this.

negative

Not all of the studies in our matrix that fall under this category show a positive relationship between the two. Maltby and Day (2000) found that depressive symptoms were significantly associated with higher scores on the measures of extrinsic social religious orientation. To clarify, extrinsic religious orientation is a method of using religion to achieve non-religious goals. It is used by those who go to religious gatherings and claim certain religious ideologies to establish or maintain social networks while minimally adhering to the teachings of the religion.

Contrada et al. (2004) report on psychosocial factors in outcomes of heart surgery and the impact of religious involvement and depressive symptoms. Attendance at religious

services was unrelated to complications but predicted longer hospitalisations. In addition, depressive symptoms were associated with longer hospital stays. This indicates an association of religious attendance with depressive symptoms, suggesting negative effects of social religious participation on physical health. There are only three studies indicating that social participation may not be beneficial for mental health. This is not a substantial amount, but enough to make us aware that social participation does not always have a positive effect on mental health.

difficult to categorise

Social participation usually has a positive effect on mental health, with 27 of the 32 studies supporting this.

A minority of the studies are difficult to classify, but should still be mentioned as they are relevant to the categories of social participation and mental health. Krause and Wulff (2004) look at religious doubt and health, exploring the potential dark side of religion. Findings revealed that people who have more doubts about their faith will be less satisfied with their health, and experience more symptoms of depression than individuals who have fewer doubts about their religious beliefs. Potentially deleterious effects of religious doubt will be greater for those who occupy formal roles in the church. It is difficult to place this study as it deals with instances where religion goes wrong. It does not detract from the case for social participation having a positive effect on mental health. Rather, it forces us to acknowledge that there is a different outcome for some.

Similarly, Ellison et al. (2009b) considered whether negative social participation, perhaps where members in the church are unkind, increases depression, using longitudinal findings from the Presbyterian panel survey. Findings confirmed that negative interaction appears to foster or exacerbate depression over the study period. Again, this does not disprove the hypothesis that positive interaction in the form of social participation is good for mental health, but does warn us of a different outcome in cases where the interaction is negative.

conclusion

It is clear from this collection of studies that social participation usually has a positive effect on mental health, with 27 of the 32 studies supporting this (though in two of the studies, King et al. (2006) and King et al. (2013), this effect is limited to those who already have spiritual beliefs, and it is a mixed effect with the effect of private religious practice). Only two of the studies showed social participation as having a clear negative effect. These studies were not much different in their focus from the ones that had a positive

outcome, making it difficult to determine when social participation is not beneficial for mental health. Two of the studies presented difficulties in classification as they focused on doubt and negative interaction in church. Not surprisingly, these were not found to be conducive to better mental health. From the analysis of this group of studies we can draw the conclusion that social participation in a positive context is usually, but not always, beneficial to mental health.

4.3 religious group participation and physical health

introduction

The category of social participation and physical health is heavily populated, with 23 studies exploring whether there is a link between the two and analysing their relationship. Social participation is participation in organisational activities of a religious group, such as attending a service or volunteering. Among those who said they attended religious services there is a range from rare, infrequent attendance to regular, weekly attendance. The results from these studies show that minimal attendance does not necessarily impact well-being more than non-attendance. It is important to make a distinction between attendance alone and frequent attendance. Physical health is distinct from mental health, health supporting behaviours, and subjective well-being. Examples of measures of physical health include chronic pain, recovery rate from illness, mortality rate, and other diseases. Most studies in this group use mortality rate as an indicator of physical health, as a higher mortality risk indicates poorer physical health.

positive effect

The majority of studies falling under this category suggest that religious social participation is good for physical health, with 14 of the 23 studies evidencing this. It is noticeable that many of the studies use mortality rates as an indicator of physical health. In one of the earliest studies in our matrix, Seeman et al. (1987) looked at social network ties and mortality among the elderly in a 17 year follow-up for 4,175 people aged 38 to 49. Lack of church membership predicted greater mortality.

In another long-term study, Strawbridge et al. (1997) followed 5,286 respondents over 28 years and found that those who frequently attended religious services had lower mortality rates than infrequent attenders. Koenig et al. (1998) was a six year follow-up study of 3,968 older adults on whether religious attendance prolongs survival. Older adults, particularly

women, who attend religious services at least once a week appear to have a survival advantage over those attending services less frequently. Twenty-three per cent died compared with 37% of those attending services less than once a week. This is a significant difference and remained so after demographics, health conditions, social connections, and health practices were controlled.

