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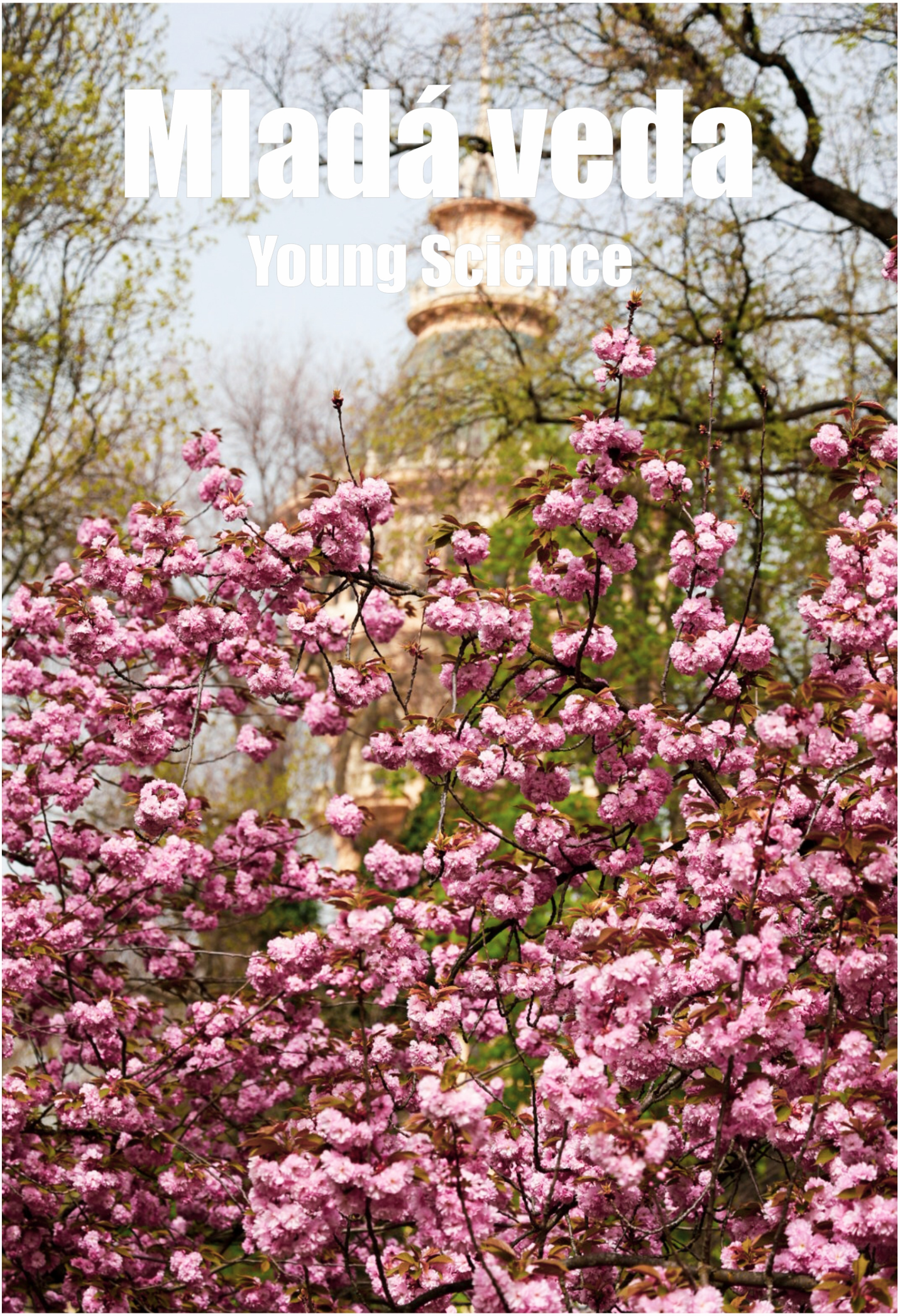

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## Young Science

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# UNDERSTANDING ADOLESCENT RESILIENCE: A COMPREHENSIVE FRAMEWORK FOR WELL-BEING IN THE CZECH REPUBLIC

