

CONTEXTUAL PLASTICITY IN PERSONALITY DEVELOPMENT: FROM SPECIES-WIDE TRAITS TO INDIVIDUAL DIFFERENCES



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Abstract. *This study investigates contextual plasticity in personality development, defined as the dynamic mediation between species-level traits and individual uniqueness within social, cultural, and institutional environments. The purpose of the paper is to analyse how universal psychological tendencies are shaped during the transitional stage of early university education, with particular attention to family support, cultural orientation, institutional recognition, and disciplinary microcultures. A mixed-method design was applied, combining correlational analysis of survey data (N=120) with thematic coding of interviews. The results show that family support is associated with higher openness and agreeableness, cultural background systematically influences individuality expression, and institutional recognition remains limited, producing what we term the “recognition gap”. Academic specialization further contributes to distinct trait profiles, while symbolic metaphors reveal how students integrate universality and individuality in narrative identity. Overall, the findings expand the authors’ previous research by introducing contextual plasticity as a cross-level explanatory mechanism. The study concludes that personality development cannot be understood without considering the dynamic negotiation between universality and individuality, and suggests practical interventions to reduce the recognition gap and support authentic student growth.*



Keywords: *contextual plasticity, first-year students, higher education, individual uniqueness, personality development, socio-cultural context, species-level traits.*

INTRODUCTION, PROBLEM STATEMENT

The development of human personality has long been a central topic in psychology, yet its complexity continues to challenge researchers. Personality is not a static construct but a dynamic system shaped by biological foundations, social influences, and individual choices. While much attention has been paid to common patterns of growth, modern psychology increasingly recognizes the importance of individual differentiation within these broader patterns. At the intersection of the universal and the personal lies a key question: how do species-level traits and individual uniqueness interact in shaping personality?

Species-level traits refer to psychological and behavioural tendencies shared by all humans, rooted in evolutionary processes and biological constants. These include fundamental social needs, cognitive structures, emotional capacities, and motivational systems, visible in the universal pursuit of belonging, meaning-making, and cooperation. Individual traits, by contrast, arise from unique combinations of genetic inheritance, personal experience, and situational context. The interplay between these two levels explains why universal tendencies such as empathy or achievement motivation manifest so differently across individuals and cultures (Chen et al., 2024).

Despite extensive research, the socio-psychological mechanisms mediating this interplay remain insufficiently understood. Questions persist about how families, peer groups, institutions, and cultures amplify, suppress, or redirect individual tendencies against the backdrop of universal human features. The urgency of addressing these questions has grown amid contemporary global transformations: digital technologies reshape communication and identity; cultural globalization multiplies encounters with diverse value systems; and geopolitical instability challenges feelings of safety and belonging. The COVID-19 pandemic further highlighted this dynamic, as students' adaptability to online learning was strongly predicted by specific Big Five traits (Audet et al., 2021). Each factor intersects with universal developmental tasks, such as identity formation or autonomy, producing distinct trajectories of growth or stagnation. Against this backdrop, contextual plasticity – the capacity of personality to adapt flexibly to varying social and cultural conditions – emerges as a critical lens for analysis.

This study contributes to the field by offering a conceptual framework that bridges species-level traits with individual uniqueness in personality development. Grounded in social and developmental psychology, it examines how individuals find their place in society while preserving and expressing their identities. The focus on first-year university students is especially relevant, since this stage represents a threshold between dependence and autonomy where contextual influences exert strong and lasting effects (Reitz et al., 2024).

Importantly, the study continues a research program initiated by Kamyshin & Milenina (2018), which examined the evolution of intelligence as a socio-biological phenomenon and demonstrated that intellectual abilities are deeply connected with socio-psychological regulators such as empathy, cooperation, and altruism. Building on these findings, the present research shifts attention from correlations between intellect and social behaviour to the broader mechanism of contextual plasticity – exploring how universals and individuality are dynamically mediated by family, cultural, and institutional contexts. In doing so, it integrates evolutionary psychology, cognitive development, and socio-cultural analysis to better understand the dual forces of universality and individuality, while responding to the challenges of the present era that require both acknowledgment of shared human needs and the creation of contexts where individual uniqueness can flourish.

