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Positive Effects of Adversity on Religiosity, Spirituality and Depression: A Systematic Review and Narrative Synthesis

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Abstract

The current study aimed to systematically examine the positive effects of adversity on the relationship between religiosity, spirituality, and depression. The search for studies involved 7 databases (via EBSCOhost), involving studies of the past 23 years from the year 2000 to 2022. The general search included keywords such as religion, religiosity, spirituality, adversity, stressful life experiences, and depression. Data was synthesised using a narrative synthesis approach. The extracted data were coded and grouped into themes, revealing relationships between adversity, religiosity, spirituality, and depression. The themes concerning contexts, mechanisms, and outcomes were then synthesised to identify emerging contexts and outcomes. The review found that, despite posing the risk of psychological distress in the short term, adversity could provide differential spiritual receptivity: a long-term morphological advantage for spiritual receptivity, growth and mental resilience. The protective effects of spirituality against depression (by significantly reducing the onset of depression and diminishing the probability of episode relapses) appear more significant in people who experience severe adversity. In contrast, religiosity appears more potent in individuals who experience less severe adversity. The research and clinical practice implications of these findings are also discussed.

Keywords: Religiosity, spirituality, depression, adversity, differential spiritual receptivity

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Introduction to Key Concepts

In this study, adversity or suffering means an event or experience that poses elevated risks for psychological distress, such as stress or depression (Bickel et al., 1998). Suffering includes a significant illness or disability, death of an intimate partner or loved one, divorce, and significant loss of livelihood or property (Smith et al., 2003).

Religiousness and spirituality (R/S) are complex and multifaceted constructs generally used interchangeably, although they are different terms. According to Davis et al. (2023), religiousness pertains to the pursuit and response to sacred meaning, transcendent significance, consonance, and connection within the context of culturally sanctioned codification. This codification may include beliefs, values, and morals; rituals such as prayer, contemplation, and collaborative worship;

and institutions such as families, faith communities, schools, and organisations. On the other hand, spirituality refers to the pursuit and response to meaning and connection with anything deemed sacred, typically transcendent supernatural entities such as deities/divinities, saints, ancestors, air, or fate/fortune. It may also include aspects of life viewed as an incarnation of the divine, such as close human connections, or as having transcendent or divine-like realities like nature or the universe. Therefore, R/S is used in this review to refer to the pursuit and response to sacred meaning and connection.

In the context of mental health, depression is considered a mood disorder characterised by significant impairments in cognition, physiology, affective, and social functioning (Beck & Alford, 2009). The aetiology of depression is one of the equivocal issues in mental health research. The general consensus among many scholars is that depression is caused by an interaction of many factors, including cognitive, biological, psychological, and social factors (Clack & Ward, 2019). Fundamentally, the causal relationship between symptoms of depression is best described as multidirectional rather than unidirectional. According to the Unified Model of Depression (UMD) by Beck and Bredemeier (2016), negative cognitions and beliefs play a central role in the development of the primary behavioural, emotional, and physical symptoms of depression. Consistent with cognitive-behavioural theory, the stressors in our lives and the meaning we ascribe to the self, others, and the future influence how we feel, behave, and relate to ourselves and others (Beck, 1993; Beck & Dozois, 2011). However, there is also evidence that a predisposition to negative emotional (mood) states can lead to negative beliefs, behaviours, and cognitions (Clack & Ward, 2019). Scientific evidence shows that behaviours can also lead to negative cognition and effects. For example, some negative behaviours, such as withdrawal from social and other activities and psychomotor retardation, can fuel a cycle of negative thinking (Clack & Ward, 2019). Moreover, the alternative view also suggests that emotional changes (such as low mood) can be the main trigger for negative cognition, behaviour, and, consequently, depression (Clack & Ward, 2019).

2. Theoretical Relationship Between R/S and Depression

R/S is a socio-psycho-spiritual phenomenon that has the potential to influence and be influenced by cognitive, affective, biological, and behavioural aspects of an individual. Empirical evidence over the past few decades has shown a significant and negative association between R/S and depression; high levels of R/S are significantly correlated with fewer depressive outcomes (Miller, 2021). Although R/S can positively influence depression in many ways, scholars attribute the R/S–depression relationship to R/S's ability to build or enhance positive cognitive, affective, and behavioural competencies. For example, R/S can provide life meaning, core values, and principles that constitute the believer's attitudes, beliefs, and practices. Positive religious attitudes and beliefs may give individuals resources for appraising adverse life events that reduce the perceived stressfulness of those events (Pargament, 2001). Positive social support from religious communities may encourage social engagement and behaviours such as giving and receiving social support, altruism, forgiveness, and gratitude, which have been found to offer protection against depressive symptoms (Koenig et al., 2012). However, negative religious attitudes, beliefs, and practices may provide negative coping styles that might attenuate the protective effects of spirituality. Negative R/S beliefs may also create high standards that are difficult to live up to, resulting in a sense of failure and guilt. Those unable to live according to these standards may face rejection from their faith community, leading to social isolation (Pargament et al., 2011). Recent

research suggests that depression could negatively affect not only religious/spiritual development but also the protective effects of R/S against subsequent depression. A history of depressive episodes—an adversity and risk factor for the recurrence of depression—can attenuate the importance of R/S and diminish individuals' pleasure, energy, and ability to engage in specific religious endeavours, such as attending religious services (Smith et al., 2003).

