

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents



Marison Felicidad R. Dy¹, Erick Vernon Y. Dy²

¹Department of Human and Family Development Studies College of Human Ecology University of the Philippines Los Baños Philippines

²Office of Counseling and Guidance Office of the Vice-chancellor for Student Affairs University of the Philippines Los Baños Philippines

ABSTRACT: The study determined the relationship between connectedness to nature, spirituality, and resilience among selected Filipino adolescents. There were 116 respondents, with an average age of 19.6 years, who completed a self-administered questionnaire. Findings show that the average level of connectedness to nature was 51.05 with the majority of the scores (71.6%) in the average range. More than two-thirds (67.2%) of the respondents had an average frequency of spiritual experiences. The majority (78.4%) also had scores in the average resilience levels. Connectedness to nature had weak positive relationships with spirituality and resilience. Spirituality and resilience were also weakly and positively related. All relationships were significant. Adolescent connectedness to nature, spirituality and resilience should be enhanced as these are related to positive individual states and outcomes. Further studies can consider larger samples of adolescents from various settings and how the mentioned variables relate to each other in different adolescent contexts.

KEYWORDS: adolescence, connectedness to nature, resilience, spirituality

I. INTRODUCTION

Connectedness to nature refers to an individual's sense of affinity with and belongingness to the natural world (Mayer and Frantz, 2004; Pritchard et al., 2019). It is a stable personality trait over time and across situations (Nisbet et al., 2011). Further, it can also be a state and may shift from time to time depending on one's experiences with nature, activities in or related to nature, and frequency of time spent in nature (Vining et al., 2008; Richardson et al., 2016). Connectedness to nature is significant for positive health states (Cervinka et al., 2012).

Spiritual experiences are transcendent states or altered states of consciousness which rise above the ordinary or everyday experiences (Flower, 2004). Spiritual experiences contribute to one's spirituality, which refers to an individual's beliefs and subjective experiences that gives a sense of transcendence beyond what is material in the here and now (Kamitsis and Francis, 2013). Laski (in Bergland, 2016) stated that spiritual experiences commonly originate from nature experiences with water, trees, flowers, spring, sunrise, and sunset. Nature experiences were associated with a spiritual orientation which involve feelings of wonder, respect, and awe (Saroglou et al., 2008) or of something greater than themselves (Shiota et al., 2007). Recent studies show that connectedness to nature and engagement in nature activities were significantly positively associated with spirituality (Trigwell et al., 2014; Kamitsis and Francis, 2013; Leary, Tipsord and Tate, 2008; Diessner et al., 2008).

Resilience is a process of positive psychological adaptation with exposure to adverse events (Graber et al., 2015). It emerges due to the interactions among individual characteristics, environmental influences, and life events of the individual. Resilience can be built with the presence of protective mechanisms such as supportive and caring relationships, positive experiences, enhancement of adaptive capacities, and coping strategies (Graber et al., 2015) and the individual's capacity to reach or obtain resources in their social ecologies that foster well-being (Ungar, 2016). In the adolescent years, family functioning and the development of coping strategies reinforce the person's resilience (Ungar, 2016) although, the quality of social relationships and stress responses may also influence this.

Corraliza and Collado (2011) found that human interactions with nature in the residential and school environments fostered resilience among children. There was an observed lower stress levels with frequent nature contacts. They stated that

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents

interactions with nature had a buffering effect on stress levels. Marselle (2013) found from her study on developing resilience through nature interactions, specifically, nature walks with a group that group walkers had greater mental well-being, more positive affect, and resilience against adversity than non-group walkers. Further, walking in green spaces like farmlands seem to further boost mental well-being. The increase in physical activity and reduction in perceived stress were the drivers to better mental well-being.

Spirituality and resilient outcomes have been found to be associated among individuals faced with adversities (Ponds, 2014; Smith et al., 2013). Labbe and Forbes (2010) found that individuals with higher spirituality levels manifested lower anger and respiration rates when exposed to a stressor and exhibited extraversion, agreeableness and conscientiousness which are considered as health-protective personality traits. Spirituality has protective aspects and may enhance resilience through attachment relationships, making support systems accessible, guidance of moral values and behaviors, and opportunities for personal growth (Crawford et al., 2006). Raftopoulos and Bates (2011) stated that spirituality fostered resilience by providing a sense of protection, comfort, meaning, and optimism, and, increased self-efficacy to overcome low points in the respondents' lives.

