



BRONFENBRENNER'S ECOLOGICAL SYSTEMS THEORY AND STUDENT MOTIVATION

***K.D.R.L.J.Perera**

*Senior Lecturer, Department of Secondary and Tertiary Education, Faculty of Education,
The Open University of Sri Lanka*

Abstract

Bronfenbrenner (1979) in his Ecological Systems Theory offers an important contribution to the interplay between an individual and its immediate environment. This model includes both the idea of bidirectional influence, which takes into account both the influence of the environment on the person and the mutual influence of the person on the environment, and the idea of indirect influence. Ecological Model of human development deals with the quality of a child's environment and how development is subject to multiple levels of influence, that is, the micro system, meso system, exo system, and macro system. The main research question is; How the different levels of Bronfenbrenner's ecological systems theory impact for students' (at any stage) motivation in learning? In this study systematic review method was applied. This literature review mainly attentive on books and research articles that investigated the Bronfenbrenner's ecological systems theory and students' motivation. They were reviewed, and the findings following the reviewed literature are presented based on the identified research question. Variables such as school subject and the type of lesson or work certainly belong to the most critical elements of the learning context at the micro-level. At meso level teachers' attitudes and behaviours, students' perception of the classroom climate or environment, as well as the classroom goal structure, norms, and practices, belong to a second level of contextual variables. In exo level changes in the organisation and structure of school, when moving from elementary to middle or high school, involvement in a special programme or section, have been found to influence students' perceptions of school and attitudes towards school work. Macro level contexts refer to out-of-school environmental characteristics such as familial, cultural, economic, or political variables. It could be concluded that Bronfenbrenner's Ecological Systems Theory explains student's motivation in learning at all the stages. It is implied that even though there are criticisms existing for Bronfenbrenner's Ecological Systems Theory, each and every system mentioned in the theory plays an important role in students' motivation in learning, thus these systems should be enhanced.

Keywords: Ecological Systems Theory, Micro system, Meso system, Exo system, Macro system, Students Motivation

** Corresponding Author: email address kdper@ou.ac.lk*



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INTRODUCTION

First presented by Bronfenbrenner (1977, 1979, 1986, 1999) in the 1970's, the Ecological Systems Theory (EST) argues that development is impacted by multiple systems which surround and interact with an individual (Flynn & Mathias, 2023, p.9). This model includes both the idea of bidirectional influence, which takes into account both the influence of the environment on the person and the mutual influence of the person on the environment, and the idea of indirect influence. In Bronfenbrenner's view, a relationship between two elements can be affected by the relationship that one of these elements holds with yet another element; the kind of relationships existing between a child's family and his or her teacher, for instance, indirectly acts upon the teacher-pupil relationship (Gurtner, Monnard, & Genoud, 2001). Further, according to Gurtner et al. (2001) both Piaget and Bronfenbrenner have studied the influence that context has on a person in the long run, from a developmental viewpoint. According to Darling (2007), Bronfenbrenner focused on a scientific approach highlighting the interrelationship of diverse procedures and their contextual disparity. Further, Darling (2007) stated that EST is presented as a theory of human development in which everything is seen as interrelated and our knowledge of development is bounded by context, culture, and history.

According to Duerden and Witt (2010) EST suggests that persons exist within a diversity of settings, starting at the individual level and spreading outward (e.g. family, work, society, etc.). According to Bronfenbrenner (1979) all children are at the centre of 'layers' of the environment that can have an important result on their development and psycho-social change. His Ecological Model of human development deals with the quality of a child's environment and how development is subject to multiple levels of influence, that is, the micro system, meso system, exo system, and macro system. There are lots of research have been conducted on different aspects of EST, but very few in explaining it with motivation. Therefore, it is significant to conduct this study.



The main research question of this study is;

How the different levels of Bronfenbrenner's Ecological Systems Theory explain students' motivation in learning?

METHODOLOGY

In this study systematic review was applied. The aim of a systematic review is to identify all empirical evidence that fits the pre-specified inclusion criteria to answer a particular research question or hypothesis (Snyder, 2019, p.334). This literature review mainly focuses on books and research articles that investigated the Bronfenbrenner's Ecological Systems Theory and students' motivation. The selected books and articles were reviewed (about 20), and the findings following the reviewed literature are presented based on the identified research question. In this study chronosystem is not discussed and students in all the stages are considered.

RESULTS AND DISCUSSION

Micro-level contextual influences on students' motivation

According to Bronfenbrenner actions and connections in the child's direct environments: parents, school, peers, etc. Similarly, this is the layer closest to the child and comprises the structures with which the child has direct contact. The environments included in the structure in the microsystem are family, school, neighbourhood, or childcare environments. The associations have influence in two directions at this level, they are both away from the child and toward the child. As an example, a child's parents may affect his beliefs and behaviour; on the other hand, the child also affects the parent's behaviour and beliefs. Bronfenbrenner displays how bi-directional effects happen amongst all levels of environment.