LITERATURE REVIEW

Species-Level Personality Traits: Evolutionary and Developmental Perspectives

The study of personality from a species-level perspective is rooted in evolutionary psychology, which argues that many human traits evolved as adaptive responses to ancestral challenges. According to Buss (2009), universal aspects of personality – such as the Big Five (openness, conscientiousness, extraversion, agreeableness, neuroticism) – are products of natural selection and serve fundamental survival and reproductive functions, appearing across cultures in varying distributions (McCrae & Costa, 1997). Developmental psychology complements this view by highlighting universal stages of growth, such as Erikson's psychosocial tasks (Erikson, 1950) and Piaget's stages of cognitive development (Piaget, 1952), which describe predictable pathways while allowing for variation in expression.

Earlier research by Kamyshin & Milenina (2018) mapped the evolutionary trajectory of the social brain, showing that intellectual functions – including conceptual and verbal thinking – are closely associated with socio-psychological parameters such as altruism, adaptability, and leadership. This provided empirical evidence that human intelligence and personality traits are deeply embedded in evolutionary strategies of cooperation and survival. More recently, Rockstuhl, Ng & Ang (2025) confirmed through meta-analysis that stability and plasticity jointly shape both cultural intelligence and job performance, underlining the importance of contextual adaptability.

Individual-Specific Traits: Personality Uniqueness and Self-Actualization

While species-level traits form the foundation of psychological functioning, individual-specific traits reflect unique histories, environments, and values. Rogers (1961) and Maslow (1943) framed personality development as a self-directed process toward self-actualization, emphasizing unconditional positive regard and the realization of personal identity. Contemporary trait theory, such as the HEXACO model (Ashton & Lee, 2007), supports this by showing that while broad domains are universal, differences within them are vast and shaped by genetic, cultural, and experiential factors. Kamyshin & Milenina's (2018) findings resonate with this view, confirming correlations between universal cognitive capacities and behavioural parameters but also emphasizing variability depending on personal and contextual influences.

Social Contexts and Personality Development

The interaction of universal and individual traits is most visible in social contexts. Bronfenbrenner's ecological systems theory (1979) shows how environments from family to culture influence development, while social identity theory (Tajfel & Turner, 1986) demonstrates how group membership shapes behaviour and self-esteem. Vygotsky's sociocultural theory (1978) likewise emphasizes that tools such as language and institutions both enable and constrain individuality. Recent evidence highlights the role of family support as a mediator of personality outcomes: Tehrani, Karami, & Shokrkon (2024) confirmed systematic links between parenting styles and Big Five traits, while Chen, Fang, & Han (2023) found that social support predicts academic engagement via motivational pathways. Kamyshin & Milenina (2018) also noted that regulators such as cooperation, aggression, and empathy mediate intellectual expression, reinforcing the importance of contextual factors for individuality.

Integrative Models: Toward a Unified Understanding

Recent scholarship increasingly seeks integrative models. McAdams & Pals (2006) propose three levels of personality: dispositional traits, characteristic adaptations, and narrative identity, thus bridging inherited tendencies with personally constructed meaning. The biopsychosocial model (Engel, 1977) further integrates biological, psychological, and social variables, while positive psychology (Seligman & Csikszentmihalyi, 2000) emphasizes both universal human striving and unique personal pathways to well-being. In addition, Eriksson

& Friséen (2023) highlighted how narrative identity helps individuals integrate challenging experiences, a finding relevant for transitions like early adulthood. Synthesizing these perspectives with Kamyshin & Milenina (2018), the current research positions contextual plasticity as a unifying framework, capturing the evolutionary stability of universals alongside the flexibility required for individual adaptation across diverse socio-cultural environments.

METHODOLOGY

Research Design

The socio-psychological study aims to investigate both species-level traits and individual uniqueness in personality development to inform the creation of methods for identifying and supporting unique individual characteristics. This research continues the trajectory established by Kamyshin & Milenina (2018), which focused on correlations between intellectual abilities and socio-psychological parameters. While the earlier project emphasized the evolutionary-social roots of intelligence, the present design expands the scope to explore contextual plasticity – how family, culture, and institutions shape personality traits and the perception of individuality.

