Working together
www.rcis.ro

Revista de Cercetare si Interventie Sociala

ISSN: 1583-3410 (print), ISSN: 1584-5397 (electronic)

AN EXAMINATION OF ENVIRONMENTAL ATTITUDES AND RESILIENCE AMONG CHILDREN IN CHILD PROTECTION CARE IN ROMANIA

Biborka KUI, Erika HORVÁTH-SZOVÁTI

Revista de cercetare și intervenție socială, 2025, vol. 91, pp. 7-29

https://doi.org/10.33788/rcis.91.1

Published by:
Expert Projects Publishing House

expert projects
publishing

On behalf of:
„Alexandru Ioan Cuza" University,
Department of Sociology and Social Work
and
HoltIS Association

An Examination of Environmental Attitudes and Resilience among Children in Child Protection Care in Romania

Biborka KUI[1], Erika HORVÁTH-SZOVÁTI[2]

Abstract

This study investigates the environmental attitudes and psychosocial characteristics of children and adolescents living in residential child protection care. Rooted in interdisciplinary literature, the research explores whether nature-based education can support emotional development and psychological well-being in this vulnerable group. Using a quantitative survey design, data were collected from 87 children aged 8–19 across eight Romanian care institutions, both state- and church-run. Instruments included a self-designed environmental attitude questionnaire, the State-Trait Anxiety Inventory (STAI), and the Hungarian GYIRM-25 resilience scale. The study examined correlations between environmental attitudes and academic performance, specific scientific knowledge, anxiety levels, and resilience. Findings indicate that participants generally hold positive environmental attitudes, with the affective component being the strongest and the behavioral (conative) the weakest. A significant correlation was found between environmental attitudes and concrete scientific knowledge, suggesting that knowledge-based environmental education supports attitude formation. No significant relationships were found between environmental attitudes and academic performance or anxiety. However, a weak but notable correlation emerged between environmental attitudes and resilience at the 10% significance level, indicating potential psychosocial benefits of nature engagement. These results suggest that environmental education may play a meaningful role in fostering psychological resilience among institutionalized youth. The findings advocate for more experiential, nature-based programs in child protection contexts and highlight the need for further research on their long-term developmental impact.

[1] University of Sopron, Faculty of Forestry, Róth Gyula Doctoral School of Forestry and Wildlife Management Sciences, Sopron, HUNGARY. E-mail: kui.biborka@uni-sopron.hu , ORCID: https://orcid.org/0009-0003-2854-9142

[2] University of Sopron, Faculty of Wood Engineering and Creative Industries, Institute of Basic Sciences, Sopron, HUNGARY. E-mail: horvath-szovati.erika@uni-sopron.hu, ORCID: https://orcid.org/0009-0000-8351-6069

Keywords: sustainability; environmental attitude; lifestyle; connection to nature; inclusivity of educational programmes**.**

Context, rationale and research objectives

Children and adolescents living in child protection institutions often face complex emotional, social, and developmental challenges that distinguish their experiences from those of peers raised in family environments. Numerous studies highlight the heightened vulnerability of this group, emphasizing the need for multidimensional support systems that foster not only academic success but also psychological resilience. At the same time, a growing body of research indicates that environmental education and direct contact with nature can have significant positive effects on emotional well-being, cognitive development, and adaptive coping skills. These findings suggest that environmental education may serve a dual role: fostering pro-environmental awareness while also strengthening psychosocial functioning.

The present study focuses on institutionalized youth aged 8–19 years living in eight residential care homes in Harghita County, Romania. It investigates their environmental attitudes and examines potential correlations with academic performance, scientific knowledge, anxiety levels, and resilience. The study also explores differences in access to nature and environmentally related activities across institutions. By examining these dimensions, the research seeks to determine whether environmental orientation can be considered a protective factor in the psychological development of children in care, and whether nature-based educational programs offer a viable, supportive intervention in child protection contexts.

Literature Review and Theoretical Foundations

The Circumstances of Youth in Child Protection – National and International Research Perspectives

Children placed in child protection care are typically removed from their families due to circumstances beyond their control. Even when care is adequate, the loss of familial stability and emotional security can be deeply traumatic. National and international studies consistently highlight the heightened vulnerability of these children, who face multiple developmental, emotional, and social disadvantages. Compared to peers raised in families, institutionalized youth show higher rates of substance abuse, earlier sexual activity, poorer emotional regulation, and lower problem-solving skills. Their sense of social responsibility and self-identity is

often impaired, which can hinder their ability to function as constructive members of society (Varga, 2008; Rácz, 2012; Szennai, 2021).

Social mobility also poses a major challenge for these children. Without family support and access to cultural capital, their academic outcomes tend to be weaker, and as adults, they face an elevated risk of marginalization. Longitudinal studies from the UK (Stein, 2006; Munro & Stein, 2008) have shown that care-experienced youth are more likely to develop mental health problems, drop out of education, become unemployed, or enter the criminal justice system. A key criticism of many child protection systems is the lack of long-term support during the transition to adulthood, particularly when young people "age out" of care without sufficient guidance, secure housing, or social networks (Berridge, 2012).

In Anglo-Saxon contexts, the term care leaver has emerged to describe youth transitioning out of care. This has become a focused area of research, aiming to ensure smoother, more personalized exits from institutional systems. Findings show that positive relationships, stable living conditions, and mentorship significantly increase the likelihood of successful social integration (Wade, 2008; Cameron*et al.,* 2012).

Another critical issue is the impaired future orientation among youth in care. Early life instability often leaves them unable to plan long-term or develop the self-regulation and decision-making skills needed for academic or personal success (Ungar, 2011). Many care systems are overburdened, underfunded, and ill-equipped to deliver individualized support. High staff turnover, insufficient training, and professional burnout further weaken the possibility of building stable adult–child relationships. In many cases, child protection operates primarily as an administrative and legal framework, with insufficient attention to children's psychological needs and social development.

Children in care frequently suffer from low self-esteem, fear of rejection, and relationship insecurity, often manifesting as aggression or withdrawal. These psychological vulnerabilities pose ongoing risks. However, research suggests that targeted interventions, such as nature-based programs, experiential learning, and mentorship, can play a significant role in building resilience. With appropriate support structures in place, children in residential care can be guided toward more positive developmental paths and improved social outcomes.

