SAPIENZA UNIVERSITÀ DI ROMA

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The roles of stressful life events and religiosity in adolescent depression

Il ruolo degli eventi di vita stressanti e della religiosità nella depressione adolescenziale

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ARTICLE INFO

Submitted: 03 July 2019
Accepted: 27 August 2019
DOI: 10.4458/2733-01

ABSTRACT

Religiosity, the extent to which an individual is committed to the religion he/she professes, may be a protective factor against depression. Although in the Italian socio-cultural context religion is a predominant feature of society, the role of religiosity as a psychological buffer against depression in adolescence is under-studied. The present study explored (a) the association between recent stressful life events and depressive tendencies and (b) whether higher religiosity could be a predictor of lower depressive symptomatology controlling for the effects of stressful events in a sample of Italian adolescents. Two hundred seventy-five adolescents completed the Children's Depression Inventory and two questionnaires measuring religiosity and perceived stressful events, respectively. Fifteen percent of the sample reported depressive tendencies above clinical thresholds. Having experienced school problems and parents' separation was associated with higher depressive symptomatology. When religiosity was added in the logistic model, the effects of the stressors became non-significant, and a significant effect of religiosity emerged (β= -0.55, p= 0.01). Adolescents with higher religiosity reported lower depressive tendencies, irrespective of the stressors' type. Religiosity might be a psychosocial buffer against depression in adolescence.
Keywords: adolescents; depression; stressful life events; religion; values.

RIASSUNTO

Il livello di adesione alla confessione religiosa che si professa può essere un fattore protettivo per la depressione. Sebbene nel contesto socio-culturale italiano la religione sia una caratteristica importante della società, il ruolo della religiosità come fattore protettivo per la depressione adolescenziale è poco studiato. Il presente studio ha approfondito, in un campione di adolescenti italiani, (a) l'associazione tra eventi di vita stressanti recenti e (b) se la religiosità possa essere un predittore di minore sintomatologia depressiva controllando per gli effetti degli eventi di vita stressanti. 275 adolescenti hanno compilato il Children's Depression Inventory e due questionari rispettivamente sulla religiosità e sugli eventi stressanti percepiti. Il quindici per cento dei partecipanti ha riportato una sintomatologia depressiva sopra la soglia clinica. Problemi scolastici e separazione dei genitori erano i due eventi di vita stressanti associati a maggiore sintomatologia depressiva. Quando la religiosità è stata aggiunta nel modello logistico, gli effetti degli eventi stressanti sono diventati non-significativi, mentre è emerso un effetto significativo della religiosità (β= -0.55, p= 0.01). Gli adolescenti con un livello più elevato di religiosità hanno riportato minore sintomatologia depressiva, indipendentemente dal tipo di evento stressante. La religiosità potrebbe rappresentare un fattore protettivo per la depressione in adolescenza.

Parole chiave: adolescenti; depressione; eventi di vita stressanti; religione; valori.

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Adolescence: a critical period for the development of depressive tendencies

Adolescents account for 1.2 billion of the world's population, the largest ever adolescent population (Mark, 2013), representing one fifth of the global population (United Nations, 2011). Over 50% of mental disorders begin in adolescence (de Girolamo et al., 2012; Dick & Ferguson, 2015) albeit often recognised at a later time (Patel et al., 2007). Polanczyk and colleagues (2015) conducted a systematic review and meta-analysis on the worldwide prevalence of psychiatric disorders in children and adolescents, comprising forty-one studies conducted in twenty-seven different countries, resulting in a pooled estimate of 13.4% of youth affected by any psychiatric condition: namely, around 241 million children and adolescents in the world have a mental disorder (Polanczyk et al., 2015). Not only the prevalence of psychiatric disorders in adolescents is considerably high, they also account for 60–70% of the disease burden in that age range (Avci, Selcuk, & Kaynak, 2018; Whiteford et al., 2013). Furthermore, among youngsters, mental disorders account for 15–30% of the disability-adjusted life-years lost during the first three decades of life. For these reasons, it seems reasonable to study and invest in research addressed at better understanding and improving the mental health of adolescents.

In particular, the onset of new cases of depression may occur typically in adolescence (Kessler et al., 2005): according to Hetrick, Cox and Merry (2015), recent meta-analyses suggest the prevalence of depressive disorder in children under 13 to be at 2.8%, rising to 5.7% in adolescents (Costello, Erkanli, & Angold, 2006), and therefore it is important that research deals with this problem.