Oman and Reed (1998) looked at religion and mortality among the elderly living in communities. They monitored 1,931 residents over five years and found that those who attended religious services had lower mortality than those who did not. In another study using mortality rates in the elderly, Hill et al. (2005) looked at religious attendance and mortality in an eight year follow-up of older Mexican Americans. Those who attended church once per week showed a 32% reduction in the risk of mortality as compared with those who never attended religious services.

In a study with a very large sample size, Schnall et al. (2010) used data from 92,395 Women's Health Initiative Observational Study participants to look at the relationship between religion and mortality. Frequent religious service attendance was associated with a reduced risk of mortality. Dupre et al. (2006) also found a strong negative association between Church attendance and mortality.

Hummer et al. (1999) used representative data from the U.S. National Health Interview Survey to see how religious attendance, among other factors, correlates with mortality. They found that those who never attended services exhibited 1.87 times the risk of death in the follow up period compared with people who attend more than once a week. Health selectivity may play a role here, with those not attending church services perhaps more likely to be unhealthy and, consequently, to die. Religious attendance also worked through other factors, such as increased social ties and behavioural factors, to decrease the risk of death. Similarly, Powell et al. (2003) found, in healthy participants, a strong and consistent reduction in risk of mortality in church service attenders. This reduction is approximately 25% after adjustment for confounders.

In a more specific context, Ellison et al. (2000) looked at religious involvement and mortality risk among African American adults using data from the National Health Interview Survey. Results showed that those who never attend religious services are more than twice as likely to die during the nine year follow-up period than African Americans who attend services more than once a week. The effect of nonattendance on mortality risk is remarkably strong across all subgroups of the population. Among African Americans, lack of social participation appears to be associated with a risk of premature death, whereas frequent religious involvement stands out as a critical protective factor that contributes to lower mortality and longer life.

other measures of physical health

The effects of social participation are not limited to reducing risk in mortality, as there are a significant number of studies that use other indicators of physical health. Some simply indicate that social participation is good for physical health in general. Koenig et al. (1997) looked at the relationships between religion, physical health, social support, and depressive symptoms. A positive correlation was found between frequency of church attendance and good physical health. Levin and Chatters (1998) used three national surveys to examine the impact of religious involvement on health status in older adults. A noticeable positive effect of organised religiosity was found on health in all three samples.

Pargament et al. (2004) looked at religious coping in a sample of 268 medically ill, elderly, hospitalised patients and found that social participation, in the form of seeking spiritual support, was associated with improvements in health. In a study using numerous indicators of physical health, Hill et al. (2014) looked at religious attendance and biological functioning. Higher levels of attendance were associated with lower levels of pulse rate and overall allostatic load (wear and tear on the body), as well as lower body mass, diastolic blood pressure (at the rest between beats), C-reactive protein (made by the liver and released in the blood after inflammation or infection), and Epstein-Barr virus. This study confirms that religious attendance is associated with better biological function later in life.

There are a few studies that look more specifically at the effects of religious social participation on the heart. King et al. (2001) examined the relationship between attendance at religious services and cardiovascular inflammatory markers. They used a nationally representative sample of 10,058 U.S. adults aged 40 and over and found that non-attenders had more cardiovascular inflammatory markers, though this effect dropped below conventional confidence limits once current smoking was taken into consideration.

In what might be the first study of its kind reported in a Muslim population, Burazeri et al. (2008) looked at the relationship between religious observance and acute coronary syndrome (ACS) in predominantly Muslim Albania. A sample of 467 ACS patients was used with a larger control group of 737. Religious observance was found to be inversely associated with ACS in both groups. Banerjee et al. (2013) considered the relationship between attending religious services and coronary heart disease (CHD) and related risk factors in older adults. They used qualitative data from the Canadian Community Health Survey, which consisted of 12 interviews and three focus groups. All participants claimed that religious service attendance promotes health and lifestyle behaviours that lower CHD risk.