Considering the prevalence of depression and the burdens it creates, researchers worldwide have invested significant resources to identify effective ways to tackle it. In the past few years, consistent scholarly evidence has shown R/S to be one of the most protective factors against depression (Smith et al., 2003). However, it is important to note that findings can vary across different studies and populations, influenced by cultural, contextual, and individual factors. Exploring these inconsistencies is crucial for a comprehensive understanding of how R/S impacts depression. Moreover, understanding the specific mechanisms through which R/S exerts its effects can provide deeper insights into its protective role.

3. Relationship between Adversity, R/S and Depression

Scholarly evidence indicates that the relationship between R/S and depression can be influenced by many factors, including cultural differences, variations in religious practices, and individual differences in spiritual experiences (Koenig, 2009; Pargament et al., 1998; Smith et al., 2007). However, empirical evidence also indicates that the R/S – depression relationship can be positively or negatively influenced by adversity (Pargament, 1997). For example, Ano et al. (2005) posit that adversity can have a negative effect on R/S, which can then attenuate its protective effect on depression. Literature on R/S and mental health has shown that adversity can also have a positive effect on the relationship between R/S and depression. For example, Smith et al. (2003) found that the negative association between R/S and depression is even stronger for people who have recently undergone high-life stress. This phenomenon has been called the buffering hypothesis (e.g., Schnittker, 2001; Smith et al., 2003). Schnittker (2001) found that religiosity (operationalised as spiritual help-seeking and religious salience) exhibited significant stress-buffering effects against depression when participants experienced multiple adversities. Smith et al. (2003) also showed that religiousness offered greater protection against depression to individuals who experienced higher stress levels than those who experienced low stress levels. Adversity, therefore, has the potential to moderate or mediate the relationship between R/S and depression. This complex interplay of factors, including the type and severity of adversity, socio-economic status, cultural background, and personal coping mechanisms, can increase or decrease the buffering effects of R/S against depression. Acknowledging these factors is essential to fully understanding the dynamics at play. This review aims to build upon previous significant studies in this area, such as the work by Smith et al. (2003). These earlier studies, with their specific review methods and narrow inclusion criteria, presented evidence concerning the buffering effect up to the year 2000. While the current review is not a comprehensive study or an update on the work by Smith and colleagues, it seeks to contribute to the foundational research by examining more recent studies and exploring additional moderating factors that may have emerged over the past two decades. Depression is the focus due to its common occurrence as a mental illness and its connection to the loss of hope, purpose, and existential meaning (Beck & Bredemeier, 2016). These constructs are closely related to mental well-being. However, findings related

to depression could also enhance our understanding of other mental health outcomes and overall psychological well-being, providing a more comprehensive view of the potential impact of R/S.

4. Review Aim

The current review aims to identify systematically and review studies published in the past 22 years (from January 2000 to December 2022) examining the moderating effects of adversity on the relationship between R/S and depression. Specifically, the review aims to answer the following question: Does the relationship between R/S and depression change depending on adversity? By addressing this question, this review will provide deeper insights into how R/S interacts with adversity to influence depression, ultimately enhancing our understanding of the protective and risk factors involved in mental health.

5: Methods

5:1 Inclusion and Exclusion Criteria

The review encompasses all quantitative studies that were published between January 2000 and December 2022. The review focuses on the studies of the past 22 years, mainly for practical reasons. Due to the emerging nature of the research area and the likelihood of Smith et al. (2003) reviewing prior studies, it seemed reasonable to concentrate solely on papers published from 2000. By limiting the scope in this way, the author can ensure that the review is as comprehensive and efficient as possible, given the limited available resources, including time. The review included studies that investigated the relationship between adversity, R/S, and depression and used validated scales assessing the different dimensions of adversity, religiosity, spirituality, and depression. The review also included studies that used participants of any gender, age or ethnicity and were written in English. The review excluded review papers and materials available outside traditional academic publishing (grey literature). Also excluded were studies with no specific focus on the varying dimensions of and the relationship between adversity, religion or spirituality, and depression.

6: Database Searching

The database search involved preliminary scoping and a comprehensive, intensive search. A preliminary scoping search of the literature was conducted to determine the feasibility of the systematic review and to help find other concepts and synonyms for the key concepts of religion, spirituality, depression, and adversity. With help from the Lancaster University Librarians, a final search strategy combining all search concepts was developed, tested, and refined in MEDLINE (via EBSCOhost). Relevant literature retrieved from the initial electronic databases search was screened to identify the seminal papers (papers previously known to the author to be the most prolific and relevant) for a possible snowballing effect (Mourão et al., 2020). The seminal papers had their indexing verified (that is, the marker, such as keywords used by authors that make it easy to be picked by the search engine logarithms), the search strategy revised accordingly and re-run to retrieve them and any similar publications. Then, a final search was done in 7 databases (via EBSCOhost), namely MEDLINE, PsychArticles, PsycINFO, Allied Health Literature (CINAHL) and OpenDissertations. The general search included six keywords: religion, religiosity, spirituality, adversity, stressful life experiences, and depression. However, it is worth noting

that the last database search included an expanded list of keywords or markers, some of which might not convey familiar explicit logic (such as “microstructural abnormality”,” buffering effects”, and “moderated mediation”). These unfamiliar terms resulted from the indexes some seminal papers' authors provided. Search terms, keywords and MeSH (Medical Subject Headings) terms were used to aid search engine algorithms in capturing as many relevant papers as possible (Aromataris & Riitano, 2014). To maximise the retrieval of relevant papers, the seminal papers' citations and reference lists were searched for additional relevant studies not identified in the database searches. To achieve this, all the potentially relevant studies cited (in the text and the bibliography) by the seminal papers (which were identified during the search strategy) were manually noted and added to the list of other potentially relevant papers. All the potentially relevant papers were then screened and analysed in depth, and only the papers that passed the inclusion criteria were added to the final list of papers to be reviewed in the current study.