POROZUMENIE ODOLNOSTI ADOLESCENTOV: KOMPLEXNÝ RÁMEC PRE WELL-BEING V ČESKEJ REPUBLIKE

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**Abstrakt**

Odolnost je klíčový koncept, který je rozsáhle zkoumán napříč různými disciplínami, ovlivňující individuální pohodu a celkovou adaptaci. Má zvláštní význam během dospívání, vývojového období, ve kterém formuje osobnostní růst a pomáhá mladým lidem zvládat výzvy. Výzkum se zabývá mechanismy, oblastmi a strategiemi ovlivňujícími odolnost adolescentů se zaměřením na evropský kontext a specifické poznatky týkající se České republiky. Pozornost je věnována odolnosti na individuální, sociální a environmentální úrovni. Biologické a psychologické mechanismy, jako je neurální regulace a emocionální adaptace, tvoří základ pro adaptivní reakce. Sociální faktory, včetně rodinné dynamiky, vrstevnických vztahů a vzdělávacího systému, představují zásadní ochranné nebo rizikové faktory, zatímco environmentální kontexty, jako je přístup k zeleným plochám a komunitní infrastruktura, mohou dále posilovat odolnost. Výzkum poukazuje na významné vzájemné propojení mezi těmito oblastmi, přičemž individuální zvládací mechanismy, jako seberegulace, sebevědomí a pozitivní afekt, hrají klíčovou roli při zmírňování stresu, zatímco inkluzivní vzdělávání a podpůrné vztahy dále posilují odolnost. Výzvy, kterým čelí čeští adolescenti, včetně socioekonomických nerovností a omezené podpory duševního zdraví ve školách, odrážejí širší evropské trendy. Význam víceúrovňových přístupů, které integrují vnitřní schopnosti a vnější podporu, je klíčový pro posílení pohody a adaptability adolescentů.

Klíčová slova: odolnost, dospívání, duševní pohoda, víceúrovňový rámec

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**Abstract**

Resilience is a critical construct extensively studied across disciplines, influencing individual well-being and overall adaptation. It holds particular significance during adolescence, a developmental stage where it shapes personal growth and equips youth to navigate challenges. This paper examines the mechanisms, domains, and strategies influencing adolescent resilience, with a focus on the European context and specific insights into the Czech Republic. The study explores resilience across individual, social, and environmental levels. Biological and psychological mechanisms, such as neural regulation and emotional adaptation, form the foundation for adaptive responses. Social factors, including family dynamics, peer relationships, and educational systems, serve as critical protective or risk factors, while environmental contexts, such as access to green spaces and community infrastructure, further enhance resilience. Findings highlight significant interdependencies among these domains, where individual coping mechanisms like self-control, self-efficacy, and positive affect play a pivotal role in mitigating stress, while inclusive education and supportive relationships further reinforce resilience. Challenges faced by Czech adolescents, including socio-economic disparities and limited mental health support in schools, mirror broader European trends. The study underscores the importance of multilevel approaches integrating internal capacities and external supports to promote adolescent well-being and adaptability.

Key words: resilience, adolescence, mental well-being, multilevel framework

## Introduction

The youth of today face a multitude of challenges that significantly impact their development, overall well-being, and resilience. Across the globe, young people are navigating an increasingly complex landscape characterized by rapid technological advancements, economic uncertainties, and evolving parental and peer relationships within home and school environments (Chadda, 2018; Srivastava, 2023). Among these challenges, the pervasive influence of technology stands out as a significant factor shaping adolescent resilience (Gui and Gerosa, 2021). As the digital age reshapes communication and interaction, it introduces profound opportunities alongside complex stressors for today's youth such as cyberbullying, social comparison, and the pressure to curate an idealized online presence (Livingstone and Helsper, 2021). Alarmingly, Twenge (2018) noted that adolescents who spend more than three hours daily on social media are twice as likely to report symptoms of mental health issues compared to their peers who use these platforms less frequently. Another critical phenomenon influencing youth is "netholism" (internet addiction), which has been increasingly recognized as a significant behavioral issue. According to research by Kuss et al. (2021) excessive and uncontrolled internet use can lead to social withdrawal, impaired academic performance, and heightened emotional distress. In Europe, approximately 12% of adolescents are estimated to exhibit problematic internet use, with the rates being even higher (OECD, 2022). The addictive nature of digital platforms, combined with their omnipresence in everyday life, exacerbates mental health challenges and diminishes opportunities for meaningful offline interactions.

