

Introduction

The transition from primary to secondary education is a period of rapid social, psychological, and physical development for children. While stepping into adolescence can be a thrilling and exciting experience, it presents both children and parents with various challenges and requires adaptations and adjustments. Additionally, the social network of families and the system in which children and parents live also play crucial roles in shaping the trajectory of children's development and how well-prepared their caregivers are in the face of newly emerged and rapid changes. Therefore, it might be advisable to look at this process from a systematic point of view. To ensure that our practices are well-informed and research-based, we can perhaps use some well-known theories and models during this journey. One of the most credible and research-based models best suited to account for this process is Bronfenbrenner's bioecological model. In this leaflet, we are going to learn about the basics of the bioecological model, its ramification-the PPCT model, and how to apply the latter within the context of primary-secondary transition. A number of strategies and tools are also provided with the hope of equipping parents with some utilities that can be put into practice.

Bioecological Systems Theory

Proposed by Urie Bronfenbrenner in 1979 (Bronfenbrenner, 1979), the ecological systems theory is the predecessor of the bio-ecological model. The ecological systems theory categorises the environment in which humans live into several interrelated systems and holds that each system possesses a series of influencing factors to human

development (Bronfenbrenner, 1979). In the following decades, Bronfenbrenner constantly renewed his theory, expanding upon the basics of the theory's prototype, taking into account the biological element of human development and temporal influences, and made the final revision of the PPCT model before he passed away (Bronfenbrenner, 1989; Bronfenbrenner & Morris, 2006).

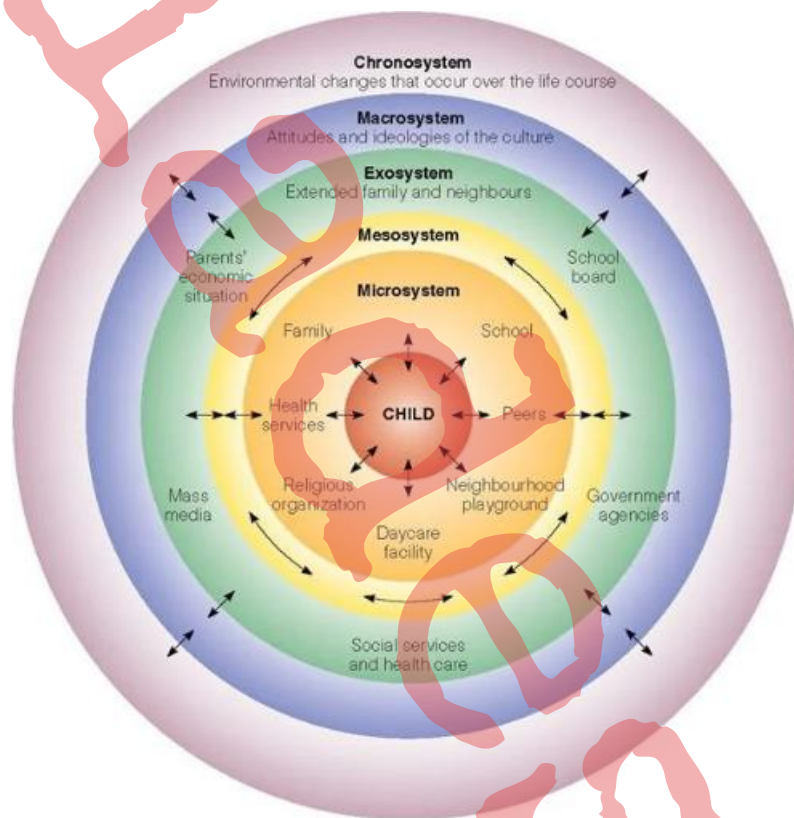


Figure 1

Bronfenbrenner's bio-ecological systems theory

The bio-ecological model of development consists of five reciprocal, interconnected systems, namely microsystem, mesosystem, exosystem, macrosystem, and chronosystem, all of which exert direct or indirect influences upon us, depending on the proximity. The following section explains each system in order of proximity to the person.

As seen in the figure 1, the child, who is at the centre of the circle, can be seen as a recipient of influences posed by the five layers of the system surrounding him. The child's genetic makeup also predisposes him to certain traits, behaviours, and the way he responds to outside influences, or what some would call stimuli.