In a study where social participation was found to have no effect on the heart, there was still an indication of better physical health as a result of social participation. Obisesan et al. (2006) used data from 14,192 American men and women aged 20 and over from the third

National Health and Nutrition Examination Survey. They found that weekly attenders of religious services were significantly less likely to report a stroke, even after adjusting for multiple variables. No association was seen for heart attacks or diabetes, but the effect on the risk of having a stroke does indicate the influence of social participation on physical health.

negative effect

Not all studies found evidence to support social participation as improving physical health. Contrada et al. (2004) assessed 142 patients and found that attendance at religious services was unrelated to complications but predicted longer hospitalisations in patients recovering from heart surgery. This slower recovery rate indicates some variation in the effects of social participation on physical health.

no correlation

In the case of one study, no correlation was found between the two factors. Ironson et al. (2006) looked at the effects of an increase in religiousness or spirituality after HIV diagnosis on disease progression over four years in 100 people with HIV. It was found that while people reporting an increase in spirituality or religiousness had a significantly greater preservation of CD4 cells over the course of the study as well as significantly better control of viral load (the amount of HIV in the bloodstream), these results were independent of church attendance.

indirect effect

Only one study characterised the link found between the two as indirect. Koenig and Vaillant (2009) studied church attendance and health over the lifespan. Church attendance was related to later physical health, but only through indirect means, as both physical health and church attendance were associated with substance use and mood.

difficult to categorise

A couple of studies were more difficult to categorise. Idler and Kasl (1997a and 1997b) considered the relationship between religious involvement and functional disability among elderly people. They found that religious attendance is tied to a broad array of behavioural and psychosocial resources, and that some of these associations are especially pronounced among disabled respondents. This suggests that their physical health in the form of their disability influenced the type of effect social participation in religion had on them, rather than social participation affecting their physical health.

Tartaro et al. (2005) found that greater frequency of attendance at services was associated with lower blood pressure in males and elevated blood pressure in females. Findings suggest that religious individuals may experience a protective effect against the neuroendocrine consequence of stress, though cardiovascular benefits may vary by gender. This variation makes it difficult to categorise this study, as there was a marked difference between results in men and women.

conclusion

In conclusion, the majority of studies indicate that religious social participation has a positive effect on physical health. This is particularly noticeable when mortality rates are used as an indicator, though there are also a significant number of studies showing the positive effects of social participation on the heart and other measures of physical health. Of the 23 studies in this category, only four did not show social participation as having a positive effect. One study suggested it might have an adverse effect on physical health in the form of hospital recovery rates, though this was conducted on a relatively small scale with only 142 participants. One study showed no correlation, and again one study showed an indirect link. A couple were difficult to categorise, but overall, no studies put the notion that religious social participation tends to have a positive effect on physical health into doubt.

4.4 religious group participation and health supporting behaviours

introduction

As we have seen, social participation is a heavily populated category in our matrix. There are fewer studies that examine the relationship between social participation and health supporting behaviours (although there are not as many studies on health supporting behaviours as other measures of well-being, such as physical health, generally). Social participation is taking part in the organisational activities of a religious group. This may be volunteering or other social activities, but is usually in the form of religious service attendance. Physical

The majority of studies indicate that religious social participation has a positive effect on physical health. This is particularly noticeable when mortality rates are used as an indicator, though there are also a significant number of studies showing the positive effects of social participation on the heart and other measures of physical health.

health supporting behaviours include, but are not limited to, habits that limit substance abuse or addiction, or improve exercise and eating.

a positive relationship

The majority of studies evidence a relationship between the two and suggest that social participation has a positive effect on maintaining better health supporting behaviours. Most of the studies specify weekly attendance as being beneficial to participants, but there are a few studies suggesting that any level of attendance has a good influence on health supporting behaviours.

One such study, Hill et al. (2007), considered the link between religious involvement and healthy lifestyles, using evidence from a survey of adults in Texas. They found that religious individuals do tend to engage in healthier lifestyles, and this pattern is similar for men and women and across ethnic groups. In a more specific context, Page et al. (2009) looked at whether religiosity affects health risk behaviours in pregnant and postpartum women. Health risk behaviours included smoking, drinking, marijuana use, and having multiple sex partners. They used data from the National Survey of Family Growth and found that religious attendance emerged as an important correlate of less-risky health behaviours among the women. Powell et al. (2003) examined how religion and spirituality links to physical health. They found a reduced risk in mortality among service attenders and suggested that this was largely mediated by the healthy lifestyle it encourages. The authors concluded that church service attendance reduces the risk of death in healthy people.

A couple of studies suggest that more frequent attendance promotes better health supporting behaviours, but do not specify that this has to be weekly. Nonnemaker et al. (2003) looked at public and private domains of religiosity and adolescent risk behaviours using evidence from the National Longitudinal Study of Adolescent Health. Frequency of attendance at religious services was measured and public religiosity was found to have a protective effect against cigarette, alcohol and marijuana use. Public religiosity had more of an association with protecting against regular use as opposed to experimental. Trinitapoli and Regnerus (2006) looked at religion and HIV risk behaviours among married men in rural Malawi. Regular attendance at religious services is associated with reduced odds of reporting extramarital partners and with lower levels of risk of infection.

frequent attendance

The majority of studies indicating a link between social participation and physical health point towards more frequent attendance as beneficial, with most studies focusing on weekly religious service attendance. Strawbridge et al. (1997) analysed the long-term

association between religious attendance and mortality over 28 years. Frequent attenders were found to have a lower mortality rate than infrequent attenders and were more likely to stop smoking and increase exercising.