Environmental Education and Environmental Attitude as Theoretical and Empirical Foundations

The complex global challenges of the 21st century, such us climate change, biodiversity loss, social and economic crises, and unsustainable resource use, necessitate a transformation in educational approaches. Environmental education extends far beyond teaching natural systems; its core objectives include shaping learners' values, fostering sustainable lifestyles, and promoting active citizenship

(UNESCO, 1978; Palmer, 1998, Molnár, 2016). A central aim is to nurture emotional connections to nature and instill a sense of environmental responsibility.

A systematic review by Rickinson et al. (2004) identified three key components of environmental education outcomes: cognitive (knowledge), affective (emotional engagement), and conative (behavioral intent). Well-structured environmental education programs influence all three, leading to value formation and long-term behavioral change. In this context, environmental attitude refers to the combination of emotional, cognitive, and behavioral tendencies expressing an individual's relationship with nature (Milfont & Duckitt, 2010).

Research emphasizes the significance of early-life nature experiences, family influence, and school socialization in shaping environmental attitudes. Chawla (1999) found that adults actively engaged in environmental action often had rich childhood experiences in nature and were influenced by environmentally conscious role models. Ernst and Monroe (2004) confirmed that direct, pedagogically structured experiences in nature significantly strengthen environmental attitudes, especially when reflective learning is involved.

However, knowledge alone is insufficient. According to Kollmuss and Agyeman (2002), sustainable behavior also requires motivation, emotional engagement, social norms, and practical skills. Thus, effective environmental education must go beyond information transfer, it must inspire emotional identification and support action (Kellert, 2002).

Empirical studies show that nature-based learning, including fieldwork, forest school programs, and camping, not only fosters environmental attitudes and behaviors (Bogner, 1998), but also indirectly promotes self-reflection, emotional intelligence, and resilience (Beames, Higgins, & Nicol, 2012; Nicol, 2014). These outcomes are especially valuable for vulnerable groups, such as children in care, for whom experiential education can serve as both a developmental and therapeutic tool.

Resilience as a protective factor – International interpretations

Resilience, understood as psychological strength and emotional flexibility, is a central concept in child development and protection. Rather than being an innate trait, resilience is a dynamic capacity that enables children to adapt positively and maintain emotional balance in the face of adversity. Ann Masten (2001) describes resilience as the "ordinary magic" of development, referring to internal mechanisms that support adaptive functioning under stress. Michael Ungar (2011) expands this view, emphasizing that resilience emerges through interaction with the environment, particularly when children have access to external protective factors such as supportive adults, safe spaces, and social recognition.

For children in institutional care, resilience is often the key to navigating instability, trauma, and emotional loss. In this context, resilience-building depends on positive relational experiences, consistent pedagogical support, and

emotionally secure environments (Varga, 2008). Andrea Rácz (2012) highlights the non-linear, cyclical nature of development in child protection settings, where constant adjustment to changing conditions is the norm. Protective factors such as meaningful school experiences, opportunities for decision-making, and social inclusion play a crucial role in stabilizing these trajectories.

Nature can also act as a powerful external resilience resource. According to Kaplan and Kaplan's (1989) preference matrix model, natural environments support psychological recovery by reducing stress, improving attention, and enhancing emotional well-being. Nature-based socialization, including forest school programs, gardening, and experiential learning, offers emotionally safe spaces for vulnerable youth to develop self-regulation, empathy, trust, and a stronger sense of competence.

These findings underscore the value of integrating nature into child protection frameworks, not merely for education, but as a therapeutic and resilience-enhancing tool.

The relationship between environmental education and resilience in the context of child protection

Young people living in residential child protection services often experience trauma, insecurity, rejection, and a lack of meaningful relationships. These experiences can significantly endanger their psychological development and the formation of resilience. However, research over the past two decades has shown that connection to nature and methods of environmental education can serve as effective tools for providing emotional support and strengthening these young individuals. In their longitudinal study, Wells and Evans (2003) demonstrated that the presence of green spaces (e.g., yards, parks, forests) reduces the effects of stress and supports children's adaptive capacity. In his book Last Child in the Woods, Louv (2005) introduced the concept of "nature-deficit disorder," which primarily affects children living in urban and institutional environments, and is closely linked to behavioral and emotional problems. According to research by Nisbet, Zelenski and Murphy (2011), children who regularly engage in nature-based experiences report higher levels of self-esteem, internal locus of control, and positive emotional states, all of which are fundamental components of resilience.

It becomes clear that for children growing up within the child protection system, safety, acceptance, and opportunities for development are not guaranteed conditions, but values that must be intentionally created through pedagogical and social support. Environmental education and nature-based experiences are not merely supplementary programs, they can function as real psychological and social protective factors in fostering resilience, mental well-being, and social integration. Nature, as a space for education, offers a unique opportunity to help restore the fragile inner world of traumatized children, through experiences of autonomy, competence, and connection. Thus, nature socialization is not only a pedagogical

task but also a social responsibility, a bridge that can lead from vulnerability to an active, responsible, and hopeful adulthood.

Methodology

Research Questions and Hypotheses

During the theoretical foundation of the research, the following questions emerged:

1. What type of environmental attitude do young people in child protection care possess?
2. Is the cognitive component of attitude the strongest and the conative the weakest among youth in child protection care as well?
3. Is there a correlation between academic achievement and the different components of environmental attitude?
4. Is there a connection between concrete scientific knowledge and environmental attitude?
5. Can a relationship be identified between children's level of anxiety and their environmental attitudes?
6. Do children with more positive environmental attitudes demonstrate a higher level of resilience?

The hypotheses formulated during the research are as follows:

H/1: The environmental attitude of the children participating in the study can generally be considered positive, as they live closer to nature.

H/2: Among the components, the cognitive aspect is the strongest, while the conative is the weakest.

H/3: Academic performance influences environmental attitude: children with better academic results show more positive environmental attitudes.

