



Religiousness, depressive problems and suicidal ideation: a 9-year follow-up clinical case-control study from the Netherlands

Cis Vrijmoeth ^{a,b,*} , Joy Blok ^a, Bart van den Brink ^{a,c} , Hanneke Schaap – Jonker ^{a,d}, Erik J. Giltay ^e 

^a Centre for Research and Innovation in Christian Mental Health Care, 3871 MR Hoevelaken, the Netherlands

^b Department Clinical Psychology, Utrecht University, 3584 CS Utrecht, the Netherlands

^c Department of Emergency Psychiatry, GGZ Centraal, 3818 EW Amersfoort, the Netherlands

^d Department of Religion and Theology, Vrije Universiteit, 1081 HV Amsterdam, the Netherlands

^e Leiden University Medical Center, Department of Psychiatry, 2333 ZA Leiden, the Netherlands



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ABSTRACT

Background: Previous studies on the complex relationship between religiousness with depressive problems and suicidality showed varying results and have mostly been cross-sectional. As relationships could be in different directions, this study aimed to examine this within a large prospective clinical cohort.

Method: Data from the Netherlands Study of Depression and Anxiety (NESDA) was used ($N = 2981$ at baseline; $M_{age} = 41.9$ years and 33.1 % male). Religiousness was categorized into three groups: (1) non-affiliated ($N = 1897$); (2) affiliated, no to low commitment/attendance ($N = 619$); (3) affiliated, higher commitment/attendance ($N = 465$). These three groups were compared using mixed models with regard to major depressive disorder (MDD), (2) the severity of depressive symptoms, (3) suicidal thoughts, and (4) the severity of suicidal ideation, at baseline and at 2-, 4-, 6- and 9-years follow-up.

Results: We found no noticeable differences between the groups regarding any of the outcomes, both in the total sample and in a sub-sample of 1115 people with a current classification of MDD at baseline (within the preceding six months).

Limitations: Religiousness was only assessed at baseline and based on (mostly) Christian affiliations and demographic and belonging/behavioural measures of religion.

Conclusion: In this cohort, being religiously affiliated with more or less commitment/attendance did not seem to protect against meeting the classification of MDD, having suicidal thoughts, or experiencing more depressive problems/suicidal ideation. However, it also did not seem to increase the risk. Further research should focus on internal religious aspects (e.g., God representation, moral objections to suicide) in relationship to depression and suicidality.

1. Introduction

Depression is a major mental illness worldwide (Liu et al., 2020; World Health Organisation, 2023). In the Netherlands, the overall lifetime prevalence of a classification of major depressive disorder (MDD) is 24.9 % according to Ten Have et al. (2023), with a higher prevalence among women (30.5 %) than among men (19.2 %). Depression comes with several symptoms, of which the extent of experienced suicidal ideation may be an important one in the classification (American Psychological Association, 2022). Suicidal ideation is known to predict

suicide attempts and death by suicide and is thereby causing considerable difficulties for societies around the world (Naghavi, 2019). In general, when the severity of depressive problems increase, suicidal ideation becomes more prevalent (Rossom et al., 2017). However, despite the seemingly strong relationship with depression, there is also evidence suggesting that suicidality, including ideation and behaviour, may also be independent phenomenon with its own pathophysiology (e.g., van Bentum et al., 2021; Oquendo et al., 2024). Therefore, it is important to identify factors that may be of importance to the prevention and treatment of depressive problems and also suicidal ideation.

* Corresponding author.

E-mail addresses: c.vrijmoeth@uu.nl, c.vrijmoeth@kicg.nl (C. Vrijmoeth).

One of these factors that has been studied over the past decades is religiosity or religiousness, which in general refers to (the presence of) someone's "beliefs, practices and rituals related to the 'transcendent'" (i.e. God, the truth, reality or enlightenment) and the level to which these "beliefs and practices are important in a person's life" (Koenig et al. 2020). Although there is still debate about the exact definition, religiousness can function as a source of significance (like hope and meaning, belonging or purpose in life) that often becomes even more important in the face of suffering (e.g., Pargament, 1997; Pargament and Exline, 2021). Furthermore, religious communities may provide a network of social support, while individual religious practices such as prayer may serve as coping mechanisms in times of stress and adversity. Therefore, on a conceptual basis it could be hypothesized that there is an inverse association with depression and suicidal ideation, as these two concepts are characterized by a loss of hope and/or purpose in life (e.g., Boreham and Schutte, 2023; Ritschel and Cassiello-Robbins, 2023; Ropaj, 2023). Since religiousness is an important domain for many people across different cultures spanning from Eastern to Western societies (Rosmarin et al., 2021), here is a compelling case for the integration of this domain into clinical practice. People suffering from depressive problems could potentially benefit from a broader understanding of this association, as it may help to align their care with approaches that are both more personalized and attuned to cultural and religious sensitivities.

In the last decades, many scientific papers already made attempts to understand the associations between religiousness and mood disorders. Mosqueiro et al. (2020) and Koenig et al. (2024a) showed in their overviews, that in most studies religiousness has been found to be inversely associated with levels of depression (i.e., suggesting a protective or buffering effect of religiousness). However, the majority of research up-to-date has been cross-sectional and still a significant number of (longitudinal) studies also reported mixed or no associations. The mixed evidence was also found in a large systemic review on 152 prospective studies by Braam & Koenig (2019). These authors found that in 49 % of the reviewed studies, religiousness was significantly related, although modest, to lower levels of depression (measured by level of symptoms, use of a cut-off score or a classification of MDD). However, 41 % of the studies did not find a significant relationship between religiousness and depression and in 10 % a positive association was reported. We must note though that the majority of these studies only included a single follow-up ($N = 82$) and were primarily conducted in North America ($N = 119$). Moreover, the studies varied in terms of sample size, study population, design, and how religiousness and depression were conceptualized, adding complexity to the interpretation of results.