Onto the five systems, the microsystem includes the impact of things with which we directly interact, such as family, neighbours, and peers. The mesosystem is the interaction between different microsystems. Outside the mesosystem is the exosystem, which indirectly affects us through events like news dissemination, the implementation of certain policies, and varying medical and welfare benefits, generally things we do not directly participate in or have a say in. Surrounding the exosystem is the macrosystem, in which the main components are sociocultural norms, ideologies, values, and beliefs within a certain society. Last but not least, the system that encompasses all the aforementioned systems, the chronosystem, comprises events and conditions embedded in a particular historical period or stage of human development.

As noted above, the most recent advance made on the bio-ecological model is the PPCT model, PPCT being the acronym for process, person, context, and time. Process refers to the interaction between a person and other humans, objects, and symbols, which is termed proximal processes, the underlying mechanisms upon which humans develop (Bronfenbrenner & Ceci, 1994). Person means the characteristics of a person, or in this case, a child. Bronfenbrenner categorises the concept of person into active behavioural dispositions, resource characteristics, and demand characteristics, and it is

through these characteristics manifesting themselves that the development is either hindered or facilitated. Context essentially refers to the influences that exist in multiple environments that a person lives in. It could be understood as influencing factors within micro-, meso-, exo-, and macrosystems. Time can be defined as events and conditions that occur during the process of certain interactions or activities (microtime), vary in the frequency and consistency of occurrence (mesotime), and are embedded in a certain historical period or context (macrotime).

The PPCT model, alongside the bio-ecological model, has proven to be effective in identifying, understanding, and framing contributing factors to educational transition (Roberts, 2020; Zaatari & Maalouf, 2022). The essence of applying the bio-ecological model within the context of primary to secondary education transition lies in identifying things in each of the five systems and each of the four concepts (process, person, context, and time). This is not to suggest that parents ought to deem these concepts as the 'Bible' for understanding the intricacies of transition from primary to secondary education; rather, these concepts serve as a guide for identifying important influencing factors of the transition and potentially a catalyst for exploratory thinking.

Through mapping potential influencing factors based on the individual concepts of the PPCT model, we are able to obtain a general picture of the things that affect the transition and development, as can be seen in the following section.

Process

Social relationship

Children transitioning from primary to secondary school experience changes in social relationships, including mainly relationships between themselves and peers, parents, and teachers. As children step into adolescence and gain more independence, emotional support and advice from peers become increasingly important for a successful transition with regard to academic progress and social functioning (Bokhorst et al., 2010; Keay et al., 2015). Conversely, peer pressure and bullying can impede the transition and even cause emotional and physical harm, which may transform into trauma that renders children more likely to exhibit risk behaviours in later stages of life (Raymond et al., 2023).

School belonging

The sense of belonging at a new school is crucial for children transitioning to secondary education; school belonging is associated with overall well-being and learning outcomes among new secondary students (Dunlop, 2021). Children who are introverted and less willing to communicate and make friends actively are less likely to feel belonged at a new school. Certain sociocultural factors like being unable to speak a language fluently also subject children to being less able to feel belongingness.

Technology usage

While a substantial amount of interactions are physical, virtual interaction nowadays is more prevalent than it ever has been, that is, the use of technological devices and online media platforms. Digital technologies can be beneficial for children transitioning from primary to secondary school when used in moderation and

under supervision. Actually, digital literacy is associated with positive cognitive outcomes and socioemotional development in teenagers (Haddock et al., 2022).

Nevertheless, digital technologies can potentially expose adolescents to harmful content, online bullying, and other things detrimental to their overall development, thus hindering their transition from primary to secondary education. Besides, certain children and adolescents can develop screen addiction, suffering physical harm and mental disorders as a result (Ding & Li, 2023).

Person

Essential skills

The acquisition of new skills is a process just as dramatic and challenging as the transition between primary and secondary school. Children face a number of things that require them to acquire new skills. Finding their own lockers, increased academic load, the change of environment, and stresses that come along with secondary education are some of the things requiring new skills. Children are expected to develop organisation skills in order to manage their personal belongings and study materials. Stress-coping skills, communication skills, and leadership skills are all desirable skills that parents and teachers need to foster among children in addition to teaching children how to acquire them alone because these skills can insofar dictate how well children who just graduated from primary schools perform in secondary schools (Dunlop, 2021). These skills fall into the category of resource characteristics of “person”, a component of the PPCT model that affects proximal processes, which, again, is the mechanism underscoring human development.