H/4: Concrete scientific knowledge influences environmental attitude: children with more in-depth and thorough knowledge have more positive environmental attitudes.

H/5: Children with more positive environmental attitudes have lower levels of anxiety.

H/6: Children with more positive environmental attitudes show greater resilience compared to their peers with weaker environmental attitudes.

Research methods applied and the research sample

The study employed a quantitative research design, using individual written questionnaires to assess environmental attitudes, anxiety, and resilience among children living in residential care. The environmental attitude questionnaire was self-constructed and adapted to three age groups: grades 1–4, 5–8, and 9–12. It comprised four sections: demographic information (items 1–5), academic habits and relationship to nature (items 6–10), open-ended scientific knowledge questions (8 items for younger groups, 10 for older students), and a 16-item Likert scale assessing environmental attitudes. The scale captured cognitive, affective, and conative components, tailored to each age group. Responses ranged from 1 (least environmentally conscious) to 5 (most).

To measure anxiety, the State-Trait Anxiety Inventory for Children (STAI-C) was used, with Hungarian adaptation by Mihály Sipos and Kornél Sipos. This tool includes two 20-item subscales assessing general (trait) and situational (state) anxiety. Scoring reflects frequency or intensity of anxiety symptoms, with cut-off values set at 35+ for high trait anxiety and 38+ for elevated state anxiety.

Resilience was measured using the GYIRM-25 Hungarian Child and Youth Resilience Scale, specifically developed for children in child protection care. The 25-item instrument evaluates five resilience domains: family background, school environment, social support, self-efficacy, and existential trust. Scores range from 25 to 125, categorized as low (25–75), medium (76–104), or high (105–125) resilience. Five of the items are tailored for institutionalized children.

The survey was conducted in Harghita County, Romania, in eight residential homes: four state-run (Fülöp, Teréz, Ferenc, Erzsébet Houses in Csíkszépvíz) and four church-run by the Saint Francis Foundation of Déva (Saint Catherine Home in Kászonaltíz, Kájoni János Center in Szárhegy, Saint Ladislaus Center in Csíkszentsimon, and Saint Stephen Center in Csíksomlyó). A total of 92 children aged 8–19 participated - 40 from state-run and 52 from church-run homes.

The daily routines of the two provider types differ. In Saint Francis Foundation homes, children live in rural settings, engaging in garden work, animal care, and household chores alongside their caregivers, who live with them full-time. Their schedule emphasizes close contact with nature, practical skills, and community living. State-run institutions also follow structured routines, including school attendance and household tasks, but are characterized by more institutionalized settings. Religious practices, such as prayer, are integrated into daily life in both settings.

Participation was voluntary and anonymous, and completion took 30- 0 minutes. Ethical approval required omitting questions about parents in state-run homes. Five questionnaires were excluded: two were incomplete in the attitude section, and three contained copied answers to open-ended knowledge questions. The final analysis was conducted on 87 valid responses.

This methodological approach ensured age-appropriate instruments and culturally relevant measures, allowing a comprehensive analysis of the relationship between environmental orientation, anxiety, resilience, and educational context in child protection settings.

Table 1. Children's homes participating in the study by age groups and providers

	State-run	Church-run	Total
Grades 1-4	7	6	13
Grades 5-8	14	10	24
Grades 9-12	18	32	50
Total	**39**	**48**	**87**

The data analysis was carried out using the STATISTICA statistical software (one-way ANOVA, Tukey post hoc test, and independence test)

Results

As a first step, we assessed the reliability of the environmental attitude questionnaire. The reliability of the 16 items related to environmental attitude was examined by calculating the Cronbach's alpha coefficient using the STATISTICA software package.

For students in grades 1–4, the Cronbach's alpha was 0.790, while for those in grades 5-12, it was 0.845. These values indicate that the questionnaire was reliable for the purposes of the study.

Results of the environmental attitude assessment

Consistent with previous international studies (Leeming, Dwyer & Bracken, 1995; Chan, 1996; Varga, 1999; Széplaki, 2004; Liefländer & Bogner, 2014; de Leeuw *et al.,* 2015, Kónya, 2018), the environmental attitudes of children in this study were generally positive. Mean scores were analyzed by institutional type and age group, as well as across the three components of environmental attitude: cognitive, affective, and conative.

Table 2. Mean values of environmental attitude by providers and age groups

	HRS			HRSTFF			Total sample		
	I-IV	V-VIII	IX-XII	I-IV	V-VIII	IX-XII	I-IV	V-VIII	IX-XII
Environmental attitudes	4.32	3.37	3.96	3.58	3.42	3.5	3.95	3.39	3.58
Mean	3.88			3.5			3.65		

Table 3. Mean environmental attitude scores by components and age groups

	Cognitive			Affective			Conativ		
	I-IV	V-VIII	IX-XII	I-IV	V-VIII	IX-XII	I-IV	V-VIII	IX-XII
Mean	4.05	3.52	3.58	4.12	3.6	3.89	4.25	3.05	3.27
Standard deviacion	1.17	1.28	1.01	1.28	1.37	1.13	1.32	1.49	1.32

Table 4. Mean values of environmental attitude components

	Cognitive	Affective	Conative
Mean	3.71	3.87	3.52
Standard deviacion	1.15	1.27	1.37

Interestingly, children in state-run institutions demonstrated more favorable environmental attitudes than those in church-run homes, despite the latter's more nature-oriented lifestyle (e.g., gardening, animal care). Among age groups, grades 1–4 showed the most positive attitudes, while middle schoolers (grades 5–8) displayed the weakest. High school students showed moderate improvement but did not reach the levels of the youngest group.

Component-wise analysis revealed a departure from earlier findings: while prior research often identified the cognitive dimension as strongest, this study found the affective (emotional) component to be the most dominant, and the conative (behavioral) component the weakest.

Statistical analysis using one-way ANOVA confirmed significant differences between the three attitude components ($F = 8.681$, $p = 0.000237$).

Table 5. Results of one-way ANOVA analysis

Effect	SS	Degr. of Freedom	MS	F	p
Intercept	2870.438	1	2870.438	4337.472	0.000000
A	11.490	2	5.745	8.681	0.000237
Error	140.958	213	0.662		

Post hoc Tukey tests indicated significant differences between cognitive–conative and affective–conative pairs, but not between cognitive and affective components.