7: Selection of the Relevant Papers and Critical Appraisal

The review included 16 studies using both cross-sectional (n=6) and prospective designs (n=10) with follow-up periods ranging from six months to 30 years. The studies employed various assessment methods, including self-reporting and non-self-reporting techniques. All reviewed studies featured self-reporting assessments, with 50% (n=8) using exclusively self-reporting measures and the remaining eight using a combination of self-reporting and other methods such as diffusion tensor imaging (DTI), magnetic resonance imaging (MRI), and frequency PCA for EEG alpha.

The decision to include or exclude studies was based on relevance to the review question (Wong et al., 2013). The quality of the papers was assessed using the NIH Quality Assessment Tool (National Institute of Health, 2018), which evaluates study design, reporting quality, and risk of bias through 14 questions. This tool is reliable and valid across different study designs, considering aspects like theoretical framework reference, sample representativeness, research setting description, and method-analysis fit. Each study received a quality rating of "good," "fair," or "poor" based on the number of questions rated as good: poor (0–4), fair (5–10), or good (11–14). Most studies were rated as having good quality, with only two studies rated as "fair" and the rest as "good."

8: Data Extraction and Synthesis

A data extraction form was developed for the specific needs of this review to extract the information to answer the review question. The data extraction form had several columns, namely: study title, design and follow-up period for prospective studies, assessments, type of adversity, religiosity or spirituality, association type (between adversity, religiosity, spirituality and depression), quality rating, demographics of participants (gender, religious affiliation, race and ethnicity), and the country where the study was conducted. Following data extraction, an initial assessment was done to determine the most appropriate data synthesis approach for the review (Aveyard et al., 2021). The assessment determined narrative synthesis to be the right approach (Popay et al., 2006). There were two main reasons for this decision. Firstly, there was a small number of studies included in the review, and secondly, the current review involves studies with diverse methodological and contextual approaches,

so statistical synthesis was not feasible. Narrative synthesis is often used when a small number of studies are involved in the review and statistical synthesis is not feasible (Aveyard et al., 2021). A narrative synthesis approach seeks to report patterns of findings across included studies. It, therefore, provides a way of arranging information, interpreting the study findings and attempting to find explanations for the findings, enhancing the review's interpretation (Popay et al., 2006). Informed by a thematic analytic approach to coding (Braun & Clarke, 2006), the extracted data were coded and grouped into themes revealing relationships between adversity, religiosity, spirituality, and depression. The themes were then synthesised concerning contexts, mechanisms, and outcomes to identify emerging contexts and outcomes (Kantilal et al., 2020). In line with Popay et al. (2006)'s narrative synthesis guidance, the results of the systematic review are described and discussed textually, with a focus on the context and study characteristics to develop a more prosperous, in-depth understanding of the results than that presented in the statistical analyses (Aveyard et al., 2021).

9: Results

9:1 Retrieved Papers

The literature search returned a total of 805 records. After an initial screening, 298 papers remained after eliminating the irrelevant papers. 98 duplicate references were deleted. After 133 papers were eliminated through abstract evaluation for not meeting the inclusion criteria, 67 papers remained. A total of 22 records were identified from a reference list of relevant studies. After abstract evaluation, only 8 papers were retained and added to the 67 papers identified through database search for in-depth screening. A total of 75 full-text papers were then screened and analysed in depth. Fifty-nine papers failed to meet the mentioned inclusion criteria and were considered irrelevant for this review. The remaining 16 papers were considered relevant for this review and were included in the final list (see Fig. 1 for a visual presentation of the selection process). This has been reported using the PRISMA reporting guideline. More detailed information about the characteristics of the studies included in the review is summarised in Table 1.

9:2 Characteristics of the Reviewed Literature

Demographics of the Participants

Studies reported a total of 6,181 participants, of which 72.9% were adults aged between 18 - 65 years, and 27.1% were adolescents aged between 11-17 years. Seven of the 16 studies did not report participants' gender. However, 68.4 % of the 5,172 participants reported by 9/16 studies were female (n=3, 540), and 31.6% (n=1,632) were males. Most studies did not report the participants' religious affiliations (10/16) or racial/ethnic backgrounds (6/16). However, among the studies that reported the religious affiliation or ethnicity of the participants, 64% were Christians, and Caucasians were 71.9% of the total number of participants. Fourteen studies were conducted in the United States of America, and the remaining studies were conducted in Ireland (n=1) and Singapore (n=1).

Figure 1: PRISMA flowchart showing the search process, retrieval and inclusion of studies in the review.