Strawbridge et al. (2001) considered whether religious attendance increases survival by improving and maintaining good health behaviours, mental health, and social relationships. The sample of 2,676 participants were measured on health affecting behaviours including smoking, physical activity, alcohol consumption, medical check-ups, depression, social interactions, and marital status. Those reporting weekly religious attendance were more likely both to improve poor health behaviours and maintain good ones than were those whose attendance was less or none.

In a study with a larger sample size, Gillum and Holt (2010) looked at associations between religious involvement and behavioural risk factors for HIV/AIDS in American men and women in a national health survey including 9,837 participants. Women who never attended services had over two times greater odds of reporting HIV risk factors than those attending weekly or more after adjusting for age and ethnicity.

Benjamins et al. (2006) looked at religious attendance and health maintenance beliefs, in the more specific context of mammography utilisation in a nationwide survey of Presbyterian women. The findings show that religious attendance is significantly associated with mammogram use. Women who attend services nearly every week are almost twice as likely to use mammograms compared with women who attend services less frequently or never. In a similar study, Benjamins (2007) looked at the role of religion in preventative healthcare use among middle-aged and older adults in Mexico. Attending religious services and participating in religious activities were both positively associated with blood pressure and diabetes screening.

negative effect

It is surprising that there are no studies looking at possible negative impacts of social participation on health supporting behaviours, such as whether having a bad experience in a religious social setting has a negative impact on health supporting behaviours. The absence of studies in this area cannot be taken to mean that any type of social participation is likely to have a positive effect.

indirect or no correlation

One study shows evidence of an indirect link between social participation and health supporting behaviours. Koenig and Vaillant (2009) studied church attendance and health over the lifespan. They were found to be related, but only through indirect means, as both

physical health and church attendance were associated with substance use and mood. Indirect effects of church attendance were clearly observed, with alcohol dependence/ use, smoking, and mood being possible mediators of the relationship between church attendance and health. Ironson et al. (2006) considered whether an increase in religiousness or spirituality occurs after HIV progression, and its effect on disease progression. Results were found to be independent of church attendance, suggesting no correlation between the two.

difficult to categorise

Krause (2003b) looked at race, religion, and abstinence from alcohol in later life. It was found that older people who affiliate with fundamentalist churches and who find meaning in religion are more likely to avoid drinking. Church attendance was not related to alcohol use. This is difficult to categorise as the study does not specify whether alcohol is thought to have a positive or negative effect. Obisesan et al. (2006) looked at frequency of attendance of religious services alongside dietary intake. Fish intake was found to be more common in weekly attenders. Again, this tells us that there is a relationship, but does not give further detail of the effects of the health supporting behaviour.

conclusion

Overall, this group of studies suggests that social participation has a positive effect on health supporting behaviours. This is most often seen in the form of weekly religious service attendance having a positive impact, though there is some evidence to suggest that any level of attendance can still have a good impact. There are no studies on the outcome of negative forms of religious social participation, so we cannot draw the conclusion that social forms of religious involvement *always* have a good effect on health supporting behaviours. Only one study found no correlation, and another evidenced only an indirect correlation. From this we can see that social participation does not always affect health supporting behaviours, though there is strong evidence to suggest a relationship between the two. The studies in our matrix largely present religious social participation as good for well-being in the form of health supporting behaviours, though this may be partly due to the absence of studies looking at negative experiences of social participation in this area.

Social participation has a positive effect on health supporting behaviours. This is most often seen in the form of weekly religious service attendance having a positive impact, though there is some evidence to suggest that any level of attendance can still have a good impact.

religious personal participation

5.1 religious personal participation and subjective well-being

introduction

In this section the category of personal participation is used as an indicator of religiosity. Religious personal participation involves acts of private devotion on the part of the individual, such as prayer, scripture reading, or listening to religious music. Subjective well-being is the loosest category of our measures of well-being and denotes a self-reported sense of an individual's sense of their own well-being. This may be influenced by feelings of life satisfaction.