The present study focuses on determining the relationships among levels of connectedness to nature, spirituality, and resilience among Filipino university students. Studies on connectedness to nature have been confined to Europe, North America, and Australia, thus, investigations of this construct in other countries need to be done (Pritchard et al., 2019; Scopelleti et al., 2016). Miller and Kelley (2005) pointed out that studies on adolescent spirituality as related to resilience are still lacking. This study extends literature by looking into connectedness to nature, spirituality, and resilience, which are considered as psychological strengths in the context of the youth in a developing country.

The study aimed to specifically answer the following questions:

1. To determine levels of connectedness to nature of the respondents
2. To determine the spirituality levels of the respondents
3. To determine the resilience levels of the respondents
4. To determine the relationships among these variables

II. METHODOLOGY

This is a quantitative study using a cross-sectional research design which gathered data through a survey questionnaire from the university students. The study was done in an autonomous unit of the national university located in Los Banos, Laguna, a municipality located south of the national capital region.

The respondents were university students of different academic levels from three sections of a large General Education class. There were 194 enrolled students, and a complete enumeration was done. Of this, 122 respondents completed the questionnaire for a 62.9% response rate. However, due to non-accomplishment of some items or scales in the questionnaire, 6 students were not included, for a total of 116 respondents.

The research instrument was a questionnaire with four parts. The first part focused on the socio-demographic characteristics of the respondents. The second part was the Connectedness to Nature Scale by Mayer and Frantz (2004). This scale measures how emotionally connected a person is to the natural world. It is composed of 14 items rated on a Likert scale from 1 (strongly disagree) to 5 (strongly agree). The highest possible score is 70 and higher scores mean higher connectedness to nature. The scale's reliability is high at $\alpha = 0.82$. The third part is an adapted version of the Daily Spiritual Experience Scale (Underwood & Teresi, 2002) which measures the individual's daily personal spiritual experiences and perceptions of what is transcendent or divine. There were 14 items adapted with responses based on a 6-point Likert scale. In the study, the reliability coefficient for the measure of spirituality was strong ($\alpha = 0.93$). The highest possible score is 84 wherein higher scores reflect higher spirituality. The last part is an adapted version of the Child and Youth Resilience Measure by Ungar and Liebenberg (2011) which measures various resources available to the individual which may strengthen their resilience. In this study, 12 items were selected which reflected the three subscales: individual resources, relationships with primary caregivers, and contextual factors that enhance feelings of belongingness. The reliability coefficient for this measure of resilience was good at $\alpha = 0.76$. The highest possible score is 36 and the higher scores reflect higher youth resiliency.

The permission of the professors to conduct the study in their large classes was requested and when they granted approval, the informed consent forms were sent to the respondents. The questionnaires were, thereafter, administered to the respondents who gave their consent after the class period. The questionnaire took approximately 20 minutes to accomplish.

Data were encoded in Microsoft Excel to compute the descriptive statistics (means, frequencies, and percentages) of the variables. The Spearman Correlation Coefficient was computed to determine the relationships among the levels of connectedness to nature, spirituality, and resilience levels.

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents

III. RESULTS AND DISCUSSION

A. Demographic Profile of the Respondents

There was a total of 116 respondents, 60.34% are females and 39.66% are males (Table 1). Less than half were aged 19, with nearly half in their junior year. More than three-fourths were living with their parents while studying, meaning they live in the locality. The majority reported that their parents' marriage was intact.

Table 1. Sociodemographic characteristics of the respondents

Characteristics	f	% (N=116)
Sex		
Male	46	39.66
Female	70	60.34
Age		
18	8	6.89
19	50	43.10
20	40	34.48
21	13	11.21
22 up	5	4.31
Academic level		
1st	3	2.59
2nd	20	17.24
3rd	52	44.83
4th	41	35.34
Living with parents		
Yes	90	77.59
No (dorm/apartment)	26	22.41
Parent's marriage intact		
Yes	101	87.07
No	15	12.93

B. Level of Connectedness to Nature of the Respondents

Less than three-fourths of the respondents' scores were in the average range (Table 2). The average level of the connectedness to nature of the respondents is 50.99 (s.d.=5.97). The statements with the average highest levels of agreement were the following: Statement 3- I recognize and appreciate the intelligence of other living organisms (4.38); Statement 8 - I have a deep understanding of how my actions affect the natural world (4.07); and Statement 2- I think of the natural world as a community to which I belong (3.87). These results are on the average level and the statements with the highest agreement are like the findings of Dy et al. (2016) and Dy (2019) with university students. The high agreement levels indicate that the adolescents respect other living things, are aware of the consequences of their environmental actions, and have a sense of belongingness to nature.