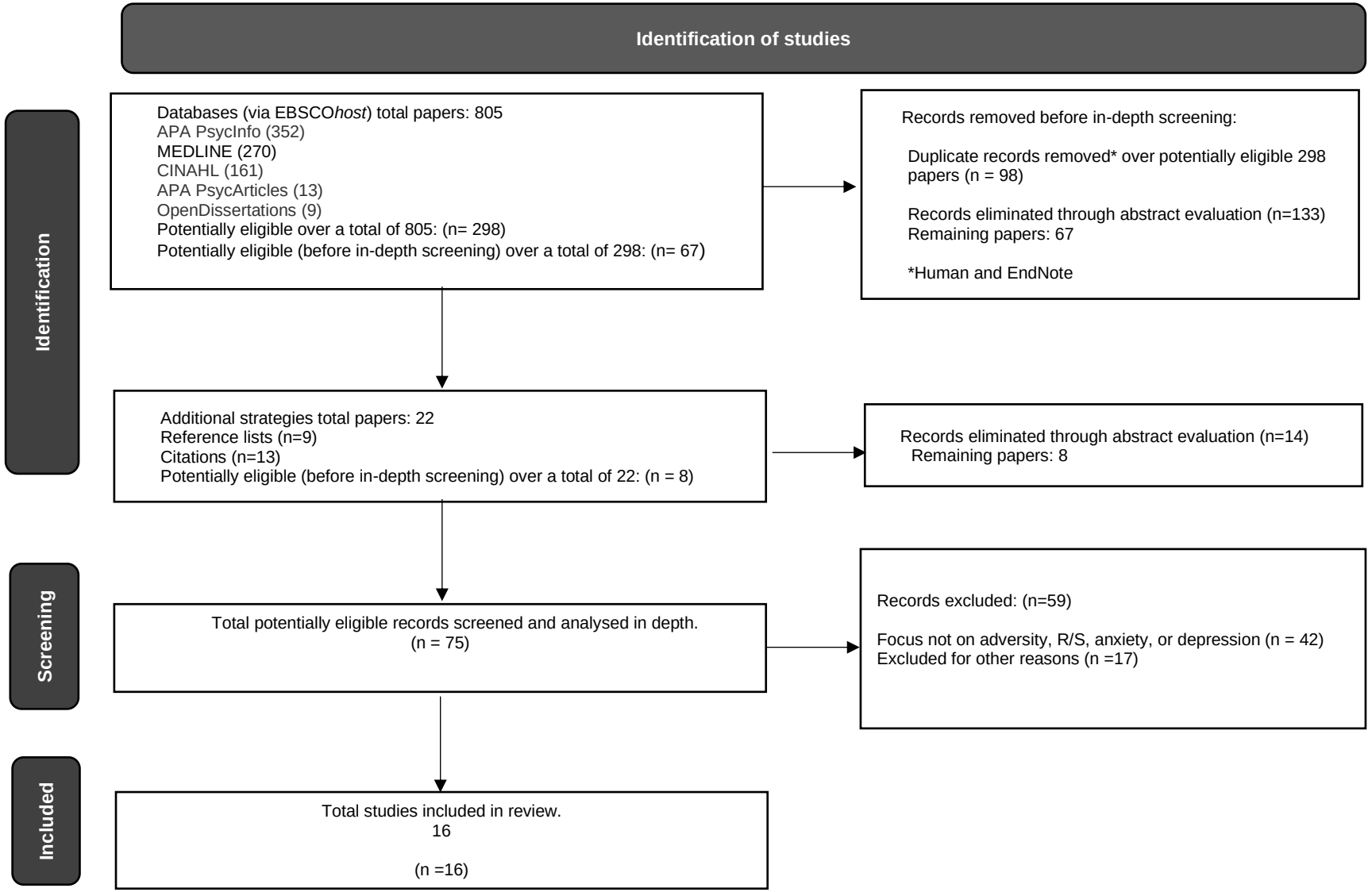


Table 1: Characteristics of the studies included in the review.

Study name	Design (Years of follow-up period)	Assessments	Depression Type	Adversity Type	Religiosity or Spirituality	Quality Rating	Association	Participants						Country
								Males (N =)	Females (N =)	Religious Affiliation	Race or Ethnicity	Total (N =)	Age	
Anderson et al (2020)	Prospective (2/10)	Self-reporting	MDD	Familial Health-related	Religiosity Spirituality	Good	H G	-	-	-	-	79	Middle-aged	USA
Anderson et al (2017)	Prospective (30)	Non-self-reporting Self-reporting	MDD	Familial Health-related Intimate Financial	Religiosity Spirituality	Good	C J	178	156	Christian (79.3%)	Caucasian (99.1%)	334	31.5 (Mean)	USA
Barton (2016)	Cross-sectional	Self-reporting	DD	Transitionary Health-related	Religiosity Spirituality	Good	C A B	1,181	2,625	Christian (71.6%)	Caucasian (66%)	3,806	20	USA
Barton et al (2013)	Prospective (25)	Self-reporting	MDD	Familial Health-related	Religiosity	Good	E	-	-	-	-	173	Over 18	USA
Jacobs et al (2012)	Prospective (10)	Self-reporting	MDD	Familial	Religiosity Spirituality	Good	D K	-	123	-	-	123	12	USA
Kasen et al (2012)	Prospective (10/20)	Self-reporting	MDD	Familial Health-related Intimate Financial	Religiosity Spirituality	Good	F A B	77	108	Christian (79.5%)	-	185	29 (Mean)	USA
Li et al (2019)	Cross-sectional	Non-self-reporting Self-reporting	MDD	Familial	Spirituality	Good	A B	-	-	-	Caucasian (100%)	122	Over 18	USA
Liu et al (2017)	Prospective (30)	Non-self-reporting Self-reporting	LD	Familial	Religiosity Spirituality	Good	C A B	-	-	-	Caucasian (100%)	106	Over 18	USA
Lorenz et al (2019)	Prospective (0.5)	Self-reporting	LD	Familial Health-related Intimate Financial	Religiosity Spirituality	Fair	C A B	-	-	-	-	132	Over 18	Ireland (R)
McCormick et al (2017)	Cross-sectional	Self-reporting	LD	Familial Health-related Intimate Financial	Religiosity Spirituality	Good	G	-	279	Christian (52.5%)	Caucasian (60.6%)	458	Over 18	USA
Miller & Barton (2015)	Cross-sectional	Non-self-reporting Self-reporting	DD	Transitionary Health-related	Spirituality	Good	I	61	64	-	-	125	16.2 (Mean)	USA
Miller et al (2012)	Prospective (10)	Non-self-reporting Self-reporting	MDD	Familial Health-related	Religiosity Spirituality	Good	C A B	-	-	-	-	114	Over 18	USA
Miller et al (2014)	Prospective (30)	Non-self-reporting Self-reporting	MDD	familial	Spirituality	Good	A B	40	63	-	-	103	37.4 (Mean)	USA
		Self-reporting		Familial				76	89	Christian				