Table 6. Results of the Tukey Post Hoc test

Cell. No.	Approximate Probabilities for Post Hoc Tests Error: Between MS= 0.66178, df = 213.00			
	A	{1} 3.7799	{2} 3.8356	{3} 3.3208
1	2		0.911198	0.002061
2	3	0.911198		0.000446
3	4	0.002061	0.000446	

This difference is well illustrated by the 95% confidence interval boundaries calculated for the means of the responses to the questions assessing the cognitive (2), affective (3), and conative (4) components, as well as by the chart derived from these intervals.

Table 7. 95% confidence interval limits

Cell No.	Current effect: F(2,213) = 8.6811, p = 0.00024 Effective hypothesis decomposition					
	A	B Mean	B Std. Err.	B -95.00%	B +95.00%	N
1	2	3.779861	0.095871	3.590883	3.968840	72
2	3	3.835556	0.095871	3.646577	4.024534	72
3	4	3.320833	0.095871	3.131855	3.509812	72

Note: 95% confidence interval limits

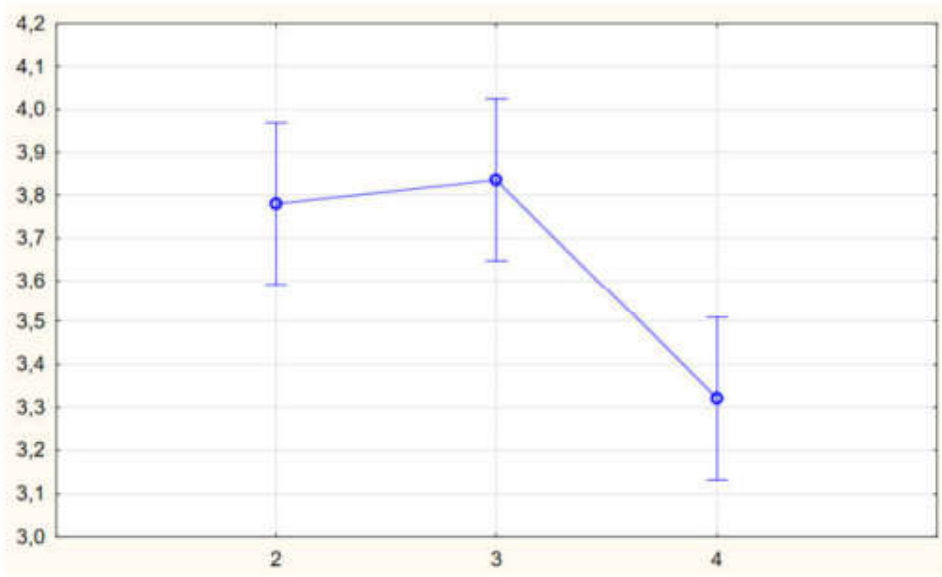


Figure 1. Means and 95% confidence intervals of the cognitive (2), affective (3), and conative (4) dimensions of environmental attitude

Academic performance

Academic performance was examined from two perspectives: by type of institution (provider) and by age group. The following results were obtained:

Table 8. Academic performance by type of institution (provider)

	HRS (%)	HRSTFF (%)	Total (%)
Significant	11	0	5
Good	36	25	31
Medium	33	55	44
Suficient	20	20	20

Figure 2. Academic performance by type of institution (provider)

The analysis shows that nearly half of the children in residential care achieve average academic results, while 20% perform poorly. Only 5% of the total sample are classified as excellent students.

A clear distinction emerges between institutional types: state-run institutions have a higher proportion of students with good or excellent academic outcomes, while church-run institutions show no cases of academic excellence. In church-run homes, the majority of students fall within the average performance range. Notably, the percentage of children performing at a satisfactory (pass) level is equal (20%) in both institutional types, suggesting that serious learning difficulties may be independent of provider type.

Table 9. Academic performance by age group

	I-IV (%)	V-VIII (%)	IX-XII (%)	Total (%)
Significant	0	15	2	5
Good	12	30	36	31
Medium	50	25	52	44
Suficient	38	30	10	20

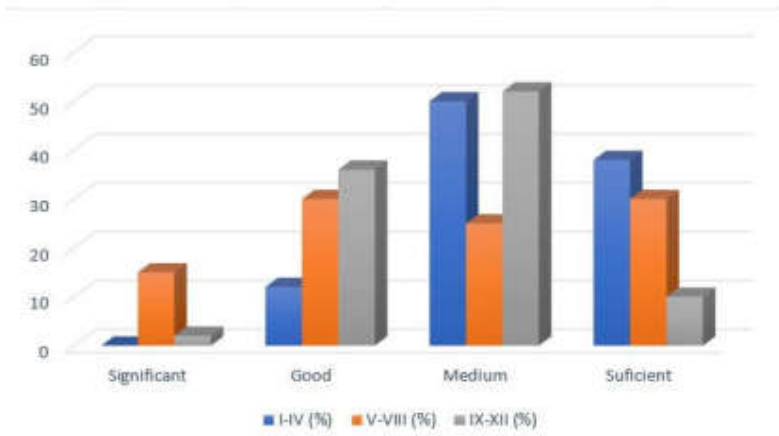


Figure 3. Academic performance by age group

Age-based analysis further supports these trends. Across all age groups, average performance dominates. Excellent academic results are rare and appear primarily at the upper primary level (grades 5–8), where 15% of students excel. In contrast, high school students show the lowest proportion of excellence (about 2%), though over one-third perform at a good level.

These findings highlight overall modest academic achievement among children in care, with better results associated with state-run institutions and middle-grade students.

Results of the Anxiety Level Assessment

The results are clearly reflected in the following table and chart.