Table 2. Distribution of scores for level of connectedness to nature of the respondents

Scores	f	% (N=116)
Low (0-44)	18	15.52
Average (45-57)	83	71.55
High (58-70)	15	12.93

C. Spirituality Levels of the Respondents

More than two-thirds of the respondents' scores were in the average range (Table 3). The average spirituality level of the respondents is 58.53 (s.d.=14.79). The items which showed the highest frequency of experiences were Statement 11 - I feel thankful for my blessings (5.05); Statement 14- I desire to be closer to God or in union with Him (4.47); and Statement 8- I feel God's love for me directly (4.38). This sense of gratitude and spiritual relationship with the divine is significant because it

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents

supports youth development and is linked to helping behaviors and coping capacity (Batara, 2015). Underwood & Teresi (2002), earlier on, already saw that spirituality is related to a better quality of life and better psychosocial states.

Table 3. Distribution of scores for spirituality level of the respondents

Scores	f	% (N=116)
Low (0-43)	16	13.79
Average (44-73)	78	67.24
High (74-84)	22	18.97

D. Resilience Levels of the Respondents

More than three-fourths of the respondents' scores were in the average range (Table 4). The average resilience level of the respondents is 28.88 (s.d.=3.25). The items with the highest levels of agreement were for Statement 4- Knows how to behave in different situations like in school, home, or church (2.84); Statement 3 – Doing well in school is important to me (2.73); and Statement 7- There is enough to eat in the home when I am hungry (2.63). These items reflect different subscales. Statement 4 emphasizes social skills as an individual resource important in building resilience at the individual level. Statement 3 reflects the school as a significant contextual factor that facilitates a sense of belongingness for the individual. Lastly, Statement 7 presents the relationships with primary caregivers in terms of physical caregiving (e.g. meeting hunger needs).

Table 4. Distribution of scores for resilience level of the respondents

Scores	f	% (N=116)
Low (0-24)	10	8.62
Average (12-35)	91	78.44
High (36-60)	15	12.93

E. Relationships among the Levels of Connectedness to Nature, Spirituality and Resilience of the Respondents

Connectedness to Nature and Spirituality

The connectedness to nature and spirituality levels has a weak and positive relationship (Table 5). The correlation produced a p-value of 0.003 ($p < 0.05$) which is significant. As connectedness to nature increases, spirituality levels likewise increase in the respondents, albeit slightly.

Some studies have been done which show a relationship between connectedness to nature and spirituality. Shiota, Keltner and Mossman (2007) in their study on awe, which they consider as a spiritual emotion, found that this was elicited when participants thought of time spent in nature. Nature elements or landscapes which seem to surround the participant, and which include trees, shrubs, flowers, and water elicited the feeling of something greater than themselves. Saraglou et al. (2008) showed video clips of natural panorama like waterfalls and mountains to students and found that those who were exposed to these than to other content showed a stronger belief in a Divine Being and higher levels of spirituality. Grady (2009) investigated nature as a transformational space and found that nature interactions elicit a spiritual response because the respondents felt that they were connected to something greater than themselves.

Interactions with beautiful nature elements are associated with higher levels of gratitude, life satisfaction, hopefulness, awe and wonder, and spiritual experiences (Diessner et al., 2008; Caldwell-Harris et al., 2011; Underwood and Teresi, 2002). The more that participants incorporated nature into their self-identity, the higher was their level of spirituality (Leary et al., 2008). When there is a high sense of personal connectedness to nature, participants manifested lower egocentrism, greater concern for others and social relationships, greater concern for ecological concerns, and greater disposition towards spiritual experiences.

Kamitsis and Francis (2013) found that nature connectedness was associated with both psychological well-being and spirituality but that the relationship between nature connectedness and psychological well-being was mediated by spirituality. One's spiritual orientation includes a sense of meaning-making, to which the authors attribute the individual's positive psychological state. Connectedness to nature is a component of one's spirituality and spirituality is "an avenue through which the positive effects of experience with nature are derived" (Kamitsis and Francis, 2013, p. 140). More recently, Trigwell et al. (2014) found that connectedness to nature and spirituality were significantly related, and that spirituality mediated the relationship between connectedness to nature and the components of eudaimonic well-being (e.g. self-acceptance, life purpose, personal growth, positive relations with others, and autonomy).