According to Gurtner et al. (2001) variables such as school subject and the type of lesson or work certainly belong to the most critical elements of the learning context at the micro-level. Whether an activity is to be done in one's preferred or in a highly disliked subject, whether it is a part of a test or simply an exercise, whether group work is suggested or not, will clearly act upon a student's nature for, and outcome in a given task. On micro-level, it is observed that language employed by the teacher plays a pivotal role in ensuring a conducive learning environment (Amali, Ridzuan, Rahmat, Seng, & Mustafa, 2023, p.158). According to Wolters and Pintrich (1998) compared motivation and self-regulated learning in the various contexts of mathematics, English, or social science classrooms and revealed that differences in the motivational and in the cognitive components of learning can certainly be noticed, but that the relations among these components remain similar across contexts. As stated by Gurtner et al. (2001) the type of lesson or setting also creates an important determinant of motivation and learning. According to Gerlach (1994) group work will be positively appreciated by students only if they are influenced of the educational value of cooperating with peers.

When this level is considered with students' motivation in learning, the gender (Cronan & Witt, 2005; Henderson, 2005), ethnic background (Outley, 2005; Skuza, 2005), and physical abilities (Devine, 2005) should be considered when developing educational programmes. Many research findings (e.g., DuBois et al., 2002; Karcher, Nakkula, & Harris, 2005) suggest that the most effective relationships include frequent sustained contact, emotional closeness, and high mentor self-efficacy. Additional studies support the importance of youth workers promoting their basic psychological needs for autonomy, relatedness, and competence (Ryan & Deci, 2000).



Meso-level contextual influences on students' motivation

As stated by Bronfenbrenner relationships among the entities involved in the child's microsystem: parents' interactions with teachers, a school's interactions with the day care provider. According to Berk (2000) the connection between the structures of the child's microsystem is provided in this layer. As examples, the connection between the children's teacher and their parents, between their religious centre and their neighbourhood, etc. can be provided.

According to Gurtner et al. (2001) teachers' attitudes and behaviours, students' perception of the classroom climate or environment, as well as the classroom goal structure, norms, and practices, belong to a second level of contextual variables.

In addition, Fry and Coe (1980) revealed that classrooms supposed to be high in teacher support and involvements are connected with self-improvement and high motivation for academic success, as well as with an enjoyment of learning. Classrooms perceived as teacher controlled or competition-oriented, by contrast, are connected with anti-school feelings and an absence of a need for self-improvement or an enjoyment of learning.

Exo-level contextual influences on students' motivation

According to Bronfenbrenner social organizations which influence children indirectly are comprised in this system: the work settings and policies of the parents, extended family networks, community resources, and mass media etc. This layer indicates the larger social system that the child does not function straight. As stated by Berk (2000), the structures in this layer influence the child's development by interrelating with some structure in microsystem. As examples; parent workplace schedules or community-based family resources can be provided. The child may not be straight involved at this level. But he does feel the positive or negative force associated with interacting with his own system.

According to Gurtner et al. (2001) exo-level elements refer to the type of school or programme in which a student is involved, mostly without having chosen it. According to Midgley (1993) changes in the organisation and structure of school, when moving from elementary to middle or high school, involvement in a special programme or section, have been found to influence students' perceptions of school and attitudes towards school work. Also, it is influenced to the self-esteem or other psychological symptomology (Hirsch & Rapkin, 1987).

Another important contextual variable at the exo-level refers to special events or moments in the school year (Gurtner et al., 2001). Gurtner et al. (1999) discussed that how the preparation for an important examination, taken at the end of grade six, can temporarily boost student's motivation, regarding such variables, as feelings of self-efficacy, learning intensions or test anxiety, or, at least, prevent motivation from declining with respect to other variables such as task orientation or school attraction. Demi, Coleman-Jensen, and Snyder (2010) noted that some exosystem factors such as parent education had a straight impact on students' educational choices though the other exosystem factors such as parental income influenced school climate.

Macro-level contextual influences on students' motivation

As stated by Bronfenbrenner, broader cultural values, laws, and governmental resources. This layer may be considered the furthest layer in the child's environment. According to Berk (2000) while not being a precise framework, this layer is contained of cultural values, customs, and laws. The effects of larger principles defined by the macro system have a flowing impact during the interactions of all other layers. For example, if it is the belief of



the culture that parents should be merely accountable for raising their children, that culture is less likely to offer resources to assist parents. This, in turn, influences the structures in which the parents' role. The parents' ability or inability to take out that responsibility toward their child within the setting of the child's microsystem is similarly affected. According to Bronfenbrenner (1995) micro, meso, exo, and macro systems operate as systems both within themselves and in relation to each other.