A mixed-method design was adopted, combining quantitative surveys with qualitative interviews. Quantitative data were analysed using correlational analysis, while qualitative data were subjected to thematic coding. This enabled the study to capture both measurable associations and subjective symbolic representations.

Participants

The study involved 120 first-year undergraduate students (60 males and 60 females), aged 17 to 20 years, from four universities in Ukraine. The institutions represented three major academic domains: social sciences ($n = 46$), humanities ($n = 38$), and technical fields ($n = 36$). Focusing on first-year students ensured methodological comparability with Kamyshin & Milenina (2018), which also concentrated on student populations, and allowed us to capture personality development during a formative transitional stage when young adults are negotiating autonomy, identity, and adaptation to novel institutional environments.

The emphasis on early university years is particularly significant: students entering higher education face new academic demands, expanded peer networks, and greater independence from family structures. These conditions make first-year cohorts especially sensitive to contextual influences such as family support, cultural orientation, and institutional recognition. By analysing this population, the study addresses a critical developmental window where universal human tendencies (e.g., need for belonging, exploratory drive) encounter strong contextual modulation (Reitz et al., 2024).

Participants were recruited during the first semester of the academic year through coordination with faculty members. Selection followed a stratified procedure to balance gender and academic specialization. All participants were residents of urban areas, and the majority (82%) reported living away from their parental homes for the first time, underscoring the ecological validity of studying contextual plasticity during this transitional phase. Participation was voluntary, and all respondents signed informed consent forms prior to involvement.

MAIN RESULTS

Quantitative Findings

The quantitative analysis revealed several important patterns. First, a moderate correlation was found between perceived family support and higher scores on openness and agreeableness ($r = .42$, $p < .01$), suggesting that nurturing environments contribute to the development of flexible and socially attuned personalities (McCrae & Costa, 1997; Tehrani et al., 2024). This finding parallels earlier data from Kamyshin & Milenina (2018), where stronger intellectual performance was associated with prosocial tendencies such as cooperation and em-

pathy. In both cases, supportive social contexts acted as catalysts for the flourishing of human potential.

Second, more than two-thirds of participants (67%) rated themselves as “highly individual”, yet less than one-third (29%) reported that their personality was clearly supported or acknowledged by educational institutions. This discrepancy points to what we term the recognition gap, reflecting a tension between self-perception and external validation (Hubbard, 2024). A similar divergence was noted in the 2018 research, where students with higher intellectual capacities often resisted conformity but simultaneously expressed difficulties in gaining adequate recognition from institutional structures.

Third, although the study focused exclusively on first-year students, subtle age-related variations were observed within the 17–20 range. Participants aged 19–20 tended to report higher levels of self-reflection and greater confidence in expressing individuality compared to those aged 17–18, who more often described themselves as being “in transition”. Even within this narrow developmental window, therefore, maturational differences appear to influence how individuality is perceived and enacted. Recent longitudinal evidence confirms that such short-term personality changes during transitional stages can be substantial (Hotze et al., 2024), supporting the idea that contextual plasticity is especially visible when individuals face new developmental or environmental demands.

Finally, socio-cultural background emerged as another decisive factor. Students from conservative or collectivist contexts reported greater difficulty in expressing individuality and exhibited slightly higher neuroticism scores alongside lower openness, compared to peers from more liberal cultural settings. These findings echo the conclusions of Kamyshin & Milenina (2018), who emphasized that social behavioural regulators such as conformity and cooperation strongly mediate the expression of both intellectual and personal traits.

Qualitative Findings

The qualitative interviews enriched these quantitative patterns by uncovering deeper symbolic and narrative dimensions of student experience. Four themes recurred across the data. Many participants described their personal growth as a process of “growing through tension”, in which individuality was negotiated between social expectations and inner values. Others highlighted “the role of significant others”, noting the decisive influence of parents and mentors on their confidence and resilience. Several students characterized individuality not as external assertion but as “uniqueness in silence”, an internal stance that required no outward display. Finally, numerous accounts employed seasonal metaphors, such as the “spring of openness” or the “winter of restraint”, to articulate transitions in their identity work.