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents

Table 5. Associations among levels of connectedness to nature, spirituality and resilience of the respondents

Variables	Spirituality	Resilience
Connectedness to nature	$r = 0.2449^*$	$r = 0.2391^*$
Spirituality		$r = 0.2973^*$

* significant at $p < 0.5$

Connectedness to Nature and Resilience

For connectedness to nature and resilience levels, there is a weak and positive correlation between them (Table 5). Their correlation is deemed significant with a p-value of 0.004 ($p < 0.05$); meaning, as connectedness to nature increases, resilience levels also slightly increase.

There are only two studies found which focused on nature connectedness and resilience. Ingulli and Lindbloom (2013) found a positive association between connectedness to nature and resilience with socioeconomic status as a possible moderating variable. This relationship was only observed among respondents pursuing tertiary education from schools associated with higher socioeconomic status, thus, this variable in relation to connectedness to nature and resilience warrants further inquiry.

Marselle (2013) did a study on group and non-group walkers and found that outdoor group walkers showed better mental health, more positive affect, lower stress levels and resilience against adversity. The perception of less stress and the increase in physical activity led to a positive sense of well-being. Group walking in natural landscapes is proposed as a strategy for improving well-being and building resilience.

Connectedness to nature is important for positive health states and stress relief (White et al., 2017; Windhorst and Williams, 2015; Cervinka et al., 2012). Ingulli and Lindbloom (2013) emphasize that resilience aids in having a sense of positive mental health. These studies support the views of Eco-existential Positive Psychology which highlights the relation between involvement with nature and positive well-being (Passmore and Howell, 2014). They also point to the role of nature as a restorative environment for human well-being.

Spirituality and Resilience

There is a weak and positive correlation between spirituality and resilience levels (Table 5). Their correlation is deemed significant with a p-value of 0.001 ($p < 0.05$); meaning, as spirituality increases, resilience also increases slightly.

Resilience can be promoted in a proactive manner by emphasizing positive factors, conditions, and strengths present in people's lives which can be built upon to deal with stressors and challenges (Dillen, 2012). One requirement of resilience is spiritual resources and processes during moments of crisis or trauma (O'Grady et al., 2016). Recent studies have pointed to spirituality as a protective factor and source of resilience for individuals, especially adolescents (O'Grady et al., 2016; Ponds, 2014; Foy et al., 2011; Werner, 2000). Spirituality enables resilience-building through establishing of meaningful relationships, having sources of social support, having moral values to guide conduct and presenting opportunities for personal growth (Crawford et al., 2006); serving as a coping mechanism during challenging situations (Raftopoulos and Bates, 2011; Van Dyke and Elias, 2007); and promoting an optimistic stance to life and giving meaning (Ponds, 2014; Werner, 2000).

In 2011, Raftopoulos and Bates studied spirituality's role as a source of resilience in adolescents. They found that spirituality promoted resilience during low points such as relationship conflicts by offering a sense of meaning and purpose, a sense of security and protection, and increased self-knowledge and self-efficacy. During low points in life, the adolescents tried to understand the purpose and significance of the experience for their personal growth. They believed in a higher being or beings such as angels who love them and they prayed to communicate with these beings. Further, the adolescents were able to know their inner selves better through reflections on their strengths. This qualitative study showed that a transcendental perspective is a protective factor for adolescent resilience. Smith et al. (2013) found similar results in young people. Spiritual well-being and resilience were highly associated in the spiritual/religious context the youth were in. Resilience was enhanced through a connection with a spiritual family or church, engaging in spiritually guided behaviors, a high degree of harmony in how the family and youth practice spiritual activities together, and having positive affect and life satisfaction.

Foy et al. (2011) pointed out that crisis events interact with the individual's resilience characteristics, the available support systems, and the perception of control over the event. These, in turn, may interact with the individual's spirituality and spiritual resources, thus giving rise to either resilient outcomes or the lack thereof. To further enhance resilience and spirituality, interventions such as meditation and mindfulness are being used to address psychosocial problems (Labbe and Forbes, 2010).

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents

IV. CONCLUSIONS AND RECOMMENDATIONS

The study aimed to determine the relationships among connectedness to nature, spirituality, and resilience among adolescent college students. The findings show that the majority of the respondents were in the average levels for connectedness to nature, spirituality and resilience.