Table 10. Percentage of children showing high levels of anxiety

	HRS (%)	HRSTFF (%)
I-IV	0	50
V-VIII	43	67
IX-XII	37.5	43
Total	**34**	**47**

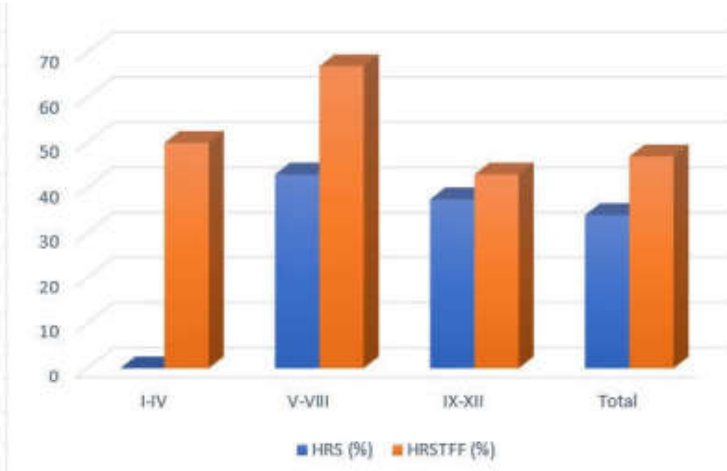


Figure 4. Percentage of Children Exhibiting High Levels of Anxiety

The findings indicate that approximately 40% of children living in child protection care exhibit high levels of anxiety, a rate significantly above the 10–20% observed in the general school-aged population (Costello, Mustillo, Erkanli, Keeler, & Angold, 2003; Polanczyk *et al.,* 2015; Racine *et al.*, McArthur *et al*., 2021). This elevated prevalence is consistent across institution types and age groups.

However, children in church-run institutions report notably higher anxiety levels than their peers in state-run homes. The most striking difference appears among grades 1-4, where 50% of church-run residents show high anxiety, compared to 0% in state-run settings. While this disparity narrows among high school students, the trend remains.

Children in state-run institutions consistently exhibit lower anxiety, which may reflect more effective psychological support, safer environments, or stronger institutional frameworks. Although the study does not analyze causal factors, the data clearly suggest that anxiety is a systemic issue in child protection care.

Addressing this problem requires immediate and coordinated intervention across both institutional types. Promoting mental health is essential for meaningful educational and social progress among children in care.

Results of the Resilience Assessment

The results of the resilience assessment are clearly illustrated in the table and charts below**.**

Table 11. Resilience of children in child protection care by type of institution (provider)

	HRS (%)	HRSTFF (%)	Total (%)
Low	20	28	24
Medium	60	66	63
High	20	6	13

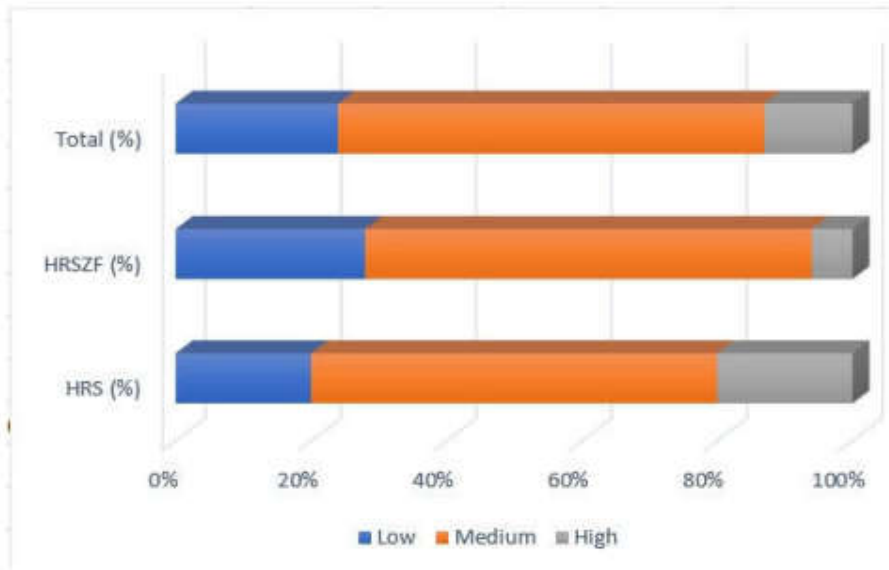


Figure 6. Resilience of children in child protection care by type of institution (provider)

Most children in child protection care demonstrate medium or low resilience, aligning with previous research (Homoki, Czinderi, Segal, Sándor, & Fodorné, 2016). Overall, high resilience is relatively rare, particularly in church-run institutions, where children are at greater psychological risk due to a higher proportion of low-resilience cases.

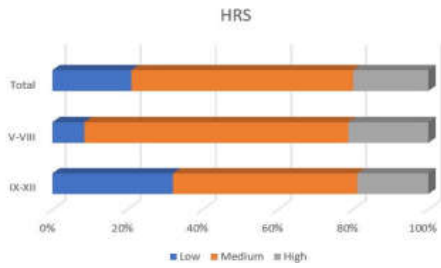


Figure 7.Resilience of Children in State-Run Institution

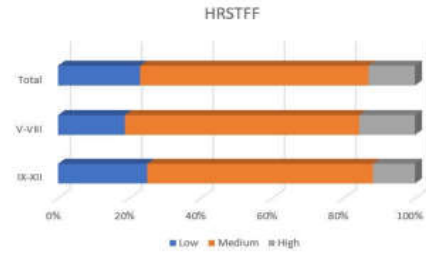


Figure 8. Resilience of Children in Church-Run Institutions

In state-run institutions, 59% of children show medium resilience, indicating basic emotional adaptability, though not optimal by international standards. Only 20% reach high resilience, which is below global benchmarks (typically 30–50%; Flynn, Ghazal, Legault, Vandermeulen, Petrick, 2004; Ungar, 2013; Van Breda, 2018). Additionally, 21% of children in these institutions display low resilience, suggesting significant emotional vulnerability.

The contrast between state- and church-run care highlights institutional differences in supporting psychological development. These findings underscore the need for targeted interventions to strengthen resilience, particularly in settings where support systems may be weaker.

Tests of independence

To explore relationships between key variables, independence tests were conducted for four variable pairs: (1) environmental attitude and academic performance, (2) environmental attitude and concrete scientific knowledge, (3) environmental attitude and anxiety, and (4) environmental attitude and resilience.