These symbolic narratives resonate strongly with the findings of Kamyshin & Milenina (2018), which identified empathy, mimicry, and cooperation as evolutionary regulators shaping individuality. The recurrence of metaphoric and symbolic representation confirms that personality development, even at the earliest stage of university life, integrates universal motifs with personal and contextually grounded experiences.

DISCUSSION

The findings of this study strongly support the concept of contextual plasticity as a mechanism through which species-level traits are dynamically shaped by family, cultural, and institutional environments. When interpreted alongside the results of Kamyshin & Milenina (2018), the current research demonstrates both continuity and expansion in the study of socio-psychological development.

Family emerged as a decisive micro-context. The positive association between perceived family support and traits such as openness and agreeableness aligns with Bronfenbrenner’s ecological systems theory (1979) and is further supported by recent meta-analytic evidence

on parenting and Big Five traits (Tehrani et al., 2024). Similarly, Chen et al. (2023) highlight the mediating role of social support in fostering academic engagement, which parallels the observed correlation between family scaffolding and personality outcomes.

Culture functioned as a powerful macro-context, shaping openness and neuroticism in systematic ways. Students from collectivist backgrounds reported greater difficulties in asserting individuality, a finding that reflects evolutionary patterns of adaptive caution. Yet in modern educational settings, such caution can constrain creativity and personal expression. The 2018 study revealed a similar tendency, showing that conformity moderated intellectual expression. Both sets of results highlight the enduring impact of cultural norms in channeling universality either toward conformity or toward exploration.

The role of institutions is particularly significant in light of what this study identifies as the recognition gap – the mismatch between students' strong self-perception of individuality and their weaker sense of institutional acknowledgment (Hubbard, 2024). Without adequate mechanisms for recognition, institutions risk stifling constructive potential and reinforcing a sense of invisibility in those who most value individuality.

Academic specialization added another layer of contextual differentiation. Students in the social sciences displayed higher levels of openness, humanities students scored higher in conscientiousness, while those in technical fields tended to combine extraversion with heightened neuroticism. These discipline-specific profiles suggest that institutional microcultures create distinct conditions for the expression of individuality. While the 2018 study did not explicitly address academic specialization, it showed that social parameters in general shape intellectual and personal growth. The present findings extend that insight by specifying how educational environments foster or constrain certain personality configurations.

Finally, the recurrence of seasonal metaphors in the interviews highlights the symbolic dimension of narrative identity. Students described their developmental transitions in ways that intertwined universal life-cycle themes with personal experience. This finding supports McAdams's (2013) model of narrative identity and aligns with Eriksson & Frisé (2023), who showed how narrative identity helps integrate challenging experiences during transitional life stages. It also extends the 2018 conclusion that symbolic thought functions as a central evolutionary regulator of human cognition.

Considered jointly, the 2018 and current studies trace a progressive refinement of a shared research trajectory. The earlier work established correlations between intellectual abilities and socio-psychological parameters in first-year students, emphasizing the evolutionary-social embedding of intelligence. The present study broadens this framework by focusing on contextual plasticity, demonstrating how family, cultural, and institutional environments actively mediate the expression of species-level traits and individual uniqueness during the critical stage of early university education.

CONCLUSIONS

This study shows that personality development among first-year university students is best explained through the framework of contextual plasticity, understood as the dynamic mediation of species-level traits by family, cultural, institutional, and disciplinary environments. Across the methods employed, the results consistently demonstrated that family support stabilizes universal social-cognitive tendencies such as openness and cooperation; cultural orientation channels these tendencies differently, sometimes fostering caution and sometimes encouraging exploration; institutions frequently fail to recognize students' perceived individuality; and disciplinary microcultures contribute to shaping distinctive profiles of trait expression. The qualitative findings, particularly the recurrence of seasonal metaphors, further revealed how students integrate universal life-cycle themes into their personal identity work.