It is reasonable to suggest that those who choose to engage in private religious devotion do so because they feel it has a positive effect on their well-being, even if this is not supported by evidence relating to their physical and mental health. The crucial role of the choice of the individual to participate in their religion in this way hints towards a correlation between this indicator and their self-reported well-being.

positive correlation

Several of the studies evidenced a positive relationship between personal participation and subjective well-being. Spilka et al. (1991) looked at the role of religion in coping with childhood cancer, with a sample of 265 members of 118 families. Religion appeared to act as a protective-defensive system that motivated efforts by family members to cope with their child's illness. Ayele et al. (1999) considered whether religious activity improves life satisfaction in a sample of 100 physicians and 55 older patients. There was a positive correlation between personal religious activity and life satisfaction.

It is reasonable to suggest that those who choose to engage in private religious devotion do so because they feel it has a positive effect on their well-being, even if this is not supported by evidence relating to their physical and mental health.

Of the patients, 86% used religion as a coping resource. Siegel et al. (2001) studied religion and coping with health-related stress. They found a considerable amount of literature with evidence to suggest that some aspects of religion are consistently associated with adjustment to illness, and evidence for religion as a stress buffer and stress deterrent.

Shaw et al. (2006) looked at the effects of prayer and religious expression within computer support groups for women with breast cancer. They found that those who used a higher percentage of words associated with religion were more likely to experience lower levels of negative emotions and higher levels of well-being. Tiliouine et al. (2009) looked at Islamic religiosity, subjective well-being, and health in a sample of 2,909 people from Algeria. Religious altruism was used as an indicator of personal participation to measure religiosity. Religiosity was found throughout the sample and was seen to have a strong, positive relationship with well-being. Maltby et al. (1999) considered the role of frequency of personal prayer in religious orientation and psychological well-being in a sample of 474 UK students. They found that personal participation was the dominant factor in the relationship between religiosity and psychological well-being.

In a study on listening to religious music and mental health in later life, Bradshaw et al. (2014) used data from 1,042 adults from a nationally representative sample. They found evidence to suggest that listening to religious music may promote psychological well-being in later life. Associations were found between listening to religious music and decrease in death anxiety, and increases in life satisfaction, self-esteem, and a sense of control.

In one study the effects were less obvious. Snoep (2007) studies religiousness and happiness using national surveys from the U.S., the Netherlands and Denmark. Moments of prayer and meditation outside of religious services were used as indicators of religiousness. A positive correlation was found but it was weak.

negative, indirect or no correlation

In a study on religion and subjective well-being among the elderly in China, Brown and Tierney (2009) found a strong negative relationship between religious participation and subjective well-being.

In a study of religious involvement and subjective well-being, Ellison (1991) found evidence to suggest that the positive effects of private religious devotion are primarily indirect, as a result of their roles in strengthening religious belief systems. Schieman et al. (2010) looked at religious involvement, beliefs about God, and the sense of mattering among older adults. Their findings indicated indirect effects of praying through divine control beliefs. Goldstein (2007) considered the implications of sacred moments on well-being and stress.

The sample of 73 participants was split into two groups, one cultivated sacred moments and the other group wrote about their daily activities instead. It was found that the sacred moments were equally effective as the adapted writing intervention.

conclusion

Overall, the largest proportion of studies suggests a positive link between personal participation and subjective well-being. The findings of the other studies showed more variation than expected, with five studies ranging from a weak to non-existent correlation. This gives us reason to believe that, although there is a relationship between the two, personal participation does not always have a direct, positive effect on self-reported subjective well-being.

5.2 religious personal participation and mental health

introduction

This section explores research on personal religious participation, which involves private participation in some practice of the religion, for instance private prayer, reading scriptures, or personal consumption of religious media. Whereas subjective well-being includes aspects such as self-reported happiness, life satisfaction, and a sense of meaning in life, mental health is related more to clinical categories of health such as depression and anxiety. While some studies find a strong negative link between personal prayer and scripture reading and depressive symptoms, a few find little or no correlation. Still others find a positive association between mental distress and personal religious participation, though it is important to remember that correlation does not equate to causation, and it may well be the case that distress leads some subjects towards greater involvement in personal participation as a form of religious coping.

studies

One of the early studies in this section is by Koenig and colleagues, 'Modeling the cross-sectional relationships between religion, physical health, social support and depressive symptoms' (1997) took a sample of 4,000 subjects aged 65 and older in order to examine relationships between religious activities, physical health, social support and depressive symptoms. The study broke down 'religious activity' into three categories: church attendance, private prayer and Bible reading, and religious TV and radio consumption. For

this section, it is the latter two sub-categories that interest us. The research found that private prayer and scripture reading was not strongly related to depression, while religious TV and radio listening was, being positively associated with depression.