This erosion of social connections and mental well-being critically undermines the resilience of vulnerable youth, leaving them even more susceptible to the profound impact of

economic uncertainties on their overall well-being (Schmitt, 2021). Rising unemployment rates and job insecurity in many parts of Europe contribute to mental health challenges, particularly among youth transitioning into adulthood (OECD, 2022). Socio-economic disparities exacerbate these difficulties, limiting access to resources such as quality education and extracurricular opportunities (Cefalo and Scandurra, 2021). Adolescents from disadvantaged backgrounds often experience heightened stress related to meeting basic needs, which undermines their ability to focus on academic and personal growth. Addressing these economic barriers through targeted interventions is crucial to supporting resilience (Parenteau et al., 2023). However, resilience is not shaped by economic factors alone as mentioned previously; parental and peer relationships within home and school environments also play a significant role in fostering adolescent resilience (Haddow et al., 2021). Disruptions such as parental conflict, financial instability, or divorce increase stress levels, often heightening vulnerability to mental health issues (Conger et al., 1992). Peer relationships also play a critical role during adolescence, a developmental period when social connections significantly influence self-identity and emotional well-being. According to the European Commission's 2021 report on youth mental health, nearly one in five adolescents feels "overwhelmed" by academic, social and family pressures, contributing to widespread mental health issues, including anxiety and depression (OECD, 2022).

The situation in the Czech Republic mirrors these broader European trends but is also shaped by specific cultural and historical factors. Mental health issues among Czech adolescents have risen steadily in recent years, with approximately 20% of youth experiencing moderate to severe psychological difficulties (CZSO, 2021). The transition from a centrally planned economy to a market-based system has had profound implications for family structures, societal norms, and youth expectations. Traditional family dynamics, which historically offered a robust support system, are increasingly affected by modern challenges such as relatively higher rates of divorce among other European countries, single-parent households, and their financial instability (Eurostat, 2022; Kuchařová, 2022). Research by Mikkel and Lea (2019) suggests that extended working lives and delayed retirement significantly reduce the availability of grandparents to provide childcare, further exacerbating challenges in family dynamics by limiting traditional support systems. These shifts have led to heightened stress levels among adolescents. Time trends in adolescent mental well-being in the Czech Republic highlight increasing psychological complaints and decreasing life satisfaction among youth, with variations across gender and socioeconomic backgrounds (Cosma et al., 2021).

Furthermore, the Czech education system's emphasis on academic performance and standardized testing has been criticized for neglecting the emotional and psychological needs of students (PISA, 2018). For instance, a study by the Czech Ministry of Education (2021) revealed that nearly 30% of high school students reported feeling "chronically stressed" due to academic pressures. This aligns with findings from OECD's 2019 Education at a Glance report, which highlights that systems overly focused on standardized testing can inadvertently deprioritize critical areas like student well-being and mental health. When comparing the Czech Republic to the broader European context, similarities and differences become apparent. Like their peers across Europe, Czech adolescents face significant academic

pressures, with educational systems often emphasizing standardized testing and competition. However, distinct socio-economic challenges set Czech youth apart. For example, while Scandinavian countries such as Denmark and Sweden have implemented comprehensive mental health initiatives within their schools, the Czech Republic lags in integrating such programs into its educational framework (WHO, 2020).

Despite these challenges, the Czech Republic has made notable progress in promoting youth participation in community-based activities, which have been shown to bolster resilience by fostering a sense of belonging and purpose (Rutter, 2012). However, the need for targeted strategies addressing the unique cultural and systemic factors influencing youth remains critical. Research by Hlaďo et al. (2024) indicates that the lack of holistic approaches in Czech schools, including the integration of emotional intelligence and stress management programs, exacerbates student stress levels and hampers the development of resilience. Furthermore, studies highlight that fostering self-efficacy significantly enhances students' mental well-being and resilience within academic environments (Kotera et al., 2021).

The aim of this paper is to explore resilience as a critical construct for understanding and addressing the needs of today's youth. By examining the components of resilience, the domains influencing its development, and strategies to enhance it, this paper aims to provide a comprehensive framework for fostering well-being in young individuals across Europe and specifically in the Czech Republic. Particular emphasis is placed on the interaction between individual, social, and environmental levels, with a specific focus on an in-depth exploration of the relationship between the biological and psychological dimensions of resilience at the individual level. This underscores the critical importance of adopting multi-level approaches to effectively foster resilience.