Raj & Sim (2020)	Cross-sectional		LD	Health-related Intimate Financial	Spirituality	Fair	B			(39%) Buddhists (30%)	Chinese (70%)	165	22.24	Singapore
Svob et al (2016)	Cross-sectional	Non-self-reporting Self-reporting	MDD	Familial	Spirituality	Good	A B	-	-	-	-	104	11- 60	USA
Tenke et al (2013)	Prospective (10)	Non-self-reporting Self-reporting	MDD	Health-related	Spirituality	Good	A B	19	33	-	Caucasian (100%)	52	37 (Mean)	USA

Key for table 1

A: Spirituality significantly and negatively associated with depression only in adversity or more significantly in adversity compared to adversity-free conditions.
B: Spirituality negatively associated with depression
C: Religiosity or spirituality not associated with depression
D: Religiosity significantly and negatively associated with depression
DD: Developmental depression
E: Religiosity significantly and negatively associated with depression only in adversity
F: Religiosity significantly and negatively associated with depression only in adversity-free conditions
G: Spirituality significantly and positively associated with depression
H: Religiosity significantly and positively associated with depression in severe adversity or only in adversity
I: Religiosity/spirituality significantly and positively associated with depression.
J: Spirituality significantly and positively associated with depression AND with greater protection against recurrence of depression
K: Spirituality significantly and negatively associated with depression only in adversity-free conditions
LD: Lifetime depression by the virtue of having an onset or recurrence of any other kind of depression
MDD: Major depressive disorder

Methods Used in the Studies

The review involved 16 studies that deployed both cross-sectional (n=6) and prospective designs (n=10) with follow-up periods between six months and 30 years. Reviewed studies used self-reporting and non-self-reporting assessment measures. Self-reporting assessments were featured in all reviewed studies, of which 50% (n = 8) used self-reporting measures only. Eight studies (50%) used a combination of self-reporting and other measures such as diffusion tensor imaging (DTI), magnetic resonance imaging (MRI), and frequency principal component analysis (PCA) for electroencephalography (EEG) alpha. Most studies were assessed as having good quality. According to the NIH guidelines, the research paper can be assigned a Quality Rating of “good”, “fair”, or “poor” evaluated against the 14 methodological questions or criteria. Two studies reviewed in this study were rated as “fair”, and the rest had a “Good” Quality Rating.

Adversity

Following the thematic analysis of the studies, adversity was stratified into five groups: Familial, Health-related, Intimate, Financial and Transitionary. Most studies featured familial adversity (84.2%), health-related adversity (68.4%), and 36.8% for intimate and financial adversity. It is worth noting that many studies (n=11) measured multiple groups of adversities; hence, the reported percentage total of the adversity exceeded 100%.

Religiosity and Spirituality

Religiosity featured 62.5% (n=10) of the studies, whereas spirituality featured 93.8% (n=15). Again, the reported percentage exceeds 100% because most studies (n=11) measured both religiosity and spirituality.

Depression

Major depressive disorder (MDD) featured in 10 studies, whereas developmental depression (DD) featured in two studies. Lifetime depression (LD) by having an onset or recurrence of any other kind of depression is featured in four studies.

9:3 Evidence of the Moderating Effects of Religiousness and Spirituality

The review found evidence of the main effect of religiosity and spirituality. Figure 2 summarises the association between adversity, religiosity, spirituality, and depression. Most of the studies (n = 15) reported evidence of the main effect association, that is, a significant and negative correlation between spirituality (n=12), religiosity (n=3) and depression. These results also mean that high levels of spirituality were more likely to offer protection against the onset or recurrence of depression than high levels of religiosity.

However, the main question of this review was to examine the moderating effect of adversity on the relationship between religiosity and spirituality against depression. The results of the review provide evidence of adversity's moderating effect in that the relationship between R/S and depression significantly changes depending on the adversity. For example, Anderson et al. (2017) reported religiosity to be significantly or more significantly and negatively associated with depression only in adversity-free conditions. Two studies reported religiosity (Kasen et al., 2012) and spirituality (Jacobs et al., 2012) to be significantly and negatively associated with depression only in adversity-free conditions (in participants without parental depression). Conversely, ten out of 15 studies reported a significant and negative correlation between spirituality (n=12), religiosity (n=3) and depression only in adversity. For example, Miller et al. (2012) reported that within the group of persons with familial risk (parental depression (PD)), high spirituality, compared to low spirituality, was associated with 90% less risk of having depression over ten years. However, within the group that included persons without PD, high spirituality was associated with 75% less risk of having depression over ten years compared to low spirituality. It is worth noting that seven out of ten studies that reported a significant and negative correlation between R/S and depression only in adversity were prospective, and the other three were cross-sectional. This result could mean that the moderating effects of adversity need time to occur and be detected.

9:4 Adversity Can Lead to Depression.

A total of four studies found R/S to be positively associated with depression. For example, Anderson, Wickramaratne, Svob and Miller (2020) found religiosity to be significantly and positively associated with depression in severe adversity or only in adversity. In context, this could mean that some adversity in the presence of negative coping skills (such as religious struggle) could attenuate the R/S protective qualities against depression.