Studies with regard to suicide and suicide attempts mostly indicated a protective effect of religiousness (e.g., Dervic et al., 2004; Kleiman and Liu, 2014; VanderWeele et al. 2016; or the overview of longitudinal studies in Koenig et al. 2024b). For example, research has identified a lower risk of completed suicide of 29–79 % in those being religious compared to those being non-religious (pooled OR = 0.38, [95 % CI = 0.21–0.71]; Wu et al. 2015). However, when focusing on suicidal ideation, findings were again more variable. A systematic review by Lawrence et al. (2016), found no protective effect of religious affiliation or religious service attendance after adjustment for social support, suggesting that for religious people, attending services may serve as a source of social support. A more recent meta-analysis, on the other hand, did show a significant inverse association between religion and suicidal ideation with an overall lower odds of 17 % in believers versus non-believers/atheists (pooled OR = 0.83, [95 % CI = 0.78–0.88]; Poorolajal et al., 2022). A limitation was that this result relied heavily on cross-sectional studies (only four cohort studies were included), mainly from the USA. Furthermore, religiousness was treated as a binary variable, and therefore, failing to do justice to the dimensional nature of this concept (for example, see the operationalisation of Saroglou (2011) into believing, bonding, behaving, and belonging dimensions).

So, even though much research has been conducted over the last

decades, results seem to show inconsistencies. This may be not surprising given the suggested complex nature of the associations between religiousness and depressive problems or suicidal ideation. On the one hand, religiousness may function as a protective factor, for example when moral objections prevent someone from committing suicide (Van den Brink et al., 2018) or as religious-service attendance relates to a lower risk of depressive symptoms (Chen et al., 2021). On the other hand, someone's religious beliefs may also lead to a discouraging feeling of guilt when not meeting the standards of their religious community, resulting in exacerbating depression (Bonelli et al., 2012), or may lead to religious or spiritual struggles and thereby to more suicidal ideation (Currier et al., 2020; Lemke et al., 2023). So, in practice one might argue that religiousness may have a protective effect in one case, while for another it may be a risk factor, depending on the conceptualization of religiousness and the context. Next to this, the relationships may also be bidirectional or cause another (i.e., depression having a negative impact on someone's religious beliefs and practices – 'reverse causation' (Koenig et al., 2024a)).

Given the mixed evidence and potential bidirectional effects, the aims of this study were to examine the relationship of religiousness with depression and suicidal ideation within a large prospective Dutch cohort (the Netherlands Study of Depression and Anxiety (NESDA); Penninx et al., 2021). We aimed to assess to what extend baseline religiousness was related to (1) the prevalence and odds of meeting the classification of MDD, (2) the severity of depressive symptoms, (3) the odds of having suicidal thoughts in the last week, and (4) the severity of suicidal ideation, both at baseline and at 2-, 4-, 6- and 9-years follow-up. To our knowledge this has not yet been studied before on a large scale level in the Netherlands. In line with Bos et al. (2024), religiousness was operationalized into three categories based on religious affiliation, commitment, and attendance: (1) not affiliated, (2) affiliated, but no to little commitment/attendance and (3) affiliated and higher commitment/attendance. With this categorization, we wanted to be able to differentiate between non-religious people and religious people (as a measure of belonging), but also to differentiate the religious group based on more or less commitment/attendance (as more behavioural measures of religiousness). Because of the seemingly complex relationships with depression and suicidal ideation in the direction of religiousness as both a protector and a risk and this study only included religiousness as three demographic and religious belonging/behaviour-related questions at baseline, we hypothesized that the three groups would not differ regarding the four outcomes.

2. Method

2.1. Design and participants

This study made use of pre-existing data from NESDA (Penninx et al., 2008, 2021), a longitudinal, multi-site, naturalistic clinical case-control study that aimed to examine the aetiology and course of anxiety and depressive problems. The aim was to include a cohort stratified for setting (community, primary care and specialized mental healthcare), from different regions of the Netherlands and that was representative for differences in psychopathology: (1) people with a (recurrent) anxiety or depressive episode, (2) people with such an episode in the past, (3) people suffering from a current subthreshold level of anxiety/depressive problem and (4) people without such an episode or level of problems (healthy controls). The community sample included samples from two Dutch cohorts that were already available: (1) a representative sample of non-institutionalized Dutch adults in the Netherlands Mental Health Survey and Incidence Study (Bijl et al., 1998) and (2) participants of the Adolescents at Risk for Anxiety and Depression study (Landman-Peeters et al., 2005). The primary care and mental healthcare samples were recruited around the three research sites (Amsterdam, Groningen, Leiden) from 65 general practitioners and the outpatient clinics of regional mental health care organisations respectively. More information about

the samples and a flow chart is to be found in Penninx et al. (2008).

It started with a baseline measurement in 2004–2007, after which follow-up measurements took place. Measurements consisted mainly of face-to-face assessments (e.g., interviews by trained interviewers for most of the measures included in this study) that were conducted at one of the research sites. In order to avoid drop-out in case on-site was not an option, assessments could also be offered at home, by phone or online (Penninx et al., 2021). At baseline, the total sample consisted of 2981 participants of whom a sample of 1115 people had a current classification of MDD at baseline (within the preceding six months). For the main analyses of this study, we made use of this total sample and subsample of 1115 subjects and included both baseline and 2-, 4-, 6- and 9-years follow-up measures.