Macro level contexts refer to out-of-school environmental characteristics such as familial, cultural, economic, or political variables. Studies conduct in various cultural or ethnic contexts provide much evidence of their effects on motivation, perception of school (Fuller & Clarke, 1994) or appraisal of the motivational and emotional aspects of various work situations (Volet, 1999a). According to Stevenson, Lee, and Stigler (1986) Japanese and Chinese mothers consider effort as more important than ability for a given performance at school, while American mothers stress ability over effort. The pressure to find a good job at the end of their schooling also introduces contextual elements in the way students' value and use the school (Gurtner et al., 2001).

According to the Gurtner et al. (2001) their study was conducted during two entire school years over two cohorts with 271 students revealed that, meso-level aspects of context, principally perceived students' involvement and perceived teacher support, can have an actual influence on some of the more important elements of motivation, e.g., task orientation and perceived utility of school and particularly on school attraction and declared intentions to learn. Further, teachers are not, however, the only contributors to a classroom's climate; their influence, although considerable, is moderated by factors coming from the students, the school system and the society. Also, students' motivation and their perceptions of the classroom psycho-social environment were sensitive to variables belonging to the exo-and even to the macro-level of context. Accordingly, Gurtner et al. (2001) findings globally confirm that revising the curriculum, improving teacher education, or bettering classroom environment, all efforts made at the micro-or the meso-level certainly can be part of a solution to reduce students drop in motivation.

CONCLUSIONS/RECOMMENDATIONS

There are some criticisms can be seen for Bronfenbrenner's theory; Bronfenbrenner focuses on the individual's drive and ability to influence relative to their specific environment and not so strongly on the individual's sphere of influence (Christensen, 2016, p.23). In Bronfenbrenner's theory, everything is interrelated and interacts with each other, but to varying degrees and at different times (Christensen, 2016, p.24). Critically, the gender difference was seen to derive not from some biological difference in males and females but from the different meaning the task had for males and females (Darling, 2007, p.207). However, his four systems explain the student's motivation as discussed above. Therefore, it could be concluded that, variables such as school subject and the type of lesson or work certainly belong to the most critical elements of the learning context at the micro-level. At meso level teachers' attitudes and behaviours, students' perception of the classroom climate or environment, as well as the classroom goal structure, norms, and practices, belong to a second level of contextual variables. In exo level changes in the organisation and structure of school, when moving from elementary to middle or high school, involvement in a special programme or section, have been found to influence students' perceptions of school and attitudes towards school work. Macro level contexts refer to out-of-school environmental characteristics such as familial, cultural, economic, or political variables. Studies conduct in various cultural or ethnic contexts provide much evidence of their effects on motivation, perception of school. Accordingly, it could be further concluded that Bronfenbrenner's Ecological Systems Theory explains student's motivation in learning at all the stages. It is implied that each and every system mentioned in the Ecological Systems Theory plays an important role in students' motivation in learning, thus these systems should be enhanced.