The null hypothesis assumed no association between the variables. Statistical significance was evaluated at 5% and 10% levels. Results showed:

Table 12. Results of the independence tests

Cod	Test statistic (Chi-Square)	Degree of freedom	p	Significante level, correlation (yes/no)	
				5%	10%
1.	3.58	6	0.7326	no	no
2.	14.69	6	0.0228	yes	yes
3.	5.94	4	0.2036	no	no
4.	7.90	4	0.0954	no	yes

- No significant correlation between environmental attitude and academic performance ($p = 0.7326$) or anxiety level ($p = 0.2036$).
- A significant positive correlation was found between environmental attitude and concrete scientific knowledge ($p = 0.0228$), confirming that higher knowledge is linked to more positive environmental attitudes.
- A weak correlation emerged between environmental attitude and resilience ($p = 0.0954$), significant only at the 10% level.

Table 13. Correlation between environmental attitude and concrete scientific knowledge

Variable	Marked correlations are significant at p<0.05000 N=72 (Casewise deletion of missing data)			
	Means	Std.Dev.	„2”	„4”
„2”	3.759028	0.764638	1.000000	0.579105
„4”	3.323611	0.844159	0.579105	1.000000

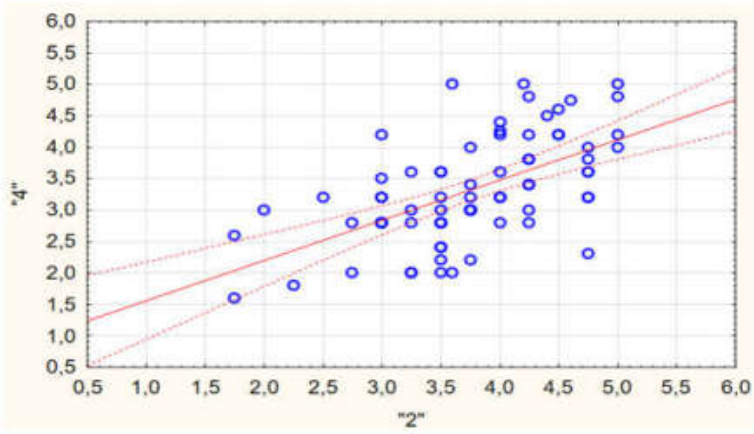
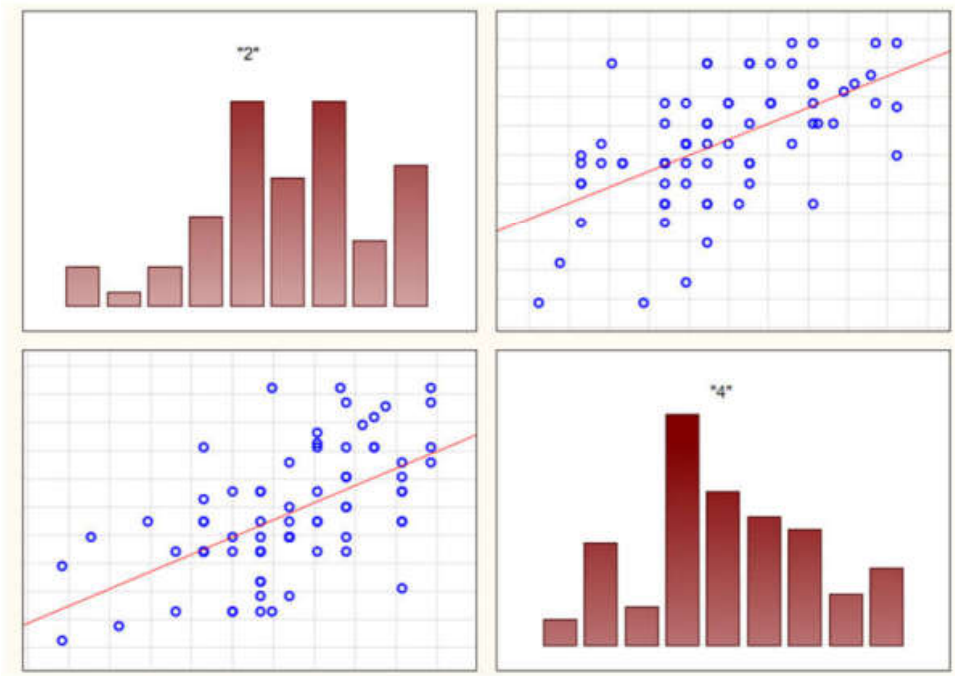


Figure 9. Correlation between environmental attitude and concrete scientific knowledge



Figures 10–13: Variables of environmental attitude (2) and concrete scientific knowledge (4)

Visualizations (Figures 9-13) supported the statistical outcomes, showing aligned distributions and a positive trend between environmental attitudes and scientific knowledge. Scatter plots demonstrated consistent directionality, suggesting that as knowledge increases, so does environmental concern. These findings highlight the potential of science-based environmental education to enhance students' attitudes and suggest a possible - though weaker - link between environmental orientation and psychological resilience.

Discussion

This study examined the environmental attitudes of children in child protection care, focusing on their connections with academic performance, scientific knowledge, anxiety, and resilience. Overall, participants demonstrated generally positive environmental attitudes, supporting the hypothesis that institutionalized children can develop pro-environmental views.

The affective component, emotional connection to nature, was the strongest, while the conative component, action-oriented behavior, was the weakest. This

suggests that although children feel positively about nature, these feelings do not always translate into action.

A significant positive correlation was found between scientific knowledge and environmental attitude, indicating that environmental education plays a key role in shaping attitudes. However, no correlation was identified between environmental attitude and academic performance or anxiety levels, which refutes parts of the original hypotheses.

A weak but statistically relevant correlation was observed between environmental attitude and resilience at the 10% significance level. While not conclusive, this points to a potentially meaningful relationship, highlighting the value of further research.

The findings underscore the importance of integrating environmental education into child protection programs, not only for environmental awareness, but also for its possible role in supporting psychological resilience.