2.2. Ethics

The NESDA study protocol has been reviewed and approved by the Ethical Review Board of the VU University Medical Centre (reference number 2003/183). Participants were informed and provided informed consent prior to participation.

2.3. Main measures

2.3.1. Religiousness

The NESDA study measured religiousness at baseline with three questions about religious affiliation, attendance and commitment/connection: 'Do you have a religious affiliation?', and if so, 'To what extent do you feel committed to your church (or mosque, synagogue, temple etc.)?' and 'Do you ever go to church (or mosque, synagogue, temple etc.)?'. Possible answers for the attendance question were 'never', '1 time a year or less', 'a few times a year', 'every month', '2–3 times a month' and 'every week or more'. Commitment was answered with 'no commitment', 'little commitment', 'committed', and 'strong commitment'. For the purposes of this study, three groups were formed based on these questions: (1) people with no religious affiliation (*non-affiliated*); (2) religious affiliated people with no commitment or a little commitment and/or low religious attendance - a few times a year or less - (*affiliated, but no to low commitment/attendance (LCA)*) and (3) religious affiliated people who are committed or strongly committed and/or with high religious attendance - once a month or more - (*affiliated and higher commitment/attendance (HCA)*). See Table 1 for the distribution of religious affiliations.

Table 1
Sociodemographic information of the two samples at baseline.

All participants at baseline (N = 2981)			Participants with classification MDD at baseline (N = 1115)			
	Non-affiliated (N = 1897)	Affiliated LCA (N = 619)	Affiliated HCA (N = 465)	Non-affiliated (N = 706)	Affiliated LCA (N = 230)	Affiliated HCA (N = 179)
Age in years (M, SD)	41.0 (12.8)	43.5 (12.8)	43.1 (14.1)	40.1 (11.7)	42.5 (11.7)	41.5 (13.7)
Female (N, %)	1246 (65.7 %)	406 (65.5 %)	327 (70.3 %)	465 (65.9 %)	157 (68.3 %)	129 (72.1 %)
Married or with partner (N, %)	1307 (68.9 %)	436 (70.4 %)	323 (69.5 %)	450 (63.7 %)	150 (65.2 %)	116 (64.8 %)
Years of education (M, SD)	12.3 (3.3)	11.9 (3.3)	11.9 (3.0)	11.8 (3.3)	11.2 (3.1)	11.5 (3.0)
North European ancestry (N, %)	1838 (96.9 %)	584 (94.3 %)	403 (86.7 %)	678 (96.0 %)	209 (90.9 %)	144 (80.4 %)
Religious affiliation distribution						
Catholic	–	51.1 %	32.3 %	–	46.1 %	27.9 %
Reformed / Protestant	–	35.9 %	34.8 %	–	40.4 %	28.5 %
Christian, other	–	6.3 %	17.2 %	–	3.5 %	18.4 %
Islam	–	2.4 %	7.5 %	–	5.2 %	15.6 %
Judaism	–	1.0 %	1.5 %	–	1.3 %	1.7 %
Buddhism	–	0.2 %	2.8 %	–	–	2.8 %
Hinduism	–	0.6 %	1.1 %	–	1.3 %	1.1 %
Spiritual / humanistic	–	2.6 %	2.8 %	–	2.1 %	3.9 %

Note. HCA = affiliated and higher commitment/attendance; LCA = affiliated, but no to low commitment/attendance; MDD = major depressive disorder.

2.3.5. Severity of suicidal ideation

The severity of suicidal ideation was assessed with the first five items of the BSSI (e.g., Beck et al., 1979). These five items rate the level of suicidal ideation during the previous week by asking about the desire to live, desire to die ('What feelings did you have last week about dying. Did you want to die and how strong was this wish?'), reasons for living or dying ('Were your reasons to live stronger than your reasons to die, were they equal, or were your reasons to die stronger than your reasons to live?'), desire for an active suicide attempt ('During last week, did you feel the desire to harm or poison yourself?'), and passive suicidal desire. Each item can be answered on a 0 to 2 Likert scale and therefore the sum score ranges from 0 (no suicidal ideation) to 10 (severe suicidal ideation). We included the total BSSI-score at baseline and at 2-, 4-, 6- and 9-years follow-up. The Cronbach's alpha at baseline for the total sample was 0.79.

2.4. Other measures

In the descriptive statistics, baseline outcomes are presented for some other sociodemographic and clinical characteristics that previously have been related to depressive problems and/or suicidal ideation (e.g., Kivelä et al., 2019; ter Meulen et al., 2021).

2.4.1. Sociodemographic characteristics

As background characteristics, age, sex, years of education, relationship status, nationality and the sort of religious affiliation (only for those who are affiliated) were included.

2.4.2. Clinical characteristics

Suicide attempt (non-fatal suicidal behaviour) was assessed with the question 'Have you ever made a serious attempt to end your life, for instance by harming or poisoning yourself or by getting into an accident?' and if so, the number of attempts was asked.

Suicidal reactivity was determined with the Leids Index of Depression Sensitivity (van der Does, 2002). This scale has five conditional hypothetical items that measure reactivity, making it different from actual suicidal ideation (Antypa et al., 2010; e.g., "When I feel down, I more often feel hopeless about everything"). The total score ranges from 0 (no suicidal reactivity) to 20 (severe suicidal reactivity).