The relationships among the three variables were all significant. As connectedness to nature levels increase, spirituality and resilience levels likewise increase. As spirituality levels increase, resilience levels also increase. These three personal qualities emerge as protective factors to adolescents in difficult moments.

The results support the enhancement of adolescent connectedness to nature, spiritual development, and resilience-building to improve well-being and quality of life. Nature activity programs can be implemented in the school and/or community. The inclusion of spirituality and resilience-building can be considered in adolescent intervention programs or psychoeducation classes in the school or community.

Some limitations in the present study need to be addressed in future research. First, the sample was limited to university students and cannot be generalized to other samples, thus, replications with larger samples of adolescents from community samples such as high school students, out-of-school youth, and youth leaders can be considered. Second, only self-report measures were used, and further studies may include interview methodologies for more in-depth data on how the three qualities interact with each other. Longitudinal studies can track the strengthening of these three qualities and how they interact with each other. Gender differences can also be done to determine if different intervention programs will be prepared for males and females. Third, only correlational research was done, and future research can look into causality or potential mediating pathways among the variables.

REFERENCES

- 1) Batara, J.B.L. (2015). Overlap of religiosity and spirituality among Filipinos and its implications towards religious prosociality. *International Journal of Research Studies in Psychology*, 4 (3), 3-21. DOI: 10.5861/ijrsp.2015.1090
- 2) Bergland, C. (September 28, 2016). Oxytocin, spirituality, and the biology of feeling connected. <https://www.psychologytoday.com/us/blog/the-athletes-way/201609/oxytocin-spirituality-and-the-biology-feeling-connected>
- 3) Caldwell-Harris, C. L., Wilson, A., LoTempo, E., & Beit-Hallahmi, B. (2011). Exploring the Atheist personality: Well-being, awe, and magical thinking in Atheists, Buddhists, and Christians. *Mental Health, Religion and Culture*, 14 (7), 659-672. doi.org/10.1080/13674676.2010.509847
- 4) Capaldi, C.A., Dopko, R.L. & Zelenski, J.M. (2014). The relationship between nature connectedness and happiness: a meta-analysis. *Frontiers in Psychology*, 5, 976. <http://journal.frontiersin.org/Journal/10.3389/fpsyg.2014.00976/full>
- 5) Cervinka, R., Röderer, K., & Hefler, E. (2012). Are nature lovers happy? On various indicators of well-being and connectedness with nature. *Journal of Health Psychology*, 17, 379–388. <https://journals.sagepub.com/doi/abs/10.1177/1359105311416873>
- 6) Corraliza, J. A., & Collado, S. (2011). Nearby nature as a moderator of stress during childhood. *Psicothema*, 23(2), 221-226. https://www.researchgate.net/publication/51062323_Nearby_nature_as_a_moderator_of_stress_during_childhood
- 7) Crawford, E., Wright, M., & Masten, A. S. (2006). Resilience and spirituality in youth. In E.C. Roehlkepartain, P. E. King, L. Wagener., & P. L. Benson (Eds.), *The handbook of spiritual development in childhood and adolescence* (pp. 355 – 370). Thousand Oaks, CA : Sage.
- 8) Diessner, R., Solom, R. C., Frost, N. E., Parsons, L., & Davidson, J. (2008). Engagement with beauty: Appreciating natural, artistic, and moral beauty. *Journal of Psychology*, 142, 303–329. DOI: 10.3200/JRLP.142.3.303-332
- 9) Dillen, A. The resiliency of children and spirituality: A practical theological reflection. *International Journal of Children's Spirituality*, 17 (1), 61-75 2012. <http://dx.doi.org/10.1080/1364436X.2012.670616>
- 10) Dy, M.F.R. (2019). Individual and family correlates of Filipino adolescents' connectedness to nature. *The Journal of PATHESCU*, 20: 30-42.
- 11) Dy, M.F.R., Dy, M.E.R. I, Bantoc, N.A.B., Brion, M.A.P., Juliano, B.A.L., Lawas, M.M.L. & Mercado, M.J.C.M. (2016). Filipino adolescent materialism and connectedness to nature. *Journal of Philippine Association of Home Economics in State Colleges and Universities*, 17 (1):101-112
- 12) Flower, L. (2004). Spiritual experiences: Understanding their subjective nature in peak performance. *The Sport Journal*. 20. <http://thesportjournal.org/article/spiritual-experiences-understanding-their-subjective-nature-in-peak-performance/>