Adolescence is a critical period in which mental disorders have the potential to manifest themselves, leading to a higher risk of chronic psychiatric problems in adulthood (Barrett & Turner, 2001).

Depressive symptoms are associated with a range of adverse outcomes including comorbidity with other mental conditions, social impairment and negative effects on school performance (Frojd et al., 2008; Thapar et al., 2012). Clinical studies on youth depression showed that it can be chronic and recurrent: although most episodes remit within a year, the risk of recurrence in clinical samples is high, with 50-70% likely to develop a further episode within five years (Dunn & Goodyer, 2006; Maughan, Collishaw, & Stringaris, 2013). Finally, youngsters, as adults, can suffer from a number of invalidating symptoms of depression, without meeting all the criteria for the diagnosis of a major depressive episode (Bertha & Balázs, 2013).

Protective factors against depression

Several studies demonstrated the protective role of different psychological aspects (internal and external resources) against the development of depressive manifestations when facing stressful events, including social support, self-esteem and problem-solving based coping strategies (e.g., Dumont & Provost, 1999; Freeson & Eggermont, 2015; Huang et al., 2014).

Literature shows that protective factors moderate the impact of stress on depression (Breton et al., 2015): depressed adolescents typically adopt dysfunctional coping strategies and almost never resort to functional coping strategies. As highlighted by the authors, oftentimes clinicians tend to concentrate their attention on the risk factors more than on the protective ones (Breton et al., 2015). Nevertheless, focussing on the positive, i.e. on the positive action strategies that build resiliency (Bernard, 1991) and wellbeing, could be an effective way to prevent mental health issues.

Religiosity as a protective factor

A variable that has recently received attention in the depression literature is religiosity (Krok, 2015). Religiosity can be defined as the extent to which an individual is committed to the religion he or she professes and its teachings, such that his or her attitudes and behaviours reflect this commitment (Johnson et al., 2001).

Religiosity and spirituality have been found to be significantly correlated to measures of various psychopathological symptoms (e.g., Dèttore, Berardi, & Pozza, 2017) and wellbeing (e.g.,

Francis, Robbins, & White, 2003). Some evidence suggests that religiosity may act as a moderator between stress and depressive symptoms (Ahles, Mezulis, & Hudson, 2016). Prayer significantly predicted lower levels of depression, anxiety, somatic symptoms and social dysfunction in a community sample (Maltby, Lewis, & Day, 2008). Furthermore, religiosity may help adolescents cope with stress, due to the fact that it provides increased purpose and meaning in life (Horton & Luna, 2016). In the Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999) framework, values and sense-making are key-components of change in therapy.

In a recent study, religiosity emerged as a stress buffer in reducing the use of substance in a very large sample (n= 27,874) of high school students (Debnam et al., 2018). In a sample of 744 adolescents several dimensions of religiosity, such as prayer, have been found to be associated with lower levels of depression (Pearce, Little, & Perez, 2003). Specific aspects of religiosity (for example, public religious involvement, intrinsic religious motivation, daily commitment) may be inversely related to depressive symptoms, with greater religious involvement correlated to fewer symptoms of depression (Braam et al., 2001; Jordan, 2014). Adolescents who frequently participated in religious activities and who reported that their religious beliefs were highly meaningful, had lower depression scores (Schapman & Inderbitzen-Nolan, 1999; Wright, Frost, & Wisecarver, 1993).

Religiosity has also been found to have an indirect effect on depression: higher levels of adolescent religiosity were associated with higher levels of hope, and higher levels of hope were associated with lower levels of depressive symptomatology (Rose et al., 2018). Similarly, in a sample of bereaved teens, those who reported having religious or spiritual beliefs had significantly lower mean depression scores than teens without these beliefs (Gray, 1987).

However, while some studies provided a significant inverse association between religiosity and depression in student/adolescent samples (Harris et al., 2008; Schapman & Inderbitzen-Nolan, 1999; Wright et al., 1993), other studies did not (O'Connor, Cobb, & O'Connor, 2003). In a systematic review (AbdAleati, Zaharim, & Mydin, 2014), the authors examined twenty-three studies (entailing samples of both adolescents and adults) that measured depression as an outcome. While most of the them indicated that higher levels of religiosity were associated with decreased depressive symptomatology, one-third of the studies failed to find significant relationships between religious and depression (AbdAleati et al., 2014).