Severity of anxiety symptoms was measured by the Beck Anxiety Inventory (BAI, Beck et al., 1988). The BAI consists of 21 items that can be scored with a 4-point scale and has a total score with a range from 0 (no anxiety) to 63 (severe anxiety).

Loneliness was assessed with the de Jong-Gierveld Loneliness scale (de Jong-Gierveld and Kamphuls, 1985). This is a 11-item scale about feelings of emotional and social loneliness and has a total score ranging from 0 (no loneliness) to 11 (severe loneliness).

Insomnia was determined using the five items from the Women's Health Initiative Insomnia Rating Scale (Levine et al., 2003). All items, such as 'Did you have trouble falling asleep?' were answered on a 5-point Likert-scale with 0 (not experienced in the past four weeks) to 4 (five or more times a week). The sum score ranges from 0 (no insomnia problems) to 20 (severe insomnia).

Neuroticism was measured using the NEO Five-Factor Inventory (Costa and McCrae, 1995). Twelve of the 60 items are about neuroticism and make a total score range from 12 (emotional stable) to 60 (emotional unstable).

Social support was assessed with the shortened version of the Close Person Inventory (Stansfeld and Marmot, 1992). This is a self-reported questionnaire about the existence and level of social support from a partner and first/second confidant (e.g., family member or friend). All items are rated on a 5-point scale ranging from 1 'never' to 5 'very often'.

Childhood trauma was determined with the Childhood Trauma Interview (De Graaf et al., 2004). Respondents were asked if they had experienced psychological abuse, physical abuse, emotional neglect or sexual abuse before the age of 16. For each trauma the possible answers

were (0) 'never', (1) 'once or sometimes' and (2) – 'regularly, often, or very often', leading to a possible total score range of 0–8.

The number of *Negative life events* in the last twelve months was measured by use of the Brugha Questionnaire (Brugha et al., 1985), which contains 12 negative life events (e.g. serious illness, violence, death of close others, financial difficulties).

2.5. Statistical analyses

Baseline sociodemographic and clinical characteristics were presented both in the total sample at baseline ($N = 2981$) and the subsample of people meeting the classification of MDD at baseline (within the preceding six months; $N = 1115$). These characteristics were presented according to the three groups based on religiousness: non-affiliated, affiliated LCA and affiliated HCA, also for the purpose of seeing whether these characteristics may be an explanation for possible differences between the groups in the outcomes. Within the total sample at baseline, we estimated the prevalence of MDD and we performed four (linear and logistic) mixed model analyses to examine whether the three groups differed with regard to (1) the odds of meeting the classification of MDD, (2) the severity of depressive symptoms, (3) the odds of having suicidal thoughts (in the last week), and (4) the severity of suicidal ideation, both at baseline and at 2-, 4-, 6- and 9-years follow-up. Similarly, mixed model analyses were conducted within the subsample of people with a classification of MDD at baseline, except for the odds of meeting the classification of MDD.

All mixed models analyses (REML estimation) included a random intercept to account for individual variability, ensuring that the correlation within each person's data across the study period was appropriately managed, and adjustment for sex, age and years of education. Differences between the three groups were tested at every time point with pairwise contrasts (without adjustment for multiple comparisons). The results are visually presented through graphs (i.e., four for the total sample, three for the sample of people with a classification of MDD) that show the adjusted odds ratios/means and errors bars (representing the standard errors). Significant differences ($p < 0.05$) are depicted by an asterisk. Descriptive statistics were performed in SPSS (v26), while the linear mixed models and graphs were conducted in R and RStudio with main packages 'lme4' (version 1.1–35.1) and 'ggplot2' (version 3.5.0).

3. Results

3.1. Baseline sociodemographic characteristics

At baseline, 33.6 % of the total sample were male ($N = 1002/2981$ people). The mean age of this sample was 41.9 years ($SD = 13.1$), while the mean years of education followed was 12.2 ($SD = 3.3$). Based on the questions about religion, 63.6 % reported to be not affiliated ($N = 1897$), 20.8 % affiliated LCA ($N = 619$) and 15.6 % affiliated HCA ($N = 465$).

Table 1 presents sociodemographic information of (1) the total sample and (2) the sample with a classification MDD in the past six months, divided over the three religious groups. There was no equal distribution in both samples, because the non-affiliated group was approximately three to four times the size of the other two groups. In both samples, the mean age was slightly higher in the religiously affiliated groups (although the biggest difference was 2.1 years) with the percentage of women the highest in the affiliated HCA group (although with a maximum difference of 6.2 %). The groups were comparable with regard to having a partner and years of education. Of note is the percentage of people without a North European ancestry in the affiliated HCA group (with differences of 7.6 % to 15.6 % to the other groups). Regarding religious affiliation, we see that in both samples the proportion of Catholic and Reformed / Protestant is lower in the affiliated HCA group (up to 18 %), while the proportion of the other affiliations increases (mainly Islam, the Christian, other group and Buddhism and up to 14.9 %) when compared to the affiliated LCA group.

3.2. Baseline clinical characteristics

Table 2 presents clinical information of (1) the total sample and (2) the sample with a classification MDD in the past six months. Overall, the sample with MDD experienced more problems than the total sample. For all clinical characteristics – and in both samples – the three groups were largely comparable. And in case of differences, these were relatively small and in different directions. For example, in both samples, the number of previous suicide attempts was slightly higher in the affiliated HCA group (range 1.5–5.6 % more), however, the percentage with >1 attempt in those with a previous serious suicide attempt was lowest within the affiliated HCA group (range 3.1–7.3 % less).