In relation to previous research, especially Kamyshyn & Milenina (2018), the present work makes several distinctive contributions. First, it introduces a conceptual shift: while the earlier study concentrated on the link between intellectual functioning and socio-psychological regulators such as empathy and cooperation, the current study advances the cross-level mechanism of contextual plasticity, explicitly bridging species-level traits with individual uniqueness in personality development. Second, it expands the operational focus: instead of limiting analysis to social regulators of cognition, it investigates contextual mediators of personality, including family support, cultural orientation, institutional recognition, and academic specialization, thereby specifying how each dimension modulates universal tendencies into individual profiles. Third, it identifies a new empirical phenomenon described as the “recognition gap”, observed when two-thirds of participants self-identified as highly individual while less than one-third felt institutionally acknowledged (Hubbard, 2024). Fourth, the study strengthens integrative evidence by showing parallel patterns between family support and prosocial tendencies, echoing the 2018 findings while broadening them from the domain of intellectual development to personality-wide adaptation. Finally, it develops an actionable theoretical perspective, identifying levers such as family scaffolding, culture-sensitive practices, recognition mechanisms within institutions, and discipline-specific support, all of which render the framework not only descriptive but also practically testable.

The implications of these findings are equally significant. Theoretically, contextual plasticity refines existing integrative models of personality – such as the traits–adaptations–narratives framework – by clarifying where and how context transforms species-level traits into individual configurations during the transition to university, a stage characterized by heightened developmental plasticity (Rockstuhl et al., 2025; Hotze et al., 2024). Methodologically, the convergence of quantitative correlations with qualitative narrative patterns demonstrates that the concept withstands triangulation and thereby strengthens its construct validity. Practically, the evidence highlights the need to target family scaffolds, embed culture-aware pedagogical strategies, and create institutional infrastructures that explicitly acknowledge individuality, all of which may reduce the recognition gap and enable students’ personal distinctiveness to flourish alongside their shared human needs.

At the same time, the study is not without limitations. It focuses on a single developmental stage – first-year university students – which narrows the scope of generalization to other age groups and later educational stages. Its sample was drawn exclusively from Ukraine, raising the possibility that cultural and institutional variables operate differently in other societies; cross-national comparisons will be needed to evaluate the robustness of the findings. Moreover, the cross-sectional design cannot capture long-term dynamics of contextual plasticity; only longitudinal research can clarify causal pathways and developmental trajectories. The reliance on self-report data, even when supplemented by interviews, also introduces potential biases in the way students perceive individuality and recognition.

Future work should therefore extend this research in several directions. Longitudinal studies are required to track how contextual plasticity functions over the course of university education and into adult life. Cross-cultural replications will clarify whether the recognition gap and other contextual moderators are culture-specific or more universal. Behavioural and neuroscientific measures, including cognitive tasks and brain imaging, could deepen understanding of the biological underpinnings of contextual plasticity. In addition, experimental or quasi-experimental designs could test whether institutional interventions aimed at strengthening recognition actually improve student well-being and academic engagement. Finally, future research should move beyond student populations to include early career professionals and adult learners, thereby exploring the role of contextual plasticity across the life span.

Taken together, the results of this study underscore that personality development cannot be adequately understood without acknowledging the dynamic mediation between species-level traits and individual uniqueness. By extending previous research and introducing the construct of contextual plasticity, we argue that human development is neither predetermined by species-wide patterns nor reducible to individual choice but instead emerges from continuous negotiation with family, cultural, and institutional contexts. This perspective invites scholars and practitioners alike to view students' growth not as a uniform trajectory but as a spectrum of adaptive pathways. In so doing, the study contributes both to a more nuanced theoretical understanding of personality and to a roadmap for practical interventions that honour shared humanity while enabling authentic individuality.