REFERENCES

- Amali, N. A. K., Ridzuan, M. U. M., Rahmat, N. H., Seng, H. Z., & Mustafa, N. C. (2023). Exploring Learning Environment Through Bronfenbrenner's Ecological Systems Theory. *International Journal of Academic Research in Progressive Education and Development*, 12(2), 144–162. <https://10.6007/IJARPED/v12-i2/16516>
- Berk, L.E. (2000). *Child Development* (5th ed.). Allyn and Bacon.
- Bronfenbrenner, U. (1979). *The ecology of human development*. Harvard University Press.
- Bronfenbrenner, U. (1995). Developmental ecology through space and time: A future perspective. In P. Moen, G. Elder, & K. Lusher (Eds.), *Examining lives in context: Perspectives on the ecology of human development* (pp. 619-647). Washington, DC: American Psychological Association.
- Christensen, J. (2016). A critical reflection of Bronfenbrenner's development ecology model *Problems of education in the 21st century*, 69, 1822-7864. <https://10.33225/pec/16.69.22>
- Cronan, M. K., & Witt, P. A. (2005). What about the boys? In P. A. Witt, & L. L. Caldwell (Eds.), *Recreation and youth development* (pp. 425-438). State College, PA: Venture.
- Darling, N. (2007). *Ecological Systems Theory: The Person in the Center of the Circles*. Research in Human Development.
- Demi, M.A., Coleman-Jensen, A., C., & Snyder, A.R. (2010). The Rural Context and Secondary School Enrolment: An Ecological Systems Approach. *Journal of Research in Rural Education*, 25(7), 1-26. Retrieved from <https://jrre.psu.edu/articles/25-7.pdf>.
- Devine, M. A. (2005). Inclusion of youth with and without disabilities: More than just sharing the same space. In P. A. Witt, & L. L. Caldwell (Eds.), *Recreation and youth development* (pp. 467-492). State College, PA: Venture.
- DuBois, D. L., Neville, H. A., Parra, G. R., & Pugh-Lilly, A. O. (2002). Testing a new model of mentoring. In G. G. Noam (Ed.-in-chief) & J. E. Rhodes (Ed.), *A critical view of youth mentoring* (New Directions for Youth Development: Theory, Research, and Practice, No. 93, pp. 21-57). San Francisco: Jossey-Bass.
- Duerden, M. & Witt, P. (2010). The impact of direct and indirect experiences on the development of environmental knowledge, attitudes, and behavior. *Journal of Environmental Psychology*, 30, 379-392. <https://doi.org/10.1016/j.jenvp.2010.03.007>.
- Flynn, K., & Mathias, B. (2023). "How Am I Supposed to Act?": Adapting Bronfenbrenner's Ecological Systems Theory to Understand the Developmental Impacts of Multiple Forms of Violence. *Journal of Adolescent Research*, 0(0). <https://doi.org/10.1177/07435584231159674>
- Fry, P. S., & Coe, K. J. (1980). Interaction among dimensions of academic motivation and classroom social climate: A study of the perceptions of junior high and high school pupils. *British Journal of Educational Psychology*, 50(1), 33-42. <https://doi.org/10.1111/j.2044-8279.1980.tb00795.x>
- Fuller, B., & Clarke, P. (1994). Raising School Effects While Ignoring Culture? Local Conditions and the Influence of Classroom Tools, Rules, and Pedagogy. *Review of Educational Research*, 64(1), 119-157. <https://doi.org/10.3102/0034654306400>
- Gerlach, J.M. (1994). Is this collaboration? *New Directions for Teaching and Learning*, 59, 5-14. <https://doi.org/10.1002/tl.37219945903>
- Gurtner, J.-L., Monnard, I., & Genoud, P. A. (2001). Towards a multilayer model of context and its impact on motivation. In S. Volet & S. Järvelä (Eds.), *Motivation in learning contexts: Theoretical advances and methodological implications* (pp. 189-208). Pergamon Press.
- Hirsch, B. J., & Rapkin, B. D. (1987). The transition to junior high school: A longitudinal study of self-esteem, psychological symptomatology, school life, and social support. *Child Development*, 58 (5), 1235-1243. <https://doi.org/10.2307/1130617>
- Karcher, M. J., Nakkula, M. J., & Harris, J. T. (2005). Developmental mentoring match characteristics: Correspondence between mentors' and mentees' assessments of relationship quality. *Journal of Primary Prevention*, 26, 93-110. <https://doi.org/10.1007/s10935-005-1847-x>



- Midgley, C. (1993). Motivation and middle level schools. In Pintrich, P., and Maehr, M. (Eds). *Advances in Motivation and Achievement in the Adolescent Years*. (Vol 8; pp.219-276). Greenwich, CT: JAI Press.
- Outley, C. W. (2005). The role of culture in recreation programming for youth. In P. A. Witt, & L. L. Caldwell (Eds.), *Recreation and youth development* (pp. 357-384). State College, PA: Venture.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78. <https://doi.org/10.1037/0003-066X.55.1.68>
- Skuzza, J. (2005). Understanding the experiences of immigrant adolescents: Acculturation is not the same as assimilation. In P. A. Witt, & L. L. Caldwell (Eds.), *Recreation and youth development* (pp. 385-406). State College, PA: Venture.
- Snyder, A. (2019). Literature review as a research methodology: An overview and guidelines, *Journal of Business Research*, 104, 2019, 333-339, <https://doi.org/10.1016/j.jbusres.2019.07.039>
- Swick, K. J., & Williams, R. D. (2006). An Analysis of Bronfenbrenner's Bio-Ecological Perspective for Early Childhood Educators: Implications for Working with Families Experiencing Stress. *Early Childhood Education Journal*, 33(5), 371-378. <https://doi.org/10.1007/s10643-006-0078-y>
- Volet, S.E. (1999a). Motivation within and across cultural-educational context: A multi-dimensional perspective. In T. Urdan (ed.) *Advances in Motivation and Achievement: The Role of Context* (Vol.11)(pp.185-231). Stanford, CT: JAI Press.
- Wolters, C. A., & Pintrich, P. R. (1998). Contextual differences in student motivation and self-regulated learning in mathematics, English, and social studies classrooms. *Instructional Science*, 26, 27-47. <https://dx.doi.org/10.1023/A:1003035929216>