3.3. Differences between the three groups based on religiousness

The prevalence of MDD in the preceding 6 months within the total sample at baseline and follow-up is presented in Appendix 1 (see supplementary material). Across all measurement points, the prevalence appeared similar across the three groups, with a maximum difference of 3.6 %. Fig. 1 presents the graphs with the adjusted odds/means for all four outcome measures within the total sample over time: (1) classification of MDD, (2) severity of depressive problems, (3) suicidal thoughts, and (4) severity of suicidal ideation. In all three groups, the number of people experiencing depressive and/or suicidal problems was lower at follow-up than at baseline, due to recovery or remission after baseline. Given the scales of the graphs and taken into account the error bars, the analyses showed no noticeable differences across the three groups based on religiousness. The only difference that initially reached significance was between the non-affiliated group and the affiliated LCA group for the mean score on the BSSI at 6-years follow-up ($p = 0.04$), however, this would not be statistical significant when accounting for multiple testing. In Appendix 2 (see supplementary material), the adjusted odds/means are also presented in a table with 95 % confidence intervals.

In Fig. 2, the same graphs (except for the odds of a classification

MDD) are provided as in Fig. 1, but now focussing on the subsample of people with a classification of MDD at baseline. Again, there were no noticeable differences between the three groups based on religiousness, both at baseline and at follow-up. At moments groups may have switched position compared to Fig. 1, but all differences remained relatively small and were non-significant. In Appendix 3 (see supplementary material), the adjusted odds/means are also presented in a table with 95 % confidence intervals.

4. Discussion

With this study we aimed to examine whether three groups based on religiousness at baseline would differ with regard to (1) the odds of meeting the classification of MDD, (2) the severity of depressive symptoms, (3) the odds of having suicidal thoughts (in the last week), and (4) the severity of suicidal ideation. In accordance with our hypothesis, we did not find any notable differences between three groups for all outcomes, in both the total NESDA sample as a subsample with MDD. On a population level in the Netherlands, being religiously affiliated with more or less commitment / attendance was neither related to depressive problems nor suicidal ideation.

Our findings seem to be in contrast to some of the literature discussed in the introduction (e.g., studies mentioned in Mosqueiro et al. (2020), Koenig et al. (2024a), Koenig et al. (2024b) or Poorolajal et al., 2022), and in line with others (e.g., studies included in Braam & Koenig (2019) or Lawrence et al., 2016). It seems plausible that our findings reflect the notion that religiousness should be approached as a multidimensional phenomenon, with a mixture of both positive and negative relationships with mental health. For example, in case of suicidality, Chen and VanderWeele (2020) discuss a few potential mechanisms for an inverse association, such as religion providing moral objections against suicide, teaching about leading a healthy lifestyle and social integration or control. On the other side, religiousness may also lead to struggles in the context of depression and suicidality (e.g., Exline et al., 2000), such as feeling guilty, distant from God, or abandoned by a religious

Table 2
Clinical Characteristics of the two samples at baseline.

	All participants at baseline (N = 2981)		Participants with classification MDD at baseline (N = 1115)			
	Non-affiliated (N = 1897)	Affiliated LCA (N = 619)	Affiliated HCA (N = 465)	Non-affiliated (N = 706)	Affiliated LCA (N = 230)	Affiliated HCA (N = 179)
Outcomes						
Depressive symptoms (M, SD)	21.4 (14.0)	21.5 (14.2)	21.8 (14.4)	32.3 (12.3)	33.0 (11.8)	33.7 (12.4)
Suicidal ideation (M, SD)	0.3 (1.1)	0.3 (0.9)	0.3 (1.1)	0.7 (1.6)	0.6 (1.4)	0.8 (1.6)
Suicidal thoughts present in the last week (N, %)	227 (12.0 %)	69 (11.1 %)	55 (11.8 %)	174 (24.6 %)	55 (23.9 %)	47 (26.3 %)
Descriptive characteristics						
Suicide attempt (N, %)	212 (11.2 %)	73 (11.8 %)	62 (13.3 %)	142 (20.1 %)	47 (20.4 %)	46 (25.7 %)
>1 suicide attempts (N, % within attempts)	83 (39.9 %)	27 (37.0 %)	21 (33.9 %)	59 (42.1 %)	19 (40.4 %)	16 (34.8 %)
Suicidal reactivity	4.9 (4.6)	4.6 (4.6)	4.7 (4.6)	7.7 (5.0)	7.4 (5.0)	7.3 (5.2)
Anxiety symptoms (M, SD)	12.1 (10.7)	12.0 (10.4)	12.2 (11.0)	17.8 (11.0)	18.0 (11.3)	19.6 (11.9)
Loneliness (M, SD)	4.3 (3.7)	4.4 (3.7)	4.4 (3.9)	6.2 (3.5)	6.3 (3.5)	6.1 (3.8)
Insomnia (M, SD)	8.1 (5.1)	8.5 (5.3)	7.9 (4.9)	10.4 (5.3)	10.9 (5.6)	10.0 (5.1)
Neuroticism (M, SD)	36.2 (9.5)	36.2 (9.3)	36.5 (9.1)	42.2 (6.8)	42.2 (6.7)	42.5 (6.8)
Childhood trauma (M, SD)	1.6 (2.1)	1.5 (2.1)	1.6 (2.2)	2.2 (2.3)	2.2 (2.3)	2.3 (2.4)
Social support (M, SD) ¹	38.5 (6.4)	38.0 (4.7)	37.9 (4.7)	37.7 (9.0)	37.2 (5.1)	37.0 (4.9)
No social support (N, %) ²	183 (9.6 %)	55 (8.9 %)	46 (9.9 %)	83 (11.8 %)	26 (11.3 %)	25 (14.0 %)
>1 negative life-event (N, %)	446 (23.5 %)	134 (21.6 %)	107 (23.0 %)	204 (28.9 %)	75 (32.6 %)	55 (30.7 %)

Note. HCA = affiliated and higher commitment/attendance; LCA = affiliated, but no to low commitment/attendance; MDD = major depressive disorder.