Disposition

Skills alone do not guarantee successful outcomes, but the combination of desirable skills and attributes does, as attributes serve as a vehicle for children to implement skills with long-lasting consistency. The PPCT model classifies dispositions into generative dispositions and disruptive dispositions. As the name suggests, generative dispositions refer to individual attributes that facilitate the development (proximal processes) of children, which include willingness to initiate and engage in activities independently or with others, the ability to delay gratification for long-term goals, being motivated, persistence, curiosity, and so forth (Bronfenbrenner & Morris, 2006). In contrast, disruptive dispositions include but are not limited to aggression, inability to control emotion, impulsivity, and withdrawal (Bronfenbrenner & Morris, 2006). To a certain degree, disposition is a reliable predictor of scholastic outcome as well as life outside the school. It is important for parents to actively identify children's dispositions and put effort into fostering positive ones (generative dispositions) while discouraging negative ones (disruptive dispositions) through effective communication, reward, and punishment. Meanwhile, parents ought to realise that dispositions, while being modifiable, are reflections of genetic makeup and personalities, so sometimes accommodating the dispositions that are not necessarily going to harm children and their surroundings is preferable to forcing children to fulfil the image of what you perceive to be an ideal child, which can be painful and counterproductive.

Outward appearance

Another yet important factor that belongs to the concept of person is demand characteristics, which are a child's age, appearance, colour, gender, and other features that visually affect how people view him or her (Bronfenbrenner & Morris, 2006). It is of paramount significance for parents to adjust their expectations of children in accordance with their age and gender. Educators should not be preoccupied with stereotypes regarding children of different ethnic and cultural groups. Children with disabilities may require extra attentiveness from their surroundings in order to achieve equality of opportunities.

Context

Again, context essentially refers to influences from everything within the environment that children live in. The environment is broken down into micro-, meso-, exo-, and macrosystems. Some of the most important influences from these systems are parenting style, teacher-student relationship, and civic engagement.

An adequate parenting style that is aligned with children's individual needs and characteristics is significant in contributing to a smooth transition between primary school and secondary school (Darmody et al., 2012). The support and attentiveness from teachers are critical in smoothening the transition as well (Spernes, 2020). Interestingly, the level of support from parents is associated with support from teachers (Darmody et al., 2012), so parents need to be aware of the spillover effect of their parenting. Furthermore, civic engagement can be beneficial for adolescents, for it has the potential to produce a sense of meaningfulness and equip adolescents with communication skills (Fong & To, 2022; Korich & Fields, 2023).

Time

Discontinuity of relationships often occurs in children transitioning from primary school to secondary school. This typically includes relationships with primary school instructors and peers, or in some cases, peers from the previous neighbourhood as children move away to attend secondary school. In addition to the discontinuity of relationships, children experience a wide range of normative life events such as puberty. Non-normative life events can take place, including the divorce of parents, illness or death of family members and friends, traumatic experiences, and so forth. History-graded events, like the recent pandemic, also influence the development of children in one way or another. All of these occurrences are within the dimension of time in the PPCT model, and it will require corresponding skills, attributes, and support from parties within the children's support system in order for children to navigate through the complexities.

So far, we have used the bio-ecological systems theory and its PPCT model to map some of the quintessential influencing factors of primary-secondary education transition and children-adolescent development. Certainly, it is impossible to identify all the factors, but as stated earlier, the model serves as a programmatic way of identifying the factors as well as a propeller for more exploration. The following section provides some strategies and tools parents can use to address the factors mentioned above.

Strategies & Tools

Team Sports

Participation in team sports is correlated with an increased ability to develop and maintain benign peer relationships among children and adolescents (Eime et al., 2013).

Through participating in team sports, children and adolescents also attain self-confidence, a healthy sense of self-esteem, social skills, and improvement in cognitive abilities such as motor skills, the ability to shift and maintain attention, spatial orientation, and executive functioning (Eime et al., 2013). Thus, it is a potentially useful tool that parents can utilise during primary-secondary transition.

On the surface, team sports is a micro-level practice because it mainly involves parties in children's microsystem, including their peers, parents, and instructors or coaches. However, in many cases, parents are able to build relationships with other parents when they attend practice sessions and competitions, which constitutes a meso-level practice because now two or more microsystems are interacting with each other. Mutually supportive relationships between families and sharing of parenting skills and information pertaining to primary-secondary transition can potentially occur as the result of parents getting to know each other through the means of team sports.