In a later study, Koenig (2007b) compared subjects aged 50 and over from four hospitals, 411 of whom were identified as having major depression, 585 minor depression, and a control of 428 non-depressed patients. The study found that depressed patients were less likely to pray or read scripture, while depression severity was connected to lower levels of prayer and scripture reading.

Maltby J et al. (1999) produced a study examining 'Religious orientation and psychological well-being: The role of the frequency of personal prayer'. It is worth noting that in this particular study 'psychological well-being' is more closely related to our category of 'mental health' as it measured depressive symptoms, anxiety and self-esteem. The research relied on self-reporting by 474 UK students on their frequency of personal prayer (among other things) as well as the mental health measures mentioned. The research found a number of strong correlations between religiosity and mental health, and found in particular that the frequency of personal prayer was the primary factor in the relationship between religiosity and 'psychological well-being'. In its conclusion, it also touched on the importance of personal prayer as a form of religious coping for those experiencing hardship.

More recently, Rippentrop et al. (2005) explored the relationship between religiosity and mental health in 122 patients with chronic musculoskeletal pain. The study found that daily 'spiritual experiences', such as prayer, meditation, and consuming religious media, significantly predicted positive mental health status. In contrast, Andersson (2007), in a study of 118 Swedish subjects with chronic pain, found that personal prayer was associated with anxiety and depression scores, and that prayer also predicted depression scores at follow-up. The study also found that more distress was associated with more praying, though as pointed out above, the correlation does not prove that personal religious participation is a cause of distress.

Dalmida et al. (2009) looked at spirituality as a resource for HIV-positive women and examined associations of religious well-being and depressive symptoms, as well as other physical health indicators. Along with finding that religious well-being was associated with reduced depressive symptoms, the research also observed a significant relationship between personal religious practices, including prayer, meditation, and reading religious material, and depressive symptoms. As this study's focus was on religious coping, it indicates that personal religious participation is seen as a helpful resource for those suffering HIV and experiencing depression.

Holland and Neimeyer (2005) studied the role of daily personal spiritual experiences and caregiver 'burnout' in end-of-life care settings. Burnout refers to mental, emotional and/or physical exhaustion as the result of extended periods of excessive stress. It surveyed 80 medical and mental health practitioners and found that daily personal religious experiences can reduce cognitive and emotional forms of burnout in the workplace.

Barber (2001) conducted a survey of 6,923 Palestinian high school students living in the West Bank and Gaza Strip examining the relationship between religion, including personal religious behaviour as a measure, and depression. The study found that personal religious involvement was significantly and inversely related to depression, especially in female students.

A meta-analysis performed by Hackney and Sanders (2003) analysed 34 studies carried out since 1991 and found that personal participation was more strongly associated with mental health than religious belief or social participation. They also pointed out that conceptualisations of mental health and religiosity do vary somewhat between studies, which may also account for some variation in findings.

mixed – social and private religious participation (limited effect)

As noted above (4.2), two studies – King et al. (2006) and King et al. (2013) – assessed the impact of religious practice, including both public and private practices (religious services, private meditation, etc). These studies do measure the effect of private religious practice (for example private meditation) but any effects therein are mixed/joint with the effects of public religious practice ("social participation" above).

As above, these studies show a limited positive effect of private religious practice (which is mixed with the effect of public practice). Private religious practice is correlated with a lower prevalence of mental health difficulties, but only among those who already hold spiritual views of life; being religious did not correlate less with mental health difficulties than being simultaneously non-spiritual and non-religious.

conclusion

These studies indicate that the relationship between personal religious participation and mental health is a strong one, with all eleven suggesting a link (though in two of these – the two King et al. studies – the positive effect of personal religious participation is limited to those already with spiritual beliefs about life, and the effect is mixed with the effect of public religious participation).

Some studies find a positive correlation between personal participation and depressive symptoms, these may be linked to methods of religious coping used by those in difficult circumstances experiencing depression or anxiety.

Though some studies find a positive correlation between personal participation and depressive symptoms, these may be linked to methods of religious coping used by those in difficult circumstances experiencing depression or anxiety. There certainly is a relationship between religious personal participation and mental health, though this can be in the context of coping.