¹ = based on the highest reported support from partner or confidant.

² = people with no reported social support from a partner or confidant.

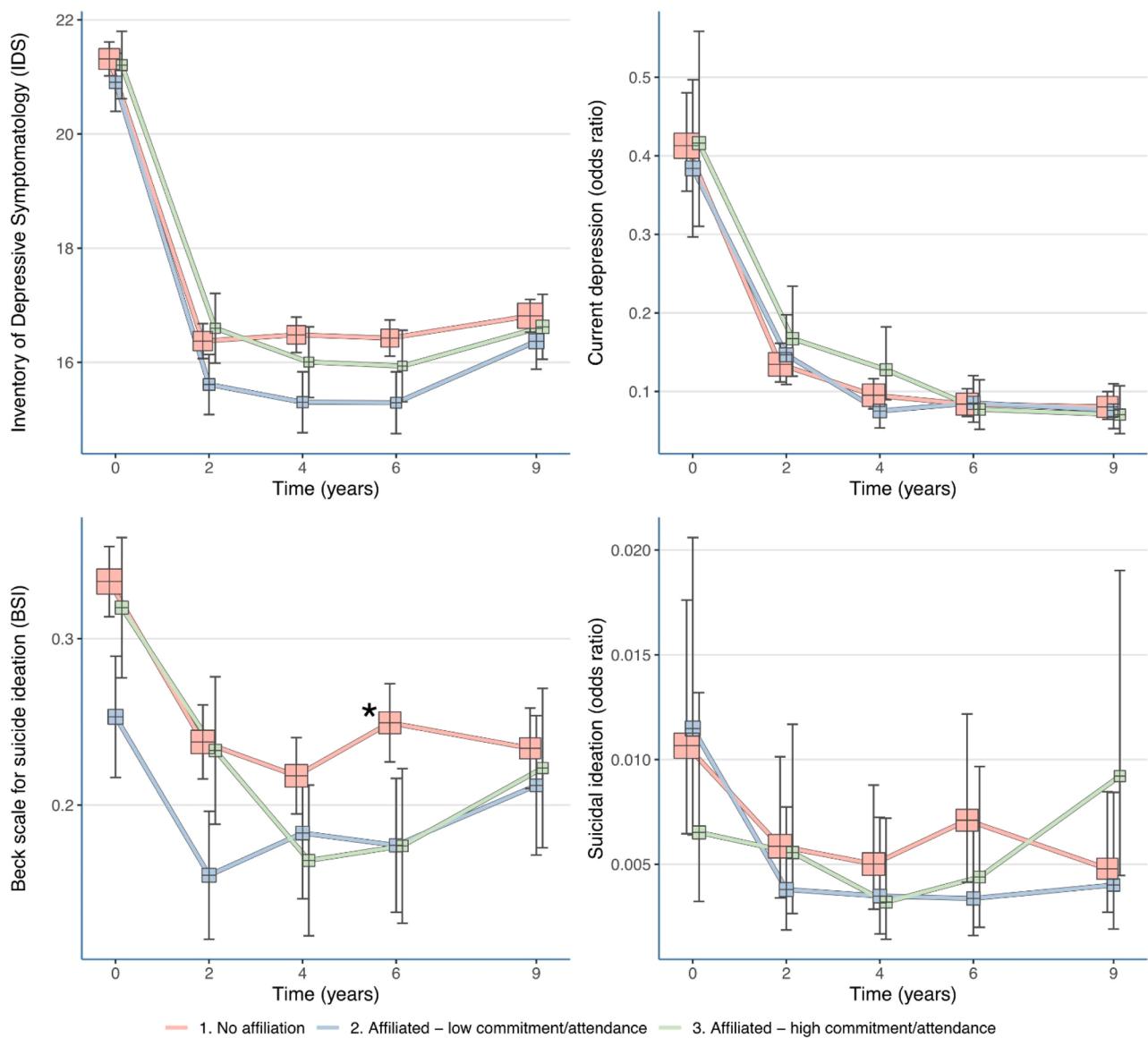


Fig. 1. Graphs with the adjusted odds/means scores over time within the total sample ($N = 2981$)

* $p < 0.05$.

community, which in turn could increase problems suicide risk. Placed within the motivational-volitional model of suicidal behaviour (O'Connor and Kirtley, 2018), it may even be the case that for a religious person the feeling of being distant from God or abandoned by a religious community is a motivational moderator of the process from feeling defeated and entrapped to suicidal ideation and intent, while the moral objection against suicide that stems from religion may prevent the same person from moving towards actual suicidal behaviour.

Comparable individuals effects may apply to depressive problems: in terms of behavioural (in)activation (Lewinsohn, 1974), for example, it may be that for some people religiousness has a buffering effect against depression (e.g., positive organized religious activities preventing the experience of a vicious circle of avoidance that may fuel depressive problems), while for others it may conversely nurture their depressive problems (e.g., thoughts like '*I am not a good [believer], because I am suffering from depression*' leading to feeling guilty and maintaining that avoidant behaviour). On average in the Dutch population, these effects may level out when we look at whether someone is religiously affiliated or not with more or less commitment/attendance.