Rationale and aims of the study

The role of religiosity as a psychological buffer against depression in adolescence is still under-studied in Italy, despite the importance of religion in the Italian socio-cultural context. The identification of which factors are associated with depressive tendencies might contribute to the development of both screening and prevention strategies (Corrieri et al., 2014), allowing those adolescents with higher vulnerability to depression to be detected.

Therefore, we intended to explore the association between depressive tendencies and stressful events. Secondly, we intended to examine whether higher religiosity could be a predictor of lower self-reported depressive tendencies controlling for the effects of stressful events in a sample of Italian adolescents.

Materials and methods

Procedure

This cross-sectional retrospective cohort study was conducted in accordance with the requirements of privacy and informed consent laid down by the Italian law (Law Decree DL-196/2003). The study adhered to the latest version of the Declaration of Helsinki revised in Fortaleza (World Medical Association [WMA], 2013) and was approved by the Department of Health Sciences (University of Florence) Research Ethics Committee. Data were collected between November 2013 and February 2014 in schools. Participants were recruited in junior high and high schools in the cities of Florence, Prato, and Pistoia. Schools were contacted through e-mail messages

presenting the study aims to school directors. Written informed consent was provided by both parents. Self-report measures were administered by a team of psychologists in classrooms. Duration of administration was about 30 minutes. Adolescent participants were asked to report whether they had experienced any stressful life events during the last year and completed the questionnaires in a single administration.

Participants

Two-hundred and seventy-five Italian boys (n= 58; 21.09%) and girls (n= 217; 78.91%) were included in the study. Age ranged from 11 to 17 years (Mage= 15.68; SD= 1.10). Inclusion criteria were: age range 11-17 years, written informed consent provided by both parents of community adolescents attending junior high and high schools. Exclusion criteria were: diagnosis of learning disability, diagnosis of intellectual disability, poor proficiency in speaking and reading Italian. The diagnosis of a psychological/psychiatric disorder was not a reason for exclusion.

Instruments of measure

The Children's Depression Inventory (CDI; Kovacs, 1985) was used as a measure of depression. It is a 27-item self-report questionnaire assessing intensity of cognitive, affective and behavioural manifestations of depression in young people aged 8-17 years. Respondents are asked to mark one of three statements that best fit with their feelings within the past two weeks. The CDI had showed good internal consistency (Cronbach's alpha= 0.86) (Kovacs, 1985). In the present study internal consistency was good (Cronbach's alpha= 0.83).

Measures of religiosity. Religiosity was measured at a dimensional level through a three-item self-report questionnaire, where the participant was asked whether he/she followed any religion (one item with a yes/no dichotomous response), and, if this was the case, the participant had to indicate which religion he/she followed in a second item with a multiple-choice response format. In addition, in accordance with previous literature (Hill & Hood, 1999), religiosity was assessed as the importance given by the participant to religion (one item with Likert response format: "*How important is religiosity to you?*") (Johnson et al., 2001). Responses were based on a 4-point Likert scale ranging from "*Not at all: I do not believe in any religion and my life is not influenced by it at all*", "*A little: I consider myself as a believer but my life is not much influenced by it*", "*Much: I consider religiosity as very important to me though I do not always follow its rules*", "*Very much: religiosity is a fundamental part of my life*".

Measure of stressful life events. Self-reported stressful life events were assessed through a self-report three-item questionnaire, where the participant had to indicate whether he/she had experienced stressful life events during the last year (yes/no dichotomic response format), the number and the types of stressful events (multiple-choice response format). The most reported stressful events were included in the questionnaire based on the literature on stressful events in adolescence (e.g., Newcomb et al., 1981). The measure was created by a team of seven psychologists with clinical experience with adolescents after a literature review on this topic.

Data analysis

Chi squared was calculated in order to test the relation between the presence of depressive manifestations and stressful events. In order to investigate the role of religiosity as a predictor of clinically significant depression tendencies controlling for different stressful events, a multiple logistic regression analysis was conducted, where religiosity, stressful events were entered as predictors and the presence of depressive tendencies above clinical thresholds (CDI scores > cut-off score) as outcomes.

Results

Proportion of participants adhering to a religious faith and types of religion

Two-hundred and six of the total group of participants (74.9%) reported that they adhered to a religious faith and sixty-nine (25.1%) reported that they did not. Among the believers, 192 (69.8%) were Christian, 12 (4.4%) were Muslim, 1 (0.4%) was Buddhist, and 1(0.4%) did not belong to any of the proposed categories.