5.3 religious personal participation and physical health

introduction

Studies related to personal participation and physical health are relatively few in comparison with other categories in our matrix. The criterion for these studies is the inclusion of factors indicating personal devotion and private participation in some practice of the religion, such as prayer or reading scripture. Examples of factors pertaining to physical health include chronic pain, recovery rate from illness, mortality rate and other diseases. Many of the studies refer to religious coping as a tool to support subjective well-being. This is important to bear in mind as, at a first glance, a positive correlation between the two may seem to imply a causal relationship where there is not one. To safeguard against this, due attention must be given to whether or not religious coping is a factor.

studies

The earliest study in our matrix that relates to both personal participation and physical health is Koenig et al.'s (1997) examination of the models of the relationships between religious activities, physical health, social support, and depressive symptoms in a sample of 4,000 people aged 65 and above. Religious activity was examined primarily as a single composite construct and then split into three component variables that were examined individually. Evidence showed that private prayer and Bible reading was negatively correlated with physical health and positively correlated with social support. An unexpected result was found in participants who watched religious television and/or listened to religious radio programmes. These media were unrelated to social support, negatively related to good physical health, and positively associated with depression. This is an interesting finding in a study that shows personal

Those experiencing worse physical health were more likely to engage in private religious activities, perhaps as a way of coping with their poor health.

participation to be good for mental health on the whole, and draws our attention to the need to recognise a distinction between different types of personal participation.

Some studies evidence religious coping rather than a causal relationship between personal participation and physical health. In the instance of chronic musculoskeletal pain, Rippentrop et al. (2005) sought to better understand the relationship between religion and spirituality and both physical and mental health in 122 patients. Their study showed that private religious practice, in forms such as prayer, meditation and consumption of religious media, was inversely related to physical health outcomes. This indicates that those experiencing worse physical health were more likely to engage in private religious activities, perhaps as a way of coping with their poor health.

If prayer had any relation with the other variables it was negative, with more distress being associated with more praying both before and during times of illness.

The relationship between personal participation and physical health was found to be negative in Andersson's (2007) study on the use of praying to a higher power in patients with chronic pain. A sample of 118 people from Sweden completed online tests on two occasions in association with treatment trials. A three item subscale measuring praying as a coping strategy was derived from the Coping Strategies Questionnaire (CSQ), but adapted to refer to "a higher power" instead of "God". Measures of pain, anxiety and depression were also included. The results revealed significant associations between pain interference and impairment, as well as anxiety and depression scores. In this study, prayer predicted depression scores at the follow-up stage, and follow-up results on prayer were predicted by pain interference at the first measurement. Overall, it was revealed that if prayer had any relation with the other variables it was negative, with more distress being associated with more praying both before and during times of illness.

Helm et al.'s (2000) six year follow-up study focuses on whether religious activity prolongs survival. A sample of 3,851 older adults was followed and their level of participation in private religious activities such as prayer, meditation, or Bible study was assessed by self-report at baseline, alongside a wide variety of socio-demographic and health variables. Those who rarely or never participated in private religious activities had an increased relative hazard of dying over the participants who reported more frequent private religious activity. However, it must be noted that this hazard did not remain significant for the sample as a whole after adjustment for demographic and health variables. As we can see, personal participation is not found to do any harm, though the insignificance after appropriate adjustment does not provide strong evidence to support the relationship between personal participation and physical health.

The first of two studies by Krause included in this category of our matrix explores religion, death of a loved one, and hypertension among older adults in Japan. Interviews were conducted with a nationally representative sample of 1,723 people aged 60 and above in 1996 and 1999. They were asked a series of questions about their religious beliefs and private religious practices, whether a family member had died in the last year, and whether they had hypertension. In this context, it was found that those who had experienced the death of a loved one but believed in a good afterlife were less likely to report suffering from hypertension at the follow up interview than the participants who did not believe in a good afterlife. From this we can infer that personal participation in the form of personal belief in a good afterlife has a positive effect on physical health in the form of hypertension.

Krause (2003) aimed at investigating whether prayer for others buffers the effects of financial strain on the physical health status of the person who prays. The data suggest that the deleterious effects of chronic financial problems on physical health are reduced slightly for older people who pray for others often. However, it seems that the subject of the prayer has significant impact on its effect. The evidence shows that praying for material things fails to offset the pernicious effects of economic difficulty on health. The significance of this study lies in its distinction between types of personal participation. It is not merely personal participation that acts as a protective factor, but personal participation with a specific orientation.