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents

- 13) Foy, D.W., Drescher, K.D. & Watson, P.J. (2011). Religious and spiritual factors in resilience. In S.M. Southwick, B.T. Litz, D. Charney & M.J. Friedman (eds.), *Resilience and Mental Health Challenges Across the Lifespan*. Cambridge University Press; <https://doi.org/10.1017/CBO9780511994791.008>, pp 90-102
- 14) Graber, R., Pichon, F. & Carabine, E. (2015). *Psychological resilience: State of knowledge and future research agendas*. London: Overseas Development Institute. <https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/9872.pdf>
- 15) Grady, B. (2009). *Nature as a transformational space and facilitating environment for psychological growth: A psychodynamic perspective*. Unpublished Doctoral dissertation. Massachusetts School of Professional Psychology
- 16) Ingulli, K. and Lindbloom, G. (2013). Connection to nature and psychological resilience. *Ecopsychology*, 52-55. [Doi.org/10.1089/eco.2012.0042](https://doi.org/10.1089/eco.2012.0042)
- 17) Kamitsis, I., & Francis, A. J. P. (2013). Spirituality mediates the relationship between engagement with nature and psychological well-being. *Journal of Environmental Psychology*, 36, 136–143. <https://doi.org/10.1016/j.jenvp.2013.07.013>
- 18) Kumar, R., Lal, R., Bansal, Y., & Sethi, K. V. K. (2014). Relationship between connectedness to nature and subjective well-being. *Indian Journal of Psychological Science*, 4, 59–63. <http://www.napsindia.org/wp-content/uploads/2017/05/Rajesh-Kumar-08-min.pdf>
- 19) Labbe, E. E., & Fobes, A. (2010). Evaluating the interplay between spirituality, personality and stress. *Applied Psychophysiology & Biofeedback*, 35(2), 141-146. doi: 10.1007/s10484-009-9119-9.
- 20) Leary, M. R., Tipsord, J. M., & Tate, E. M. (2008). Allo-inclusive identity: Incorporating the social and natural worlds into one's sense of self. In H. A. Wayment & J. J. Bauer (Eds.), *Transcending self-interest: Psychological exploration of the quiet ego* (pp. 137–147). Washington, DC: American Psychological Association. DOI:10.1037/11771-013
- 21) Marselle, M. (2013). *Growing Resilience through Interaction with Nature*. Unpublished PhD Dissertation. UK: De Monfort University. <http://ethos.bl.uk/OrderDetails.do?uin=uk.bl.ethos.613558>
- 22) Mayer, F.S. and Frantz, C.M. (2004). The connectedness to nature scale: A measure of individuals' feeling in community with nature. *Journal of Environmental Psychology*, 24, 503–515. http://gse.cat.org.uk/downloads/connectedness_to_nature_paper.pdf
- 23) Miller, L., & Kelley, B. S. (2005). Relationships of religiosity and spirituality with mental health and psychopathology. In R. F. Paloutzian, & C. L. Park (Eds.), *Handbook of the psychology of religion and spirituality* (pp. 460 – 478). New York: Guilford Press.
- 24) Nisbet, E. K., Zelenski, J. M., & Murphy, S. A. (2011). Happiness is in our nature: Exploring nature relatedness as a contributor to subjective well-being. *Journal of Happiness Studies*, 12, 303-322. doi:10.1007/s10902-010-9197-7.
- 25) O'Grady, K.A., Orton, J.D. and Snyder, N. (2016). A way forward for spirituality, resilience, and international Social Science. *Journal of Psychology & Theology*, 44 (2), 166–72. <https://www.thefreelibrary.com/A+way+forward+for+spirituality%2c+resilience%2c+and+international+social...-a0458222154>
- 26) Passmore, H.A. & Howell, A.J. (2014). Eco-existential positive psychology: Experiences in nature, existential anxieties, and well-being. *The Humanistic Psychologist*, 42, 370–388. DOI: 10.1080/08873267.2014.920335
- 27) Ponds, K. T. (2014). Spiritual development with youth. *Reclaiming Children and Youth*, 23 (1), 58-61. <https://eric.ed.gov/?id=EJ1038840>
- 28) Pritchard, A., Richardson, M., Sheffield, D. and McEwan, K. (2019). The relationship between nature connectedness and eudaimonic well-being: a meta-analysis. *Journal of Happiness Studies*, 1-23. <https://doi.org/10.1007/s10902-019-00118-6>
- 29) Raftopoulos, M. and Bates, G. (2011). It's that knowing that you are not alone: the role of spirituality in adolescent resilience. *International Journal of Children's Spirituality*, 16 (2), 151-167. URL: <http://www.informaworld.com/openurl?genre=article&id=doi:10.1080/1364436X.2011.580729>
- 30) Richardson, M., Sheffield, D., Harvey, C., & Petronzi, D. (2016). *The impact of children's connection to nature: A report for the royal society for the protection of birds*. Derby: University of Derby for RSPB. <https://derby.openrepository.com/handle/10545/596923>
- 31) Saraglou, V., Buxant, C., & Tilquin, J. (2008). Positive emotions as leading to religion and spirituality. *Journal of Positive Psychology*, 3, 165–173. DOI: 10.1080/17439760801998737