Adversity can lead to developmental depression and resilience against depression. Some adversities (such as transitionary adversity) have been associated with developmental depression. For example, two studies that involved participants in transitionary periods (Anderson et al., 2020; Miller & Barton, 2015) found R/S correlated with an increased risk of new-onset or recurrence of depression. Anderson et al. (2020) found that R/S was correlated with an increased risk of new onset of depression by 14-fold. Moreover, Miller and Barton (2015, p 817) found high levels of spirituality to be associated with developmental depression, a sub-type of moderate depression that the authors described as "a normative developmental process of spiritual individuation, the integration of existential and spiritual experience". Interestingly, Miller and Barton (2015) found that high levels of spirituality were significantly and positively associated with depression AND

protection against the recurrence of depression in adolescents and middle-aged individuals. According to the authors, this finding suggests that although the transitionary adversity (that is, the adolescence period) led to developmental depression, it is possible that the adolescent participants experienced spiritual growth in the process. Conversely, the higher spirituality levels could have provided more substantial protection against future depression.

9:5 Adversity Offers Morphological Advantage for Spiritual Growth and Mental Resilience.

In this review, evidence suggests adversity may offer an anatomical advantage for spiritual growth and, consequently, more protection against depression. For example, people with high depressive risk (by having PD or episodes of depression) had thinner cortices than those with low depressive risk (Liu et al., 2017; Miller et al., 2014). The studies found that the thinning of cortices and the previous episode of depressive illness contributed to a more substantial increase of cortical thickening in individuals who reported spirituality as important to them. These findings suggest that the cortical thinning and the "micro tear" (possibly due to psychological trauma) might have contributed to a more substantial cortical thickening. Thus, psychological trauma was suggested to be an added advantage in building stronger mental resilience; hence, Miller's assertion that "the large magnitude and spatially extensive degree of thinning ... in the [high risk] group may have afforded a larger potential effect of religiosity on cortical thickness than in the [low risk] group, where ceiling effects presumably constrained to some extent the morphologic effects of religiosity" (Miller et al., 2014, p. 133).

10: Discussion

This review examined the moderating effect of adversity on the relationship between religiosity, spirituality, and depression, finding that spirituality more consistently buffers against depression in the presence of adversity compared to religiosity. The evidence suggests spirituality offers protection in 80% of cases, while religiosity does so in 20%. This mirrors past findings that spirituality has stronger protective effects against depression than religiosity (Granqvist, 2020; Smith et al., 2003). The disparity may be due to more studies focusing on spirituality and the differing developmental pathways of religiosity and spirituality. Religiosity often stems from shared familial environments, while spirituality is influenced by genetic factors, shared environment, and unique personal experiences (D'Onofrio et al., 1999; Miller, 2021). Adversity may hinder religious engagement, reducing its protective effects, whereas spirituality, largely shaped by personal experiences, remains more resilient to such challenges.

In this review, some adversities (such as transitionary adversity) have been associated with developmental depression (Anderson et al., 2020; Miller & Barton, 2015). This result echoes other scholarly evidence that shows some forms of depression – especially those associated with significant life transitions or developmental milestones- could result from a heightened sense of spiritual growth (Davis et al., 2021; D'Onofrio et al., 1999). According to Miller and Barton (2015), the emergence of spiritual endowment can trigger developmental depression, a sub-type of moderate depression that the authors described as "a normative developmental process of spiritual individuation, the integration of existential and spiritual experience" (Miller & Barton, 2015, p817). As per the previous scholarly evidence, the emergence of transcendence may trigger milder forms of depressive symptoms, such as developmental depression and spiritual emergencies (Grof & Grof, 2017). Moreover, developmental depression is said to be common and potentially normative in the transitionary pathway, particularly in late adolescence, emerging adulthood, and middle age individuation (Miller, 2013). This suggests that some adversity signifies a normative spiritual and personal development or transcendence. According to the literature, transcendence – based on spiritual perception and affective and cognitive capacity

– is a developmental phenomenon that coincides with transitional experiences (Miller, 2013). The emergence of transcendence creates the craving for insight, greater understanding, life meaning, higher purpose, connection and the need for meta-cognitive and ego integration (D'Onofrio et al., 1999; Taylor, 2021). Spiritually themed psychological disturbances such as developmental depression and spiritual emergencies have been described as *Religious or Spiritual Problems* and **have been included in the** Diagnostic and Statistical Manual of Mental Disorders-Fifth Edition (American Psychiatric Association 2013; cf Turner et al., 1995). Although *Religious or Spiritual Problems* might exhibit some of the signature symptoms of depression, they do have distinctive differential diagnoses and interventions.

A notable finding of this study is that despite their malevolent nature, adversity has the potential for spiritual growth and protection against depression. This assertion is supported by the fact that high spirituality was found to be significantly and positively associated with depression AND protection against the recurrence of depression in adolescents and middle-aged individuals. The co-existence of high spirituality, elevated risks of the onset of depression and protective effects against the recurrence of depression can be due to the evidence that suggests adversity could offer a neuro-anatomical advantage for spiritual growth and, consequently, more protection against depression. According to Miller et al. (2014), the cortical damage possibly caused by adversity (such as depressive episodes) might provide the potential for more significant spiritual growth and stronger mental resilience. Miller et al. (2014) 's conclusion about building mental resilience mirrors the science of body muscle mass building. According to Dr Michael Karns, we build muscle mass from the microtears we sustain from exercise (University Hospitals, 2018). Once the muscle tear occurs, "the body sends good nutrition and good blood to the area to heal. This, in turn, is how you grow musculature. You have to break muscle down to build it back up stronger" (University Hospitals, 2018, p6). Thus, it takes a torn muscle, a good supply of nutrition, and time to build a stronger muscle. Analogically, it appears that rebuilding even more robust mental strength may involve a psychological disturbance. Like in the "microtear" effect of the muscles that build stronger muscles, Miller's study suggests that neurological depression associated with the thinning and probably the rupture of cortices breaks the ceiling effects that affords even more significant potential for thicker cortices. It probably takes a depressed mind (cortices), a good supply of mental "nutrition", and time to build a more resilient mind.