The findings highlight the need to integrate environmental education into child protection settings. Programs should aim not only to enhance environmental awareness but also to strengthen emotional connection to nature, which may support psychological resilience. Given the weak conative component, initiatives should emphasize action-based learning (e.g., gardening, nature-based activities) to translate attitudes into behavior. The positive link between scientific knowledge and environmental attitudes suggests that experience-based environmental education should be incorporated into curricula. Although no correlation was found with academic performance or anxiety, targeted further research is needed to explore the long-term psychological and developmental benefits of nature-based interventions in residential care.

Conclusion

The study conducted among 8–19-year-olds living in child protection care in Harghita County confirms that environmental attitudes are generally positive; however, their structure is asymmetric: the affective (emotional) component is the strongest, while the conative (behavioural) component is the weakest. This suggests that sympathy for and commitment to nature do not automatically translate into consistent, everyday pro-environmental behaviour. A significant positive association was found between the cognitive component and concrete scientific knowledge, supporting the view that well-structured knowledge building—especially in field-based and reflective learning situations—can strengthen favourable attitudes. By contrast, no demonstrable relationship was found with school performance, indicating that environmental awareness is not merely a “by-product” of academic achievement but a domain that requires dedicated development.

From a mental well-being perspective, the sample's higher-than-average anxiety level is particularly concerning; at the same time, it did not show a significant association with environmental attitude. Resilience typically fell within the low–medium range; a weak but directional link with environmental attitude was identifiable (at the 10% level). This pattern suggests that a positive relationship with nature is not, in itself, a "cure-all," but it may form part of a complex bundle of protective factors that supports psychological flexibility; nature-based, experience- and relationship-oriented pedagogy may be a promising component of psychosocial developmental practice in child-care institutions.

Across institution types, several findings underscore that "closeness to nature" does not exert its effects in isolation, but operates together with pedagogical framing, the quality of daily routines, educator presence, and mentoring relationships. To strengthen the conative (behavioural) component, programmes should deliberately embed regular, responsibility-bearing yet success-yielding tasks (gardening, animal care, community projects) within a reflective, goal-setting and feedback-oriented framework, and complement them with decision-making opportunities that enhance children's autonomy and sense of competence.

The results consistently indicate that: (1) embedding environmental education into the everyday life of child-care institutions is warranted; (2) alongside knowledge- and experience-based components, targeted interventions are needed to reinforce the behavioural (conative) dimension; and (3) supporting mental well-being (anxiety reduction, trauma-informed practices) is an essential precondition for programme effectiveness.

Recommended steps include: at the institutional level, introducing trauma- and relationship-based pedagogical protocols; organising nature-based, regular and reflective learning; providing targeted professional development for educators in resilience building and behaviour change methods; and continuously monitoring simple outcome indicators aligned with the programmes (conative scales, resilience subscales). On the research side, the next logical step is a longitudinal, experimental/quasi-experimental design to examine how different nature-based interventions (duration, intensity, reflectivity) affect the conative component and resilience, and whether these effects are moderated by age, gender, or institutional characteristics.

Overall, a positive attitude toward nature is present and valuable, but it becomes a genuine resource at policy and institutional levels only if it is consciously "translated" into action while simultaneously strengthening the psychosocial conditions that sustain and enhance psychological resilience within child-care settings.

References

Beames, S., Higgins, P., Nicol, R. (2012). *Learning Outside the Classroom: Theory and Guidelines for Practice*. Abingdon: Routledge.

Berridge, D. (2012). Educating young people in care: What have we learned? *Children and Youth Services Review*, *34*(6), 1171-1175, https://doi.org/10.1016/j.childyouth.2012.01.032

Bogner, F. X. (1998). The influence of short-term outdoor ecology education on long-term variables of environmental perspective. *The Journal of Environmental Education*, *29*(4), 17–29. https://doi.org/10.1080/00958969809599124

Cameron, C., Jackson, S., Hauari, H., & Hollingworth, K. (2012). Continuing educational participation among 'care leavers' in five countries: Research findings. *Oxford Review of Education*, *38*(4), 411–429. https://doi.org/10.1080/03054985.2012.705351

Chan Kara K. W. (1996): Environmental attitudes and behaviors of secondary school students in Hong Kong. *The Environmentalist*, *16*, 297-306. https://doi.org/10.1007/BF02239656

Chawla, L. (1999). Life Paths Into Effective Environmental Action. *The Journal of Environmental Education*, *31*(1), 15-26.

Costello, E. J., Mustillo, S., Erkanli, A., Keeler, G., & Angold, A. (2003). Prevalence and development of psychiatric disorders in childhood and adolescence. *Archives of General Psychiatry*, *60*(8), 837-844, https://doi.org/10.1001/archpsyc.60.8.837

Ernst, J., Monroe, M. (2004). The effects of environment-based education on students' critical thinking skills and disposition toward critical thinking. *Environmental Education Research*, *10*(4), 507-522 https://doi.org/10.1080/1350462042000291038

Flynn, R. J., Ghazal, H., Legault, L., Vandermeulen, G., & Petrick, S. (2004). Use of population health data to assess outcomes in child welfare: The health and well-being of children in care. *Children and Youth Services Review, 26*(4). 337–359. https://doi.org/10.1016/j.childyouth.2004.02.008

Homoki, A., Czinderi, K., Segal, H., Sándor, Z., Fodorné, V.R. (2016). *CYRM 28 gyermek* és *ifjúsági reziliencia skála magyar adaptált változatának jellemzői* és *a GYIRM 25-20 magyar gyermek* és *ifjúsági reziliencia skálák validálása családjaikban* élő és *családjaikból kiemelt serdülők körében. Magyar nyelvű kutatási jelentés*.

Kaplan, R., Kaplan, S. (1989). *The experience of nature: A psychological perspective*. Cambridge University Press.

Kellert, S. R. (2002). Experiencing nature: Affective, cognitive, and evaluative development in children. In P.H. Kahn, Jr. & S.R. Kellert (Eds.), *Children and nature: Psychological, sociocultural, and evolutionary investigations.* MIT Press. pp. 117–151.