Family Time Spent Together

Family activities or time spent with family members, in general, enable children to experience a higher level of happiness, contentment, and readiness while allowing for the development of family cohesiveness and more chances for parents to fine tune parenting style based on observations made during the process (Izzo et al., 2022). It is worth a moment's attention that parents can have a clear goal or agenda in mind so that the time spent together is as productive as possible. Such a tool addresses factors

within all four components of the PPCT model. Family time spent together is undoubtedly the interaction within the microsystem, though its effects on the development involve multiple ecological systems. To put it into perspective, family time spent together can well be a time of self-reflection where children and parents discuss what things they have done that brought each other either positive or negative emotions and thoughts. Through reflecting upon past behaviors, thoughts, and emotions, family relationship improves, and children are able to learn empathetic thinking and position-taking, which help them cope with relationships outside the microsystem.

The duration, quality, and consistency of family time spent together insofar dictates children's well-being and various outcomes in their adolescence and adulthood (Li & Guo, 2023), so children spending time with parents in a desirable fashion is facilitating to primary-secondary transition. Additionally, family time spent together affects attachment between parents and children, and given that attachment is a major predictor of child development, parents ought to divert a substantial amount of attention towards having quality time spent with children during transition (Cassidy et al., 2013).

Monitoring App

This tool is for preventing the harms of excessive and inadequate technological use among youth. By using apps like Google Family Link and Qustodio, parents are informed in terms of how much time their children spend on digital devices and what kind of content they browse, which comes in handy in this digital era where digital

literacy is greatly valued but not at the cost of children's well-being. It is ideal for parents to make agreements with children before adopting this tool because doing so promotes a sense of boundary and personal privacy.

Extracurricular Activities (ECAs)

Extracurricular activities is such as broad term. It includes community service, art lessons, after-school tutoring, sports, adventure, youth club of various kinds, just to name a few. ECAs' benefits are just as broad as the number of things ECAs include, some of which are increased cognitive abilities, acquirement of leadership skills and community skills, a stronger social support system, enhanced confidence and creativity, which are not only advantageous for primary-secondary transition but for overall development as well (Visser et al., 2023).

Forming or Utilising Existing Networks

Without the right guidance and a rich repertoire of information, parents can be limited in their ability to help children transition. Hence, it might be useful for parents to form networks between themselves and other parents and teachers. It allows parents to seek advice and share information regarding various things involved in the transition. Families with kids in the pre-and post-transition can both benefit from this practice because of the snowball effect of networking, which invites parents of different generations to participate. Utilising existing networks within the parents' social circle is also strongly advised.

Conclusion

Hopefully, you have gained a basic understanding of what the bio-ecological model is and how it could be applied to identify factors influencing the transition from primary school to secondary school. The strategies and tools at the end could potentially be effective, and it is essential to tailor them to the individual needs of your family as well as trying out some other strategies and tools. This leaflet is far from being able to cover all the aspects of primary-secondary education transition but was made with the best intention and designed for parents.

References

- Bokhorst, C. L., Sumter, S. R., & Westenberg, P. M. (2010). Social Support from Parents, Friends, Classmates, and Teachers in Children and Adolescents Aged 9 to 18 Years: Who Is Perceived as Most Supportive? *Social Development, 19*(2), 417–426.
<https://doi.org/10.1111/j.1467-9507.2009.00540.x>
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard University Press.
- Bronfenbrenner, U. (1986). Ecology of the family as a context for human development: Research perspectives. *Developmental Psychology, 22*(6), 723–742. <https://doi.org/10.1037/0012-1649.22.6.723>
- Bronfenbrenner, U., & Morris, P. A. (2006). The Bioecological Model of Human Development. *Handbook of Child Psychology, 1*(1).
<https://doi.org/10.1002/9780470147658.chpsy0114>
- Bronfenbrenner, U., & Ceci, S. J. (1994). Nature-nuture reconceptualized in developmental perspective: A bioecological model. *Psychological Review, 101*(4), 568–586. <https://doi.org/10.1037/0033-295x.101.4.568>
- Cassidy, J., Jones, J. D., & Shaver, P. R. (2013). Contributions of attachment theory and research: A framework for future research, translation, and policy. *Development and Psychopathology, 25*(4pt2), 1415–1434.
<https://doi.org/10.1017/s0954579413000692>