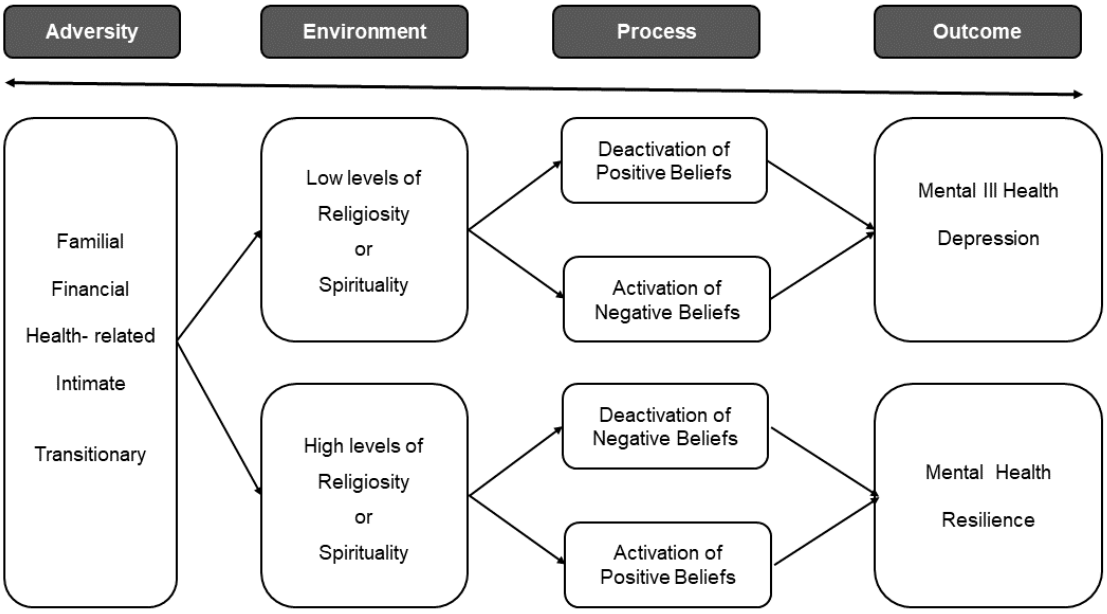
Moreover, transitional adversity not only poses an elevated risk for depression but can also herald significant potential for spiritual transformation and robust mental health (D'Onofrio et al., 1999). Empirical evidence suggests that spiritual growth is arduous and non-linear. Anderton et al. (2020) indicate that spiritual growth often emerges through struggles during adolescence and young adulthood, providing significant protection throughout adulthood. This growth experiences a resurgence in midlife struggles, offering further protection in late adulthood. Essentially, certain forms of depression and spirituality share common origins, biological factors, and characteristics, differing mainly in practice and use, thus appearing as two sides of the same coin (Miller & Barton, 2015). The review indicates that the psychological challenges inherent in transitional periods can be transformative, "perhaps even requisite" for spiritual growth (Miller & Barton, 2015, p. 817). Given that individuals with strong spirituality and religiousness tend to struggle the most during transitional periods (Anderton et al., 2020), it is reasonable to conclude that high levels of spirituality can offer greater protection against depression over time.

Could Adversity Provide a Case for Differential Spiritual Receptivity?

Considering the evidence found in this review, it is reasonable to assert that adversity could offer what I can

call *differential spiritual receptivity*: a morphological advantage for spiritual development and more significant protective effects against depression. Adversity and suffering, though potentially detrimental in the short term, can ignite a desire for R/S. Fulfilling this desire may offer protection against depression. Those experiencing distress not only possess a unique potential for heightened R/S but also benefit the most from it, gaining relief from suffering, personal growth, and mental resilience. This assertion is made stronger by the point alluded to earlier that spirituality is influenced not only by personal, unique and traumatic experiences but also by genetic factors, particularly dopamine DRD2 (Anderson et al., 2017; Miller, 2021). This also means that the phenotypic expression of genes, apart from posing an elevated risk for depression (by causing psychological distress or attenuating spiritual engagement), could also make individuals more receptive to spirituality and its protective effects against depression. Anderson et al. (2017) present an interesting perspective on the relationship between DRD2, depression, and spirituality. They suggest that susceptibility and sensitivity to the environment may be key in driving this association by influencing spiritual perception. This implies that individuals with certain genetic variations may have a heightened sensitivity to environmental factors, making them more prone to either spirituality or depression.

Figure 2: Summary of Differential Spiritual Receptivity and the Association Between Adversity, Religiosity, Spirituality and Depression.