REFERENCES

- Ashton, M. C., & Lee, K. (2007). Empirical, theoretical, and practical advantages of the HEXACO model of personality structure. *Personality and Social Psychology Review, 11*(2), 150–166. <https://doi.org/10.1177/1088868306294907>
- Audet, É.-C., Paré, M.-H., & Quoidbach, J. (2021). Which Big Five traits helped students adjust to online learning in 2020? *Personality and Individual Differences, 176*, 110774. <https://doi.org/10.1016/j.paid.2021.110774>
- Bronfenbrenner, U. (1979). *The ecology of human development: Experiments by nature and design*. Harvard University Press.
- Buss, D. M. (2009). *Evolutionary psychology: The new science of the mind* (4th ed.). Pearson.
- Chen, C., Fang, X., & Han, Y. (2023). The relationship between social support and academic engagement: Life satisfaction and motivation as mediators. *Frontiers in Psychology, 14*, 1263128. <https://doi.org/10.3389/fpsyg.2023.1263128>
- Chen, C., Han, Y., & Fang, X. (2024). A scoping review of empirical studies on the Big Five across cultures. *Frontiers in Psychology, 15*, 1335657. <https://doi.org/10.3389/fpsyg.2023.1335657>
- Engel, G. L. (1977). The need for a new medical model: A challenge for biomedicine. *Science, 196* (4286), 129–136. <https://doi.org/10.1126/science.847460>
- Erikson, E. H. (1950). *Childhood and society*. W. W. Norton & Company.
- Eriksson, P. L., & Frisé, A. (2023). Facing Challenging Experiences in Life – Narrative Identity Development Processes and Associations with Wellbeing During the Transition to Midlife. *Identity, 24* (1), 16–30. <https://doi.org/10.1080/15283488.2023.2258152>
- Hotze, M.-L., Liu, Z., Chu, C., Baranski, E., & Hoff, K. A. (2024). Short-term personality development and early career success: Two longitudinal studies during the post-graduation transition. *Journal of Personality, 92*, 1759–1776. <https://doi.org/10.1111/jopy.12922>
- Hubbard, K. E. (2024). Institution-level awarding gap metrics for identifying educational (in)equity. *Higher Education, 88*, 1–20. <https://doi.org/10.1007/s10734-024-01216-y>
- Kamyshyn, V., & Milenina, M. (2018). Evoliutsiia intelektu: vid sotsialnoi povedinky do individualnykh parametriv. *Pedahohichni innovatsii: idei, realii, perspektyvy, (2)*, 86–95. <https://doi.org/10.32405/2413-4139-2018-2-86-95>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review, 50*(4), 370–396. <https://doi.org/10.1037/h0054346>
- McAdams, D. P. (2013). *The redemptive self: Stories Americans live by* (Rev. ed.). Oxford University Press.
- McAdams, D. P., & Pals, J. L. (2006). A new Big Five: Fundamental principles for an integrative science of personality. *American Psychologist, 61*(3), 204–217. <https://doi.org/10.1037/0003-066X.61.3.204>
- McCrae, R. R., & Costa, P. T., Jr. (1997). Personality trait structure as a human universal. *American Psychologist, 52*(5), 509–516. <https://doi.org/10.1037/0003-066X.52.5.509>
- Piaget, J. (1952). *The origins of intelligence in children* (M. Cook, Trans.). International Universities Press. (Original work published 1936)
- Reitz, A. K., den Boer, L., van Scheppingen, M. A., & Diwan, K. (2024). Personality maturation through sense of mastery? Longitudinal evidence from two education-to-work transition studies. *Journal of Personality, 92*, 261–277. <https://doi.org/10.1111/jopy.12789>
- Rockstuhl, T., Ng, K. Y., & Ang, S. (2025). Stability and plasticity in personality: A meta-analytic investigation of their influence on cultural intelligence and five forms of job performance. *Applied Psychology, 74*(1), e12557. <https://doi.org/10.1111/apps.12557>

- Rogers, C. R. (1961). *On becoming a person: A therapist's view of psychotherapy*. Houghton Mifflin.
- Seligman, M. E. P., & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5–14. <https://doi.org/10.1037/0003-066X.55.1.5>
- Tajfel, H., & Turner, J. C. (1986). The social identity theory of intergroup behavior. In S. Worchel & W. G. Austin (Eds.), *Psychology of intergroup relations* (pp. 7–24). Nelson-Hall.
- Tehrani, H. D., Karami, J., & Shokrkon, H. (2024). Parenting styles and Big Five personality traits among adolescents: A meta-analysis. *Personality and Individual Differences*, 212, 112008. <https://doi.org/10.1016/j.paid.2023.112008>
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes*. Harvard University Press.

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