Following on from the effects of financial problems on physical health, Tartaro et al. (2005) also looked at stress responses by considering gender effects on the influence of self-reported religiosity and spirituality on cardiovascular and cortisol responses to a laboratory stressor among young adults. Those with higher composite religiosity, levels of forgiveness, and frequency of prayer showed lower cortisol responses, lower blood pressure in males and elevated blood pressure in females. These findings suggest that spiritual and religious individuals may experience a protective effect against neuroendocrine consequences of stress, though cardiovascular benefits may vary by gender. We have already established from Krause (2003b) that different kinds of personal participation have different effects. In a similar way, Tartaro et al.'s study shows that the same kind of participation can have different effects on some aspects of physical health with gender as an influential factor.

Ironson et al. (2006) aimed to determine the extent to which changes in spirituality or religiousness occur after HIV diagnosis and whether these changes predict disease progression. It was found that people reporting an increase in spirituality or religiousness after the diagnosis had significantly better preservation of CD4 cells over the four year period, as well as significantly better control of viral load. The results suggest an increase in spirituality or religiousness after HIV diagnosis, and this increase predicts slower disease progression. There is an indication that, in this case, religious coping had a positive effect.

The suggestion was made that medical personnel should be made aware of its potential importance, which is an affirmation of the significance of the findings.

In the context of Acute Coronary Syndrome (ACS), religious observance was shown to have a more positive effect than that of prayer on chronic pain. No further specification of participation or practice is given. Burazeri et al. (2008) conducted a case-controlled study in Tiana, Albania from 2003-2006. The participants were 467 non-fatal ACS patients, including 370 men and 97 women, and a population-based control group were also included. Their religious observance was assessed as a composite score based on attendance of their mosque or church, frequency of ritual prayer and fasting. It was found that religious observance was inversely associated with ACS in both groups and that associations were strongest for prayer and fasting. In a country experiencing major socioeconomic transition from rigid communism, including extreme state-enforced secularism, we found an apparent protective effect associated with religious observance in both Muslims and Christians.

The most recent study in this category of our matrix is Dalmida et al. (2009) considering spiritual well-being, depressive symptoms, and immune status among women living with HIV/AIDS. This is the second study focused on personal participation and physical health in the context of HIV, but differs from Ironson et al. (2006) by having a non-random sample of 129 predominantly African-American HIV-positive women. Significant positive associations were found between existential well-being and CD4 cell count and also between spiritual well-being, religious well-being, and existential well-being, and CD4 cell percentages. These findings went above and beyond that explained by demographic variables, HIV medication and adherence, and HIV viral load. A significant relationship was observed between spiritual or religious practices, such as prayer, meditation, and reading religious material, and depressive symptoms. Overall, this study showed evidence of personal participation having an effect on physical health in the context of HIV.

conclusion

In conclusion, we have found that six of the nine studies show personal participation as having a positive effect on physical health. Koenig's (1997) study is useful in showing the variance of effects from different modes of personal participation, with church attendance having an inverse relation to depression whereas consumption of religious media was positively associated with depression. In the case of religious coping, deterioration of the patients' health made them more likely to engage in private religious practice, this is suggested to be a coping mechanism. We

Six of the nine studies show personal participation as having a positive effect on physical health.

cannot draw the conclusion that personal participation in religion is bad for physical health, though religious coping did not always improve the patients' health. The only study to indicate that private religious devotion could have a detrimental effect on physical health was Andersson (2007). Prayer was associated with anxiety and depression and any relationship was in a negative direction of more distress. This seems to be the exception though, with medical evidence emerging from the other studies to indicate that personal participation in religious activities can have a positive and quantifiable effect on physical health.

5.4 religious personal participation and health supporting behaviours

This is the least populated category in our matrix, with only one study looking at both personal participation and health supporting behaviours. Personal participation is a form of religious devotion on the part of the individual and participation in some practice of the religion, such as private prayer or reading scriptures. Health supporting behaviours are habits or practices that impact physical health in a positive way.

Nonnemaker et al. (2003) considered private and public domains of religiosity and adolescent health risk behaviours using evidence from the U.S. National Longitudinal Study of Adolescent Health. They used frequency of prayer and importance of religion as measures of private religiosity. Results showed that, in general, both public and private religiosity were protective against cigarette, alcohol and marijuana use. On closer examination, it appeared that private religiosity was more protective against experimental substance use, while public religiosity had a larger association with regular use. From this one study we cannot suggest that there is even a link between religiosity in the form of personal participation and well-being indicated by health supporting behaviours.

appendix 1

bibliography and index of studies

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