Self-reported stressful life events and types of stressful life events in the total study group

One-hundred and seventy-six (64%) participants of the total group reported having experienced stressful life events during the last year, and 99 (36%) did not. The different types of stressful life-events experienced by participants are reported in Table 1. The categories of stressful life events were: parents' separation, self-reported school problems, loss of a loved pet, death of a loved one, accidents.

Table 1. ***Frequencies and types of self-reported stressful life events*** **(*n* = 275)**

Types of self-reported stressful life events		***n***	***%***
Any stressful life event	No	99	36
	Yes	176	64
	Total	275	100
Parents' separation	No	265	96.0
	Yes	10	3.6
	Total	275	100
School problems	No	205	74.5
	Yes	70	25.5
	Total	275	100
Loss of a loved pet	No	256	93.5
	Yes	18	6.5
	Total	275	100
Death of a loved one	No	208	76.6
	Yes	67	24.4
	Total	275	100
Accidents	No	259	94.2
	Yes	16	5.8
	Total	275	100

Depressive tendencies and stressful life events

Forty participants (14.91% of the total group) reported depressive tendencies above clinical thresholds measured by the CDI cut-off score. Mean CDI scores were 12.09 (SD= 6.49, range= 0-29). Having experienced any of the stressful events indicated in the questionnaire was associated with higher depressive tendencies. In particular, among stressful life events, only self-reported school problems and parents' separation, but not the other stressors, were associated with higher depressive tendencies, measured by a score on the CDI above the cut-off point. The findings are reported in Table 2.

Table 2. ***Self-reported stressful life events and depressive tendencies*** **(*n* = 275)**

Self-reported stressful life events	$\chi^2_{(1)}$	*p* value
Any stressful life event	9.54	0.002
School problems	4.67	0.031
Parents' separation	5.11	0.024
Death of a loved one	2.50	0.11
Loss of a loved pet	0.79	0.37
Accidents	1	0.31

Religiosity as a predictor of depressive tendencies

When religiosity was added in a logistic regression model, the effects of stressful life events on depressive tendencies became non-significant, and only a significant effect of religiosity emerged (β= -0.55, p= 0.01). Adolescents with stronger religiosity reported lower probability of depressive tendencies above thresholds, irrespective of the types of stressful life events. The results of the multiple logistic regression analysis are reported in Table 3.

Table 3. ***Beta coefficients of multiple logistic regression analysis*** **(*n* = 275)**

Outcome: CDI scores above or below the cut-off point				
Predictors	***β***	***Wald***	***df***	***p value***
Constant	-0.95	3.30	1	0.06
Parents' separation	1.12	2.65	1	0.10
Loss of a loved pet	0.64	0.95	1	0.32
Death of a loved one	0.58	2.35	1	0.12
School problems	0.60	2.50	1	0.11
Accidents	-0.92	0.74	1	0.38
Religiousness	-0.55	6.36	1	0.01

Note. CDI = Children's Depression Inventory.

Discussion

Some evidence supports the notion that religiosity may help adolescents cope with stress (Horton & Luna, 2016), and several dimensions of religiosity have been found to be associated with lower levels of depression (Braam et al., 2001; Jordan, 2014; Pearce, Little, & Perez, 2003). Nevertheless, its role as a potential moderator of depression is still poor and inconclusive. In a longitudinal study on a sample of college students, Berry and York (2011), found a direct and protective effect over time between religiosity and depression, but failed to find a buffering effect on the relationship between stress and depression. Furthermore, although in the Italian socio-cultural context religion is a pivotal feature of society, significantly affecting daily life, the role of religiosity as a psychological buffer against adolescent depression is surprisingly under-studied.

Therefore, our aim was to explore for the first time in the Italian context the role of religiosity and stressful events on depressive tendencies in a sample of adolescents. Consistent with data obtained through self-report measures of depression in other socio-cultural contexts (e.g., Fröjd et al., 2008), around 15% of our total sample reported depressive tendencies. Moreover, a relevant proportion of participants (64%) reported having experienced at least one stressful life event during the previous year. Death of a loved one and self-reported school problems were the most common stressful events, experienced by about twenty-five percent of the sample.