**Understanding Resilience – A Multilevel Perspective**

The concept of resilience has long intrigued scholars across various disciplines, driven by the need to understand how individuals navigate adversity and sustain well-being (Wolff and Wolff, 1995). Early research in resilience focused on identifying individuals who exhibited remarkable adaptability when confronted with significant challenges, such as economic hardship or trauma (Rutter, 1987). Bonanno (2008) argues that resilience is not an extraordinary trait reserved for a select few but a common outcome of adaptive processes, emphasizing flexibility, resourcefulness, and the presence of sufficient protective factors. Recent scholarship has expanded the conceptualization of resilience, framing it as a dynamic and evolving process rather than a fixed characteristic (Hill et al., 2024; Stainton et al., 2019). Over time, the construct of resilience has evolved to encompass various domains, including biological, psychological, relational, educational, natural and built that collectively contribute to an individual's ability to recover and thrive (Southwick et al., 2014).

Ungar (2011) argues that resilience is inherently context-specific, shaped by cultural norms, available resources, and opportunities within a given environment. This perspective has led to greater focus on the influence of cultural and societal factors in fostering resilience. Building on this, Collette and Ungar (2020) highlight the importance of external supports—such as family, community, and institutional systems—in enhancing adaptive capacities. Recognizing the complexity of these interactions, Theron and Pasha (2015) proposes a

comprehensive framework that situates resilience within cultural and ecological contexts, offering a holistic understanding of its mechanisms. This integrative approach highlights the interconnected nature of resilience and its relevance across diverse fields, including healthcare (mental and physical), education, organizational behavior, computer science, and political science (Iliuk and Teperik, 2021). Insights from this perspective lay the groundwork for developing a dynamic model of resilience's foundational elements, as illustrated in Figure 1, which will be elaborated upon in subsequent sections.

Biological and psychological domains at the individual level establish foundational mechanisms that drive adaptive responses, a relevance increasingly affirmed by recent research within the scientific community (Bjekić and Petrović, 2024). Evidence from Masten and Barnes (2018) highlights the importance of these processes, showing how adaptive systems interact to buffer against adversity and foster resilience. Individual capacities gain further strength through social dynamics, where relational and educational influences either act as protective factors or introduce risks. Supportive relationships, as emphasized by studies like those by Theron and Donald (2013), play a pivotal role in mitigating stress and enhancing adaptive functioning. Beyond the individual and social levels, environmental contexts—spanning natural and built domains—create systemic conditions that shape resilience outcomes. Together, these interconnected levels form a comprehensive framework for understanding resilience, which will be explored in greater detail in the sections that follow.

Evidence underscores the multifaceted nature of resilience, highlighting the necessity of adopting an ecological and systemic approach to its study and practical application. Building on these theoretical foundations, this article seeks to apply and adapt these principles to develop a contextualized model of resilience, tailored to address the complex challenges faced by adolescents in the Czech Republic. Perspectives offered by Van Breda (2017) reinforce this view, emphasizing the dynamic interactions within ecological systems that shape resilience. Similarly, Ungar et al. (2021) advocate for a multisystemic approach, integrating individual traits with broader systemic supports. By synthesizing these frameworks, this study aims to create a nuanced model that operationalizes resilience within several domains, as depicted in Figure 1.

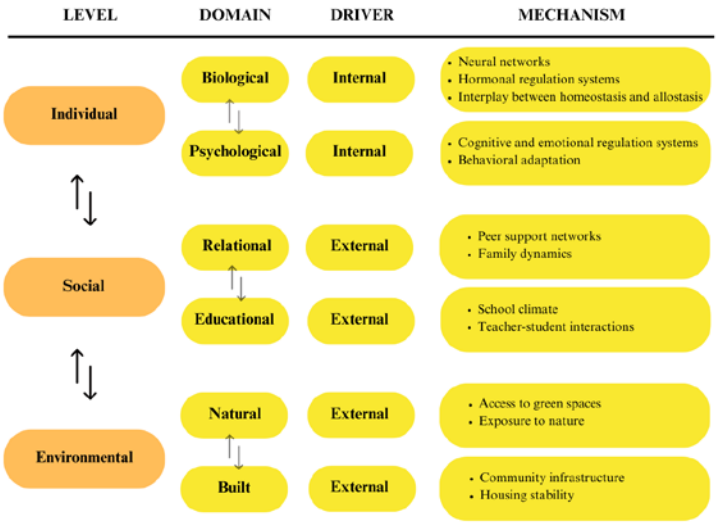


Fig. 1 – Dynamic Framework of Resilience Core Elements
Source: own work

**Resilience in Action: Examining the Layers of Adaptation**

Resilience, as established earlier, is a dynamic and multifaceted construct that requires a comprehensive understanding of the mechanisms and domains contributing to adaptive capacities. By examining these levels in greater detail, we gain a nuanced perspective on how resilience is fostered and maintained across diverse contexts. At the individual level resilience forms the core of this framework, with biological and psychological domains providing the essential mechanisms for adaptive responses (Feder et al., 2019).