- Darmody, M., Robson, K., & McMahon, L. (2012). Young People and Social Capital: Transition from Primary Schools to Lower Secondary Level in Ireland. *Irish Journal of Sociology*, 20(1), 19–38.
<https://doi.org/10.7227/ijis.20.1.2>
- Ding, K., & Li, H. (2023). Digital Addiction Intervention for Children and Adolescents: A Scoping Review. *International Journal of Environmental Research and Public Health*, 20(6), 4777.
<https://doi.org/10.3390/ijerph20064777>
- Dunlop, A.-W. (2021). On the Margins, Getting By, Persevering, or Flying High? The Intersection of Wellbeing, Attainment, and Transitions in a Scottish Longitudinal Study. *Frontiers in Education*, 5.
<https://doi.org/10.3389/educ.2020.600778>
- Eime, R. M., Young, J. A., Harvey, J. T., Charity, M. J., & Payne, W. R. (2013). A Systematic Review of the Psychological and Social Benefits of Participation in Sport for Children and adolescents: Informing Development of a Conceptual Model of Health through Sport. *International Journal of Behavioral Nutrition and Physical Activity*, 10(1), 98.
<https://doi.org/10.1186/1479-5868-10-98>
- El Zaatari, W., & Maalouf, I. (2022). How the Bronfenbrenner Bio-ecological System Theory Explains the Development of Students' Sense of Belonging to School? *SAGE Open*, 12(4). <https://doi.org/10.1177/21582440221134089>

Fong, C.-P., & To, S. (2022). Civic Engagement, Social Support, and Sense of Meaningfulness in Life of Adolescents Living in Hong Kong: Implications for Social Work Practice. *Child and Adolescent Social Work Journal*.

<https://doi.org/10.1007/s10560-022-00819-7>

Haddock, A., Ward, N., & Yu, R. (2022). Positive effects of digital technology use by adolescents: A scoping review of the literature. *ProQuest*, 19(21), 14009.

<https://doi.org/10.3390/ijerph192114009>

Izzo, F., Baiocco, R., & Pistella, J. (2022). Children's and Adolescents' Happiness and Family Functioning: A Systematic Literature Review. *International Journal of Environmental Research and Public Health*, 19(24), 16593.

<https://doi.org/10.3390/ijerph192416593>

Keay, A., Lang, J., & Frederickson, N. (2015). Comprehensive support for peer relationships at secondary transition. *Educational Psychology in Practice*, 31(3), 279–292. <https://doi.org/10.1080/02667363.2015.1052046>

Korich, F., & Fields, E. L. (2023). Civic Engagement to Empower Young People to Impact Health and Well-Being. *Pediatrics*, 151(Supplement 1).

<https://doi.org/10.1542/peds.2022-057267h>

Li, D., & Guo, X. (2023). The effect of the time parents spend with children on children's well-being. *Frontiers in Psychology*, 14.

<https://doi.org/10.3389/fpsyg.2023.1096128>

Raymond, A., Grant, S., & Tawk, R. (2023). School Bullying and Health Risk Behavior Outcomes among Adolescents in Florida. *Florida public health*

review, 20, 2.

[https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9979265/#:~:text=Bullying%20victimization%20has%20been%20linked,\)%2C14%20psychosocial%20distress%2C7](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9979265/#:~:text=Bullying%20victimization%20has%20been%20linked,)%2C14%20psychosocial%20distress%2C7)

Roberts, A. (2020). 'It's time to grow up': an exploration of the lived experiences of transition to secondary school for children who are subject to child in need and child protection plans. *University of Birmingham*.

<https://etheses.bham.ac.uk/id/eprint/10899/>

Spernes, K. (2020). The transition between primary and secondary school: a thematic review emphasising social and emotional issues. *Research Papers in Education*, 37(3), 1–18. <https://doi.org/10.1080/02671522.2020.1849366>

Visser, T., Ringoot, A. P., Arends, L. R., Maartje P.C.M. Luijk, & Severiens, S. (2023). What do students need to support their transition to secondary school? *Educational Research*, 65(3), 320–336.

<https://doi.org/10.1080/00131881.2023.2235397>