The hypothesis of Differential Susceptibility (Belsky et al., 2022) and the theory of Reward Deficiency Syndrome (Comings & Blum, 2000) lend further support to the differential spiritual receptivity concept. According to Belsky et al. (2022), the essence of the differential susceptibility hypothesis is that certain people (for example, those with the dopamine DRD2 gene) who are highly susceptible to adversity are also highly susceptible to supportive conditions. To illustrate, Bakermans-Kranenburg and van Ijzendoorn (2011) reported that children with the "genetic risk" dopamine gene DRD2 recorded worse outcomes in adverse rearing environments than children without the genetic anomaly. However, the same children with genetic impediments profited more from supportive rearing environments than children without the impediment. Similarly, Reward Deficiency Syndrome suggests that the same people who are at risk for addiction due to decreased efficiency of their dopaminergic systems will respond to spiritual intervention, possibly due to stimulation of their dopaminergic systems (Anderson et al. 2017, p54). It appears that people genetically or neuro-structurally susceptible to depression, besides having a unique potential for higher spirituality, also have an advantage for greater protection against the onset or subsequent depression (Comings & Blum, 2000). In essence, adversity confers to offer morphological support for "better" outcomes (spirituality and protection against depression) or "worse" (lack of spirituality and clinical depression) depending on the environmental exposure. Adversity can trigger an appetite for spirituality, with protection against depression resulting from satisfying that craving. Conversely, clinical depression is synonymous with emotional (love) deficiency resulting from unsatisfied spiritual hunger (see Figure 2 for a summary of an interplay of adversity, R/S and depression). People try to top up their psycho-spiritual cravings when deprived of love with low-quality substitutes such as food, sex, and drugs (Pressman et al., 2005).

11: Clinical Implications

This review highlights the strong theoretical and empirical basis for religion and spirituality (R/S) as protective factors against depression. Historically, figures like Sigmund Freud viewed R/S negatively, equating it with psychosis rather than potential therapeutic intervention (Lukoff & Turner, 1998). This perspective has strained relationships between psychiatric care and spiritually inclined patients, who often see mental health professionals as unsupportive (Breuninger et al., 2014). "A critical finding of the study suggests that while Freud was partly correct in noting that R/S experiences can be pathological, some forms of R/S-related psychological trauma might ultimately prove beneficial." These traumas, viewed as "growth pings," are painful yet necessary for R/S growth, mental health improvement, and resilience with appropriate therapeutic support.

The review urges clinicians to recognise that psychological illnesses like developmental depression may stem from R/S issues and require R/S-focused interventions. It underscores the need for mental health professionals, regardless of their personal beliefs, to support R/S individuals facing depression and other mental health challenges. Spirituality shows significant protective effects against depression, especially in historical adversity, while religiosity is more effective in less adverse conditions. Thus, spiritually oriented-interventions might benefit those with a history of adversity, whereas religious interventions could suit individuals with minimal historical adversity or trauma. This analysis calls for a nuanced approach to

integrating R/S into mental health care, acknowledging both its potential pitfalls and transformative benefits for holistic and supportive patient care.

12: Limitations

Reviewed studies had methodological limitations. For example, 50% of the studies used self-reporting measures for data collection. Collecting information through self-reporting has limitations, as people are often biased when reporting on their experiences (Devaux & Sassi, 2016). Participants might be influenced by "social desirability," meaning they are more likely to report experiences that are socially acceptable or preferred. Self-reports are also subject to various biases, including participants making socially acceptable rather than truthful answers (honesty), participants' inability to assess themselves accurately (introspective ability), and the wording of the questions potentially being confusing or having different meanings to different subjects (interpretation of questions) (Podsakoff et al., 2003).

Another limitation of this review is the small number of studies involving a limited pool of participants. Most studies involved Christian Caucasian participants from the United States. Therefore, the associations observed here could be attributable to a consistent response bias across participants and studies, such as a desire to respond in socially appropriate ways (Smith et al., 2003). Nonetheless, the reviewed studies were of high-quality appraisal ratings and were conducted by seasoned researchers who used a combination of methodological designs and assessment measures. These limitations affect the interpretation and replicability of the review's findings, which are context-dependent. Moreover, the relationship between adversity, religiosity, spirituality, and depression is mainly correlational. The methodologies used in the studies included in this review make it empirically impossible to establish the causal effects of the associations. These methodological limitations are to be expected, considering the infancy of the research area. However, the high quality of the reviewed studies, coupled with the alignment of most findings with broader empirical and theoretical literature, mitigates some limitations (Ross & Bibler Zaidi, 2019).

13: Other Factors

It is worth noting that other factors might influence the effects of religiosity and spirituality on depression, including individual differences such as age, gender, educational level, and unique circumstances. Scholars have lauded religious coping style as one of the most notable moderating relationships between R/S and depression (Pargament, 2001).

Normativity within society is another socio-economic factor that can affect the R/S–depression link. It refers to phenomena like religion or spirituality being associated with favourable outcomes because they are normative in society. At a micro (family) level, children and young people may adopt the religious beliefs held by their parents, especially if their parents are affluent, educated, or caring, because they want to fit in and be accepted (Miller, 2021). Due to this societal normativity, R/S might positively affect children and young people through parental/family religiosity. At a macro level, religion has been positively linked to mental health in societies where religion is culturally normative but not in societies where religion is on the fringe, as in Scandinavian welfare states (Diener et al., 2011; Stavrova, 2015).

14: Future Research

Future research needs to test the influence of adversity on the effects of religion and spirituality against mental health problems, and Positive Psychology constructs such as flourishing. It should also examine the effect of possible compounding factors discussed in this study. Research should involve a broader pool of researchers and participants, particularly from other religions, communities, and countries. Such studies could be ideal in developing countries like those in Africa, where R/S infrastructure is more established, and adversity is more prevalent.

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