The biological domain encompasses critical physiological processes that form the foundation for resilience (Herman et al., 2011). During adolescence, the body undergoes dramatic hormonal changes, with the hypothalamic-pituitary-adrenal (HPA) axis playing a central role in the stress response. Cortisol and adrenaline, key stress hormones regulated by neural networks involving the hypothalamus, enable adaptation to immediate challenges by triggering fight-or-flight responses. Hormonal actions increase heart rate, blood pressure, and energy availability, equipping the body to respond effectively to acute stressors (McEwen and Wingfield, 2003). The autonomic nervous system also plays a crucial role in stress regulation by balancing parasympathetic activity, which reduces arousal and promotes restoration, with sympathetic activation, which enhances alertness and mobilizes energy (Smeets, 2010). Together, hormonal responses and autonomic regulation enhance cardiovascular and immune functions, supporting adaptation to immediate demands.

Physiological processes are closely tied to homeostasis, which stabilizes internal conditions such as temperature, pH balance, and glucose levels, ensuring cellular and systemic functioning (Davies, 2016). While homeostasis maintains equilibrium, allostasis facilitates adaptability through physiological or behavioral adjustments to stressors. The interplay between autonomic regulation, homeostasis, and allostasis provides a comprehensive understanding of the biological capacity for resilience during adolescence.

Adolescence is a particularly vulnerable period, as the stress response systems, including the HPA axis and autonomic nervous system, are still maturing. Prolonged exposure to stressors during adolescence can dysregulate the hypothalamic-pituitary-adrenal (HPA) axis, resulting in allostatic overload—a condition characterized by the cumulative wear and tear on physiological systems. This dysregulation undermines long-term health by impairing vagal tone, suppressing immune function, and increasing the risk of chronic stress-related conditions such as anxiety, depression, and cardiovascular dysfunction (McEwen and Gianaros, 2010; Smeets, 2010; Fava et al., 2019; McEwen, 2017).

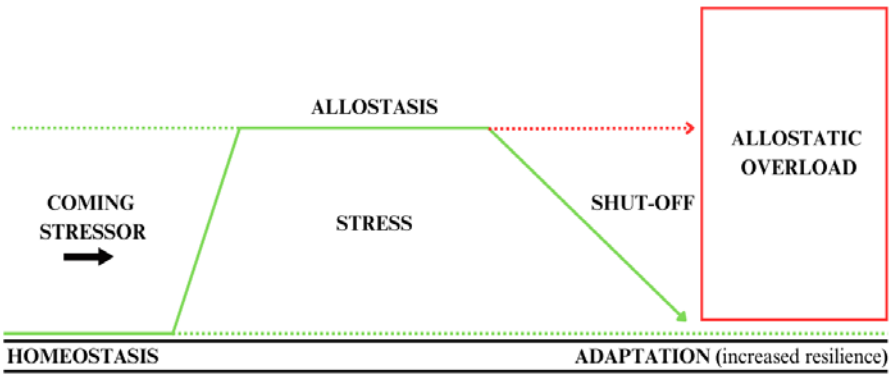


Fig. 2 – Homeostasis – Allostasis model
Source: own work

Effective management of homeostasis and allostasis during this stage is crucial for fostering long-term resilience, as illustrated in Figure 2. Research by Ellis and Del Guidice (2011) highlights that adolescents exposed to supportive environments exhibit greater physiological regulation, underscoring the interplay between biological processes and environmental factors in shaping resilience. Neural and hormonal imbalances during adolescence emphasize the importance of resilience mechanisms to mitigate potential long-term effects on emotional and psychological well-being. Together, these interconnected processes form a complex system that significantly influences resilience, determining how individuals adapt to environmental challenges.