Only self-reported school problems and parents' separation, but none of the other stressful life events, were associated with depressive manifestations, indicating that only specific types of stressors were related to depressive tendencies. The association found between parents' separation and depressive tendencies was consistent with previous research in both community and clinical samples (Sands, Thompson, & Gaysina, 2017; Størksen et al., 2006) showing that parental divorce may be a vulnerability factor contributing independently to adolescent depressive manifestations. The role of parents' separation may support the hypothesis of the "double exposure" effect which states that the effects of parents' separation would be exerted by exposure to both parental separation and parental distress (Størksen et al., 2006). Moreover, the offspring of distressed couples were found to be at increased risk of depression (Warner, Mufson & Weissman, 1995): an important longitudinal study on the risks of psychiatric disorders in children of depressed parents, showed that anxiety disorders, major depression, and substance dependence were approximately three times as high in the offspring of depressed parents as in the offspring of non-depressed parents (Weissman et al., 2006).

The role of school problems in depressive tendencies may be explained by different factors. It may be hypothesised that the effect of school problems is moderated by the sense of school belongingness, since when they experience school problems, adolescents with stronger sense of belonging to school report higher depressive tendencies. In addition, given the importance of school and peers in adolescents' self-esteem (Milling et al., 2012), school problems may have an effect on depressive tendencies. Moreover, school problems may play a role in depressive tendencies also through social rejection processes by peers (Nolan, Flynn, & Garber 2003; Qualter et al., 2010).

In contrast with most previous studies (e.g., Appel et al., 2018; Feigelman et al., 2017; Stikkelbroek et al., 2016), a result of the present study was that death of a loved one was not significantly associated with depressive tendencies.

There are a few potential explanations for our findings. For example, denial processes may be activated during the first phases after the death of a loved one as a strategy to cope with bereavement feelings (Harris, 1991). Furthermore, the loss of a loved one is such a severe stressful event that very likely triggers the involvement of social support and the warm presence of significant others, thus buffering the effect of its consequences. Furthermore, it is also possible that the utilization of a self-report measure may be an effective way of exploring inner states, but not in the case of a serious traumatic experience such as the death of a loved one.

When religiosity was added in the logistic regression model, the effects of stressors on depressive tendencies became non-significant, while only the significant effect of religiosity emerged. Adolescents with stronger religiosity had lower probability of experiencing significant depressive tendencies, irrespective of the type of stressor, indicating that religiosity could increase resilience and play as a buffer against the negative effects of stressful life events on depression. It could be hypothesised that greater self-awareness, acceptance, but also believing in a higher power/God, can strengthen functional coping responses in adolescents and in adults (Barcaccia, 2019; Barcaccia *et al.,* 2019; Ciesla *et al.*, 2012).

More religious adolescents might be less vulnerable to depression also because of additional variables related to religiosity, such as social support provided by involvement in religious activities, or behavioural activation promoted by daily commitment. Moreover, religion often serves as a meaning-making mechanism, and can provides answers to questions that otherwise seem unanswerable (Spilka & McIntosh, 1997). Along these lines, our findings provide support to the notion that religious practices and involvement could be used as a resource to overcome or minimise depression among depressed adolescent (AbdAleati et al., 2014).

Our study presents some limitations. First of all, we did not use a validated comprehensive measure of different religiosity features, for example the Brief Multidimensional Measure of Religiousness/Spirituality (Fetzer Institute & National Institute on Aging Working Group, 1999). Secondly, we only examined self-reported depressive tendencies, and did not use a standardised clinician-administered interview to diagnose the presence of clinical depression. Thirdly, we used a convenience sample. Finally, we employed a cross-sectional retrospective design. Despite these limitations, our study provides support for the notion that religiosity may act as a buffer against depressive tendencies when stressful events occur.

Future research may employ a larger sample size and explore religiosity as a multidimensional construct including different features such as values, beliefs, spirituality and daily commitment. Longitudinal designs could also test whether stronger religiosity predicts lower risk of a major depressive episode controlling for stressful events. It could also be very interesting to investigate the differences in the buffering role of religiosity as a function of the different religious denominations, as well as to examine the differences among distinct age ranges. Additional moderating variables could also be explored, such as social support or coping strategies.

Author Contributions

The authors contributed equally to this manuscript.

Compliance with Ethical Standards

Conflict of interest

The authors declare that they have no competing interests.

Funding

The author(s) received no financial support for the research, authorship, and/or publication of this article.

Ethical approval

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

Informed Consent

Each participant dealt with the process of informed consent.

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