Connectedness to Nature, Spirituality, and Resilience among Selected Filipino Adolescents

- 32) Scopelliti, M., Carrus, G., Adinolfi, C., Suarez, C., Colangelo, G., Laforteza, R., Panno, A. & Sanesi, G. (2016). Staying in touch with nature and well-being in different income groups: The experience of urban parks in Bogotá. *Landscape and Urban Planning*, 148, 139-148. Doi: 10.1016/j.landurbplan.2015.11.002
- 33) Shiota, M.N., Keltner, D. and Mossman, A. (2007) The nature of awe: Elicitors, appraisals, and effects on self-concept. *Cognition & Emotion*, 21, 944-963. <http://dx.doi.org/10.1080/02699930600923668>
- 34) Slezackova, A. and JL Doubkova. 2013. The role of connectedness to nature in adolescents' quality of life by. *Journal of Indian Health Psychology*, 7 (2), 33-37.
- 35) Smith, L., Webber, R. and DeFrain, J. (2013). Spiritual well-being and its relationship to resilience in young people: A mixed methods case study. *Sage OPEN*, 3 (2). <https://doi.org/10.1177/2158244013485582>.
- 36) Trigwell, J. L., Francis, A. J. P., & Bagot, K. L. (2014). Nature connectedness and eudaimonic well-being: Spirituality as a potential mediator. *Ecopsychology*, 6, 1–11. <doi.org/10.1089/eco.2014.0025>
- 37) Underwood, L.G. & Teresi, J.A. (2002). The daily spiritual experience scale: development, theoretical description, reliability, exploratory factor analysis, and preliminary construct validity using health-related data. *Annals of Behavioral Medicine*, 24 (1), 22–33. <doi.org/10.1207/S15324796ABM240104>
- 38) Ungar, M. (2016). *The Child and Youth Resilience Measure*. Canada: Resilience Research Center.
- 39) Ungar, M. and Liebenberg, L. (2011). Assessing resilience across cultures using mixed methods: Construction of the Child and Youth Resilience Measure. *Journal of Mixed Methods Research*, 5(2), 126 –149. DOI: 10.1177/1558689811400607
- 40) Van Dyke, C. & Elias, M. (2007). How forgiveness, purpose, and religiosity are related to the mental health and well-being of youth: A review of literature. *Mental Health, Religion and Culture*, 10, 395-15. <https://doi.org/10.1080/13674670600841793>
- 41) Werner, E. E. (2000). Protective factors and individual resilience. In J. P. Shonkoff & S. J. Meisels (eds.), *Handbook of early childhood intervention*. 2nd edn. New York: Cambridge University Press; 1 15–132.
- 42) White, M., Pahl, S., Wheeler, B., Depledge, M., & Fleming, L. (2017). Natural environment and subjective wellbeing: Different types of exposure are associated with different aspects of wellbeing. *Health & Place*, 45, 77–84. <https://www.sciencedirect.com/science/article/pii/S135382921730223X>
- 43) Windhorst, E. and Williams, A. (2015). Growing up, naturally: The mental health legacy of early nature affiliation. *Ecopsychology*, 7, 115–125. <https://www.liebertpub.com/doi/abs/10.1089/eco.2015.0040>



There is an Open Access article, distributed under the term of the Creative Commons Attribution – Non Commercial 4.0 International (CC BY-NC 4.0) (<https://creativecommons.org/licenses/by-nc/4.0/>), which permits remixing, adapting and building upon the work for non-commercial use, provided the original work is properly cited.