We must note that of the studies so far on religiousness and

depressive symptoms and suicidal ideation, the majority have been conducted outside of Europe, with a significant number in the United States. The lack of differences in our study may align with the trend reported by Braam and Koenig (2019) that, although not statistically significant, studies originating in Europe were less likely to report significant associations of less depression over time compared to studies in the United States and Canada. Compared to Europe and in this case The Netherlands, it may be that in the United States, despite there being a secularization trend in both countries (Smeets and Houben, 2023; Voas and Chaves, 2016), there still is a greater tendency on a population level to be more religiously affiliated in general as well as to report religion as important for personal, social or cultural life (e.g., PEW Research Center, 2018, p. 47). For example, in the Netherlands 42.8 % of people over the age of 15 still felt affiliated to a religious denomination in 2022, while only 12.1 % regularly attended a religious service (monthly or more; Smeets and Houben, 2023)). In comparison, among adults in the US 69 % felt affiliated in 2021 and 31 % attend religious services at least once a month (PEW Research Center, 2021, p. 5). These differences might account to some extent for the differences in the relationship between more basic demographic or belonging/behavioural measures of

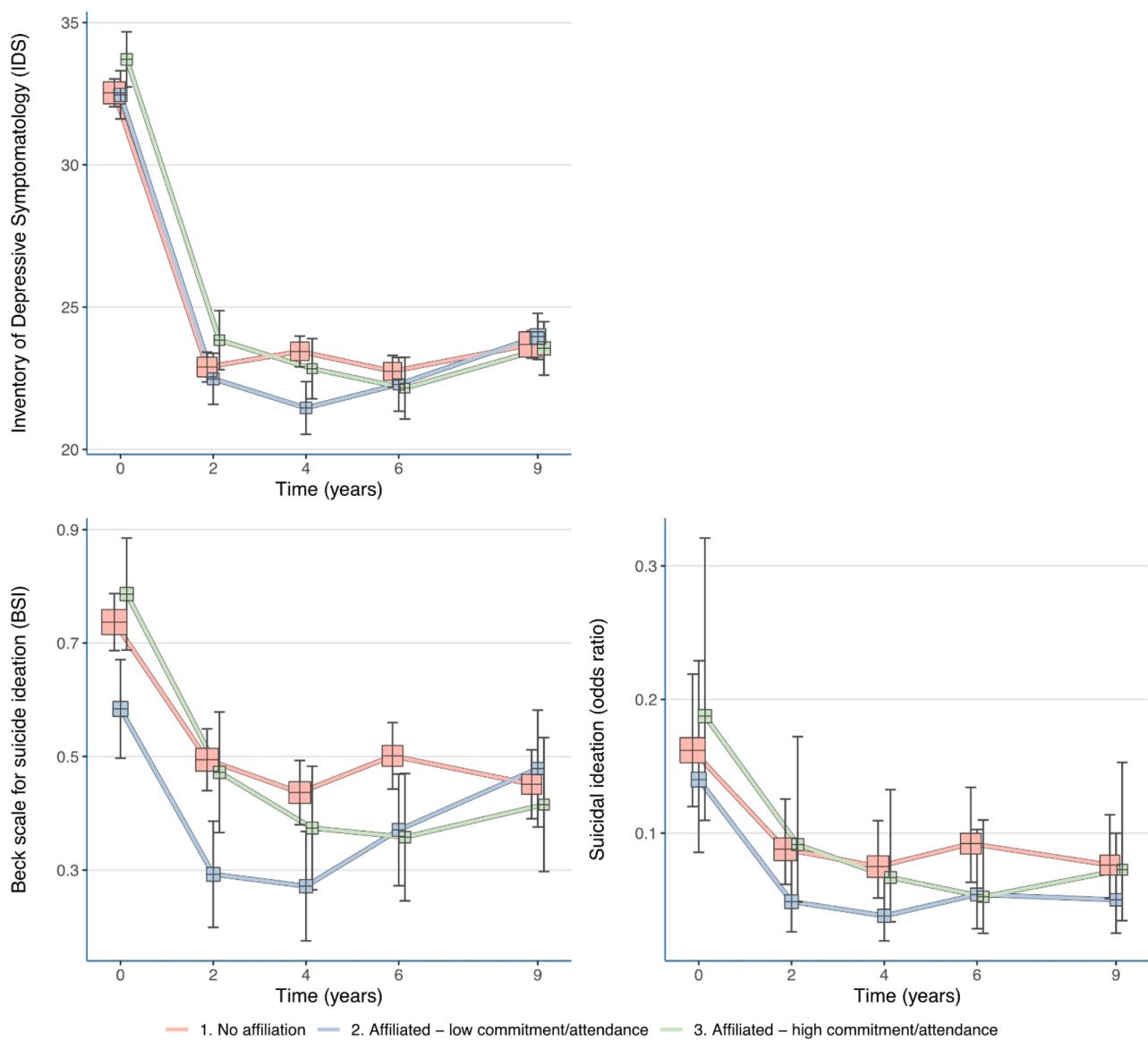


Fig. 2. Graphs with the adjusted odds/means scores over time within the subsample of people with a classification of MDD at baseline ($N = 1115$).

religiousness and depression or suicidal ideation on a population level.

4.1. Strengths and limitations

To our knowledge this is one of the first longitudinal studies examining the association between religiousness, depressive problems and suicidal ideation in a large cohort group of participants in the Netherlands. The use of the NESDA data made it possible to consider data from a large clinical case-control cohort at multiple follow-ups. Next to this, our study both performed the analyses in the total sample (both a general and clinical population) and in a subsample of participants with the classification of MDD.