Kollmuss, A., Agyeman, J. (2002). Mind the Gap: Why do people act environmentally and what are the barriers to pro-environmental behavior? *Environmental Education Research*, 8(3), 239–260. https://doi.org/10.1080/13504620220145401

Kónya, Gy. (2018). A környezeti attitűd összetevőinek összehasonlító vizsgálata. *EDU,* 7(3)*,* 32-54.

Leeming, F. C., Dwyer, W. O., Bracken, B. A. (1995). Children's Environmental Attitude and Knowledge Scale: Consturtion and Validation. *The Journal of Environmental Education*, *3*, 22-32. https://doi.org/10.1080/00958964.1995.9941442

de Leeuw, A., Valois, P., Ajzen, I., Schmidt, P. (2015). Using the theory of planned behavior to identify key beliefs underlying pro-environmental behavior in highschool students: Implications for educational interventions. *Journal of Environmental Psychology*, 42, 128-138. https://doi.org/10.1016/j.jenvp.2015.03.005

Liefländer A.K., Bogner F.X. (2014). The effects of children's age and sex on acquiring 28 pro-environmental attitudes through environmental education. *The Journal of Environmental Education, 45*(2), 105-117, https://doi.org/10.1080/00958964.2013.875511

Louv, R. (2005). *Last Child in the Woods*. Algonquin Books. ISBN: 9781565126053 (156512605X)

Masten, A.S. (2001). Ordinary magic: Resilience processes in development. *American Psychologist*, *56*(3), 227-238, https://doi.org/10.1037/0003-066X.56.3.227

Milfont, T. L., & Duckitt, J. (2010). The structure of environmental attitudes: A first- and second-order confirmatory factor analysis. *Journal of Environmental Psychology*, 30(1), 80–94. https://doi.org/10.1016/j.jenvp.2009.09.001

Molnár, K. (2016). Élményalapú környezeti nevelés. *Tanulmánykötet* Mészáros Károly *tiszteletére* 69–73

Munro, E. R., Stein, M. (2008). Young People's Transitions from Care to Adulthood: International Research and Practice. In: Stein, M. & Munro, E. R. (Eds.) *Young People's Transitions from Care to Adulthood*. Jessica Kingsley Publishers.

Nicol, R. (2014). Enter the Iron Cage. Outdoor education and the neo-liberal agenda. In Higgins, P., Nicol, R., Beames, S. (Eds.), *Outdoor Learning in the 21st Century: Theory, Research and Practice* Abingdon: Routledge. pp. 51–63

Nisbet, E.K., Zelenski. M.J., Murphy, S.A. (2011). Happiness is in our Nature: Exploring Nature: Relatedness as a Contributor to Subjective Well-Being. *J Happiness Stud, 12*:303–322, https://doi.org/10.1007/s10902-010-9197-7

Palmer, J.A. (1998). *Environmental Education in the 21st Century: Theory, Practice, Progress and Promise*. Routledge

Polanczyk, G. V., Salum, G. A., Sugaya, L. S., Caye, A., & Rohde, L. A. (2015). Annual Research Review: A meta-analysis of the worldwide prevalence of mental disorders in children and adolescents. *Journal of Child Psychology and Psychiatry*, *56*(3), 345-365, https://doi.org/10.1111/jcpp.12381

Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: A meta-analysis. *JAMA Pediatrics, 175*(11), 1142–1150, https://doi.org/10.1001/jamapediatrics.2021.2482

Rácz, A. (2012). Gyermekvédelemben nevelkedettek helyzete a kutatások tükrében. *Gyermek-* és *ifjúságvédelmi Tanulmányok*. Budapest: Rubeus Egyesület, pp. 13–35. http://rubeus.hu/wp-content/uploads/2013/09/24428_gyermek_es_ifjusagvedelmi_tanulmanyok_elso_kotet.pdf

Rickinson, M., Dillon, J., Teamey, K., Morris, M., Choi, M. Y., Sanders, D., Benefield, P. (2004). *A Review of Research on Outdoor Learning. National Foundation for*

*Educational Researc*h. https://informalscience.org/wp-content/uploads/2019/02/Review-of-research-on-outdoor-learning.pdf

Sipos, K., & Sipos M. (1979). A „State-Trait" Anxiety Inventory for Children" standardizálása és validizálása magyar nyelven. *Elméleti-Módszertani Tanulmányok*. Magyar Tudományos Akadémia Pszichológiai Intézete

Stein, M. (2006). Research review. Young people leaving care. *Child & Family Social Work*, *11*(3). 273-279.

Szennai D. (2021). A gyermekotthonban nevelkedő fiatalok oktatási részvétele és jövőképe. *Kutatási tanulmány. Gattyán Alapítvány*. https://gattyanalapitvany.hu/wp-content/uploads/2021/09/VEGL_tanulmany_GAkutatas_0511.pdf

Széplaki, N. (2004). Jó munkához idő kell – az ökoiskolák munkájának eredményeiről. Új *Pedagógiai Szemle*. 54(4-5). 229-238.

Ungar, M. (2011). The social ecology of resilience: Addressing contextual and cultural ambiguity of a nascent construct. *American Journal of Orthopsychiatry*, 81(1), 1–17. https://doi.org/10.1111/j.1939-0025.2010.01067.x

Ungar, M. (2013). Resilience, trauma, context, and culture. *Trauma, Violence, & Abuse*, 14(3). 255–266. https://doi.org/10.1177/1524838013487805

Van Breda, A. D. (2018). A critical review of resilience theory and its relevance for social work. *Social Work,* 54(1). pp: 1–18. https://doi.org/10.15270/54-1-611

Varga, A. (1999). Az eredményes környezeti nevelés lehetséges útja. Új *Pedagógiai Szemle*. 49(9). 111-116.

Varga, A. (2008). A gyermekvédelmi gondoskodásban élők inklúziójának esélyei http://www.ofi.hu/tudastar/varga-aranka.

Wade, J. (2008). The ties that bind: support from birth families and substitute families for young people leaving care. *British Journal of Social Work*, 38(1), 39–54.

Wells, N. M., & Evans, G. W. (2003). Nearby Nature: A Buffer of Life Stress. *Environment and behavior. 35*(3), 311-330. https://doi.org/10.1177/0013916503035003001