The psychological domain plays a pivotal role in the development of resilience, involving intricate mechanisms that govern emotional, cognitive, and behavioral adaptation (Lane and Smith, 2021). Marked by heightened neuroplasticity, adolescence offers a unique opportunity for psychological growth but also increases vulnerability to maladaptive patterns when stress is not effectively managed (Blakemore and Mills, 2014). Maturation of stress response systems and neural circuits underlying emotion regulation is a defining feature of this developmental stage (Burns et al., 2018). Gradual development of the prefrontal cortex, which governs executive functions like decision-making and emotional regulation, supports greater cognitive control during this period. Emotional regulation, a cornerstone of psychological resilience, depends on the brain's ability to modulate responses to stressors through complex interactions between the prefrontal cortex and the limbic system (Smaliukienė et al., 2024). Heightened activity in the amygdala—the brain region involved in processing fear and emotional reactions—combined with the still-developing prefrontal cortex, creates an imbalance in brain development during adolescence. Such a disconnection between emotional processing and executive regulation leaves individuals vulnerable to exaggerated fear responses, impulsive decision-making, and increased emotional reactivity, ultimately heightening susceptibility to stress (Casey et al., 2019; Yamamoto et al., 2017). Research also demonstrates that uncontrollable childhood trauma and neglect can have long-lasting effects on stress response systems, brain morphology, and neural circuitry function (Casey et al., 2019). These disruptions contribute to heightened vulnerability in adolescents, increasing the risk of mood disorders, anxiety, and stress-related conditions during this critical developmental phase (Silvers et al., 2016). Adding to this complexity, the timing and duration of stress exposure play a pivotal role in shaping developmental outcomes.

Evidence suggests that such stress induces differential epigenetic changes across the genome, which can further influence cognitive flexibility—a key mechanism in resilience that enables the brain to adapt to new situations and reassess previously held beliefs or responses to stressors (Lamblin et al., 2017; Uddin, 2021). Functional connectivity between the prefrontal cortex and parietal regions plays a vital role in supporting this capacity, as these areas are critical for executive functions and problem-solving (Diamond, 2013). Adolescents with strong cognitive flexibility are better equipped to navigate challenges, demonstrating greater adaptability in academic and social contexts (Siregar et al., 2022). Complementing cognitive flexibility, behavioral adaptation plays a pivotal role in resilience, encompassing coping strategies and learned responses to stress. Coping mechanisms can be broadly categorized as problem-focused, which address the root causes of stress, or emotion-focused,

which aim to mitigate its psychological impact. Research by Compas et al. (2001) indicates that adolescents who effectively employ both types of coping strategies are more likely to experience positive long-term outcomes, including reduced vulnerability to anxiety and depression.

The interaction between psychological mechanisms and biological processes plays a crucial role in shaping resilience. A bidirectional relationship exists between psychological resilience and biological adaptability, allowing for significant recovery when both domains are adequately supported (Remes et al., 2021). Additionally, structured opportunities for emotional skill development and environmental stability enhance neuroplasticity, further reinforcing the interconnected nature of these mechanisms in fostering resilience during adolescence (Hermans et al., 2024).

Resilience at the social level is equally crucial, as it reflects the interconnectedness of individuals within their relational and educational environments (Keck and Sakdapolrak, 2013). These domains operate synergistically, with relationships forming the foundation of social resilience and educational systems providing the structural support needed for further development. Relational and educational domains together illustrate how personal connections and institutional frameworks interact to shape resilience outcomes among youth (Ungar and Theron ,2020). Central to the relational domain are family dynamics, where strong parental bonds serve as a cornerstone of resilience and act as a critical protective factor (Rutter, 2012). Secure attachments with caregivers provide a foundation of emotional security, fostering self-esteem and adaptive coping strategies (Bowlby, 2008). Financial stability further bolsters resilience by reducing stressors related to socioeconomic hardship. According to Conger et al. (1992), families with stable financial resources create environments that enable youth to focus on personal growth and academic achievement, rather than worrying about basic needs. Conversely, family instability, such as divorce or abuse, disrupts emotional security and leaves youth vulnerable to mental health challenges, including anxiety and depression (Amato, 2000). Socioeconomic hardships exacerbate these vulnerabilities by limiting access to resources and increasing family stress. Evans et al. (2005) demonstrate that cumulative stressors in low-income households negatively impact cognitive and emotional development, creating barriers to resilience.

Beyond the home environment, peer relationships play a crucial role in shaping resilience, particularly during adolescence, when social connections significantly influence emotional and behavioral outcomes (Criss et al., 2002). Positive role models among peers encourage pro-social behaviors, while inclusive social circles promote a sense of belonging and acceptance. Werner and Smith (2001) emphasize that supportive peer networks buffer the effects of adversity and provide opportunities for skill development, emotional sharing, and mutual support. Programs focused on peer mentorship particularly enhance resilience by fostering leadership skills and promoting community engagement (Southwick et al., 2007). While social influences among peers are often supportive, they can also pose risks by encouraging negative behaviors. Pressure from peers, for instance, can drive risky actions such as substance use or delinquency, ultimately undermining resilience (Dishion & Dodge, 2005).