However, this study has several important limitations, particularly regarding the measurement of religiousness. First, religiousness was assessed only at baseline, treating it as a fixed trait rather than a dynamic construct. Given ongoing secularization in the Netherlands (e.g., 60 % religiously affiliated in 1990 vs. 53.8 % in 2012; [Smeets, 2020](#)), and evidence that individual religious affiliation and its relationship to mental health can change over time (e.g., [van den Brink et al., 2023](#)), follow-up data would have provided a more accurate picture. People may have provided a different answer about their affiliation,

commitment or attendance when this was also asked at different follow-up waves. Moreover, it is possible that the relationship between religiousness and depression and suicidal ideation has shifted over time due to changes in societal norms and attitudes. What once may or may not have provided support or (moral) guidance, may now be experienced differently in a more individualized and secularized society.

Second, our assessment relied on only three demographic and behavioral items, offering a limited view of religiousness. More nuanced aspects, such as affective God representations ([Jongkind et al., 2018](#); as measured with the Questionnaire God Representations (e.g., [Schaap-Jonker and Vrijmoeth, 2024](#)), inner peace ([van den Brink et al., 2023](#)), or religious struggles ([Currier et al., 2020](#); [Lemke et al., 2023](#); as measured with the Religious and Spiritual Struggles Scale (e.g., [Exline et al., 2014](#)), might be more relevant to relate to depression and suicidal ideation. Third, the operationalization lacked specificity, grouping diverse religious backgrounds and Christian denominations into just two categories, potentially masking meaningful distinctions and failing to do justice to religion as a multidimensional concept. We therefore do not know, for example, whether or not the results are potentially generalizable to non-Western societies or religious groups where attendance and/or commitment is more or less perceived as important. Finally, the

study faced some statistical limitations as well. Group sizes were unbalanced, with the non-affiliated group much larger than the affiliated HCA group. Also many participants reported no suicidal ideation, so the prevalences were rather low.

4.2. Implications for research and clinical practice

Given the limitations, one direction may be to replicate our study aims to check whether our results holds in other Western European countries. Another one, and in line with similar research on anxiety disorders (Bos et al., 2024), maybe that further research on religiousness, depressive problems and suicidal ideation ideally includes more comprehensive cognitive and emotional aspects of religiousness. Although we feel it was the best we could with what was measured, the operationalisation of religiousness is rather simplistic. In addition, we propose to examine the relationships within (well-defined) religious groups and to measure religiousness over time. It would be for example interesting to take into account the variance in religiousness and depressive problems over a longer time frame to examine the complex directions (e.g., whether religiousness may indeed prevent these problems, whether depressive problems may affect someone's religious activities or in what way religiousness may help or interfere in the treatment of depression (Koenig et al., 2024a)).

Such research may also help clinicians to get grip on which aspects of religiousness should be addressed in a clinical setting and how this could be done (in a systemic way), as we know from research so far that religious people in general find it helpful when their therapist is open to address their religiousness or spirituality in treatment (e.g., van Nieuw Amerongen-Meeuse et al., 2020; Oxhander et al., 2021). One simple question that could have the potential to open up the conversation about religiousness / spirituality in case of suicidal ideation or the vicious cycle of depression may be: *'Do you feel that religion/spirituality is a source of support for you or do you struggle with it in this period?'*. In case it is applicable and desirable, a therapist could integrate religiousness / spirituality further into therapy, either flexible with Socratic questioning or by following a protocol (such as Spiritual Psychotherapy for Inpatient, Residential and Intensive Treatment; Rosmarin et al., 2019). Previous research has shown that in religious people religion and spiritually-based (R/S) therapies are at least even effective and may be even more effective than regular therapies (Bouwhuis-Van Keulen et al., 2023; Captari et al., 2018). A last implication for clinical practice might be that for religious people suffering from depression and suicidal ideation, it feels supporting to know that they are certainly not alone; on a population level in the Netherlands just as much religious as non-religious people may be struggling with these problems.

4.3. Conclusions

In conclusion, this study aimed to examine the relationship between religiousness (as measured by three groups based on affiliation, attendance and commitment at baseline) with (the course of) depressive problems and suicidal ideation on a (clinical) population level in the Netherlands. The results showed no relevant differences between the groups. However, we must note that there were several important limitations that should be taken into account. For future research, we propose to include religion as a multidimensional concept, where different aspects may have a different relationship with depressive problems or suicidal ideation. Focus should be on specific religious groups and on the relationships over time, while focusing on the more internal cognitive and emotional aspects of religiousness. In this way, scholars may provide clinicians with directions for the integration of someone's religiousness in the treatment of depressive problems and/or suicidality.

Statements

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Data availability statement

The data that support the findings of this study are available from the Netherlands Study of Depression and Anxiety (NESDA). Restrictions apply to the availability of these data, which were used under license for this study. Data are available from the corresponding author, but only with the permission of NESDA.

CRedit authorship contribution statement

Cis Vrijmoeth: Writing – original draft, Formal analysis, Conceptualization. **Joy Blok:** Writing – original draft, Formal analysis. **Bart van den Brink:** Writing – review & editing, Conceptualization. **Hanneke Schaap – Jonker:** Writing – review & editing, Conceptualization. **Erik J. Giltay:** Writing – review & editing, Formal analysis.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Supplementary materials

Supplementary material associated with this article can be found, in the online version, at [doi:10.1016/j.psychres.2025.116762](https://doi.org/10.1016/j.psychres.2025.116762).

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