In contrast, structured environments within schools form the foundation of the educational domain, promoting resilience by supporting skill development, emotional growth, and academic achievement (Beltman and Mansfield, 2018). Inclusive educational environments, in particular, are instrumental in fostering resilience among young individuals. Ungar et al. (2013) highlight that schools providing access to material resources, supportive relationships, and experiences of social cohesion contribute significantly to the development of resilience in students. Moreover, the integration of social-emotional learning (SEL) programs within schools has been shown to enhance students' coping mechanisms and emotional regulation, equipping them with essential skills to navigate challenges effectively (Durlak et al., 2011). Schools that provide equitable access to quality education and integrate inclusive practices foster a sense of belonging and acceptance (Scarf et al., 2016). Research by Masten et al. (2008) highlights that supportive school climates are associated with improved academic and emotional outcomes. Additionally, mental health programs embedded within schools, such as SEL curricula, equip youth with the skills needed to navigate challenges effectively.

Conversely, certain factors pose significant risks to resilience within educational settings. Negative school environments characterized by bullying and excessive competitiveness undermine resilience (Twum-Antwi et al., 2020). Bullying not only affects self-esteem but also increases the risk of anxiety, depression, and academic disengagement (Espelage and Holt, 2001). Overly competitive environments may place undue pressure on students, leading to burnout and reduced self-efficacy (Credé and Kuncel, 2008).). In such contexts, the relationship between students and teachers becomes especially crucial, serving as a critical protective factor that fosters resilience and helps mitigate the adverse effects of academic and emotional challenges. Supportive student-teacher relationships contribute to a sense of belonging, emotional security, and self-efficacy, which are foundational to resilience (Hamre and Pianta, 2001). Positive interactions with teachers not only enhance students' academic performance but also buffer against the adverse effects of stress and adversity (Roffey, 2012). From a resilience perspective, these relationships provide students with a safe space to navigate challenges, develop problem-solving skills, and build confidence in their ability to overcome obstacles (Masten and Powell, 2003). Furthermore, teachers who foster an environment of trust and empathy enable students to develop stronger social-emotional skills, which are crucial for adaptive functioning in complex environments (Jennings and Greenberg, 2009). Recognizing the transformative potential of student-teacher relationships, schools are increasingly implementing teacher training programs aimed at nurturing positive interactions to enhance resilience and well-being among students.

Expanding beyond the individual and social levels, the environmental level focuses on the broader systemic conditions that influence resilience. The natural domain highlights the importance of access to green spaces and exposure to nature in fostering mental and physical well-being. Contact with nature has been consistently linked to reduced stress and improved health outcomes. Stotten (2024) emphasizes that regular interactions with natural environments promote relaxation and enhance overall resilience. Similarly, White et al. (2023) found that green spaces and well-structured community environments significantly reduce stress-related biomarkers, underscoring their role in supporting mental well-being and stress reduction. Community infrastructure and housing stability, central aspects of the built

domain, further influence resilience. Well-designed community spaces foster social cohesion and provide platforms for resilience-building initiatives, such as local engagement and training opportunities (Ungar et al., 2021). Stable housing, as noted by Evans et al. (2005), reduces stressors related to insecurity and displacement, creating a foundation for emotional well-being. Combined with accessible resources, these elements foster a sense of belonging and security that is essential for navigating challenges. Together, these factors highlight the interconnected role of natural and built environments in promoting adaptability, stress management, and resilience within communities.

**Holistic Framework for Resilience**

Building resilience among adolescents requires cultivating essential coping mechanisms, such as self-control, self-efficacy, and positive affect, alongside fostering supportive familial and environmental factors. Self-control is a fundamental element of resilience, enabling adolescents to regulate their emotions and behaviors, particularly in high-stress situations. It involves a goal-oriented repertoire of learned behaviors that support coping with distress, overcoming challenges, and delaying gratification (Rosenbaum, 1990). Adolescents who develop self-control are less likely to engage in aggressive or impulsive behaviors, as evidenced by research showing a strong correlation between self-control skills and reduced behavioral issues (Ayduk and Gyurak, 2008). Moreover, self-control has a buffering effect, helping adolescents mitigate the negative impact of stress by fostering a sense of autonomy and control over their environment. Programs that emphasize mindfulness, emotional regulation, and cognitive flexibility are particularly effective in enhancing these skills, allowing adolescents to reassess stressful situations and develop adaptive responses (Ronen and Rosenbaum, 2010).

Self-efficacy, or the belief in one's ability to succeed in specific tasks, plays a pivotal role in resilience by shaping thought patterns and behaviors. Adolescents with high self-efficacy demonstrate greater perseverance, optimism, and adaptive coping strategies, enabling them to confront obstacles with confidence (Bandura and Wessels, 1997). This belief system influences not only how challenges are approached but also the outcomes anticipated, fostering a proactive mindset that reinforces resilience. For example, adolescents who actively engage in setting goals and predicting their progress show marked improvements in their ability to handle stress and adapt to changing circumstances (Ronen and Rosenbaum. 2010). Research also indicates that self-efficacy is closely linked to academic achievement and emotional well-being, as it empowers adolescents to persist through difficulties and maintain motivation in the face of setbacks (Bandura et al., 2001).

Positive affect— encompassing emotions such as joy, hope, and pride, has been widely recognized as a critical factor in resilience. These emotions enhance cognitive and emotional flexibility, enabling adolescents to approach challenges with creativity and optimism (Fredrickson, 2001). Studies show that individuals with high levels of positive affect are less likely to experience anxiety or depression, as these emotions act as a buffer against stress and promote psychological well-being (Lyubomirsky et al., 2005). Additionally, positive affect supports interpersonal relationships, encouraging pro-social behaviors that contribute to a supportive social network. Interventions aimed at fostering positive affect, such as gratitude

journaling and strengths-based approaches, have been shown to improve resilience by shifting focus from negative experiences to opportunities for growth (Fredrickson, 2013).

Diverse challenges mentioned previously highlight the importance of a holistic framework for resilience, which integrates internal coping mechanisms with external support systems. Coping mechanisms like self-control, self-efficacy, and positive affect provide adolescents with the tools to navigate stress and adversity. Simultaneously, external influences such as familial support, positive peer interactions, and structured school environments act as protective factors that buffer against vulnerabilities. By addressing the interplay between these internal and external factors, a comprehensive approach to resilience emerges, offering pathways for adolescents to not only withstand challenges but also thrive across diverse contexts.

**Conclusion**

Resilience is a dynamic and multifaceted concept that plays a pivotal role in helping adolescents navigate the complexities of their developmental years. It emerges from the interplay between individual traits, social relationships, and environmental factors, all of which contribute to the ability to adapt and thrive in the face of adversity. This paper highlights how resilience is shaped by mechanisms like self-regulation, emotional adaptability, and cognitive flexibility, supported by external factors such as family stability, positive peer connections, and inclusive school environments. Furthermore, access to resources like green spaces and community infrastructure provides essential systemic support, reinforcing resilience across multiple levels.

In the Czech Republic, adolescents face a combination of shared and unique challenges. Broader European trends, such as academic pressures and the impact of socio-economic disparities, are mirrored in the Czech context. However, specific cultural and systemic factors, such as the transition from a centrally planned economy and shifts in traditional family structures, create distinct stressors. The emphasis on standardized testing in the Czech educational system has been critiqued for overlooking students' mental health needs, with significant numbers of adolescents reporting chronic stress. Furthermore, reduced childcare support from extended family, due to evolving work patterns, has placed additional pressure on family dynamics, leaving adolescents with fewer emotional and practical supports.

Despite these challenges, there are opportunities to strengthen resilience among Czech adolescents. Implementing emotional intelligence training and stress management programs in schools can bridge gaps in current educational practices. Community-driven initiatives that foster youth engagement and promote a sense of belonging can further enhance resilience. Addressing systemic issues, such as reducing socio-economic disparities and improving access to extracurricular and mental health resources, would also provide a solid foundation for resilience-building. Leveraging environmental resources, including green spaces and well-designed community facilities, can contribute to mental and physical well-being.

A holistic approach that integrates internal coping mechanisms with external supports is critical for fostering resilience in the Czech Republic. By aligning these efforts with best practices observed in other European countries and tailoring interventions to local cultural and

systemic contexts, the Czech Republic can effectively equip its youth to navigate the challenges of adolescence and emerge stronger and more adaptable in the face of adversity.

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# Mladá veda

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