FACTORS OF A SENSE OF SCHOOL BELONGING: BRONFENBRENNER’S THEORETICAL MODEL AS A STARTING FRAMEWORK FOR INTERPRETATION

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Abstract

A sense of school belonging is considered a protective and promotive factor for a wide range of academic and developmental outcomes of students. However, previous research efforts were overly focused on examining the factors and processes that underlie it, and the available literature identifies a lack of a clear model of action that school actors should apply in order to improve it and, consequently, enjoy its benefits. The main goal of this paper is the analysis of relevant literature, with the aim of identifying the factors that contribute to the development of a sense of school belonging among students. In accordance with the basic principles of the adapted Bronfenbrenner’s bio-psycho-socio-ecological model of school belonging, the findings of the conducted review indicate that the sense of school belonging is of a systemic nature, and that its development and intensity are determined by multiple experiences, interactions and factors that usually exist on the individual, school-relational and contextual level. Although the paper provides preliminary insights into the factors that contribute to the development of a sense of school belonging, further research into these factors, which will examine their predictive effect, provide the possibility of defining a clear model of action, and represent a starting point for designing adequate interventions, is necessary.

Key words: school belonging, individual factors, school factors, bio-psycho-socio-ecological model.

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ФАКТОРИ ОСЕЋАЈА ПРИПАДНОСТИ ШКОЛИ: БРОНФЕНБРЕНЕРОВ ТЕОРИЈСКИ МОДЕЛ КАО ПОЛАЗНИ ОКВИР ТУМАЧЕЊА

Апстракт

Осећај припадности школи сматра се протективним и промотивним фактором који утиче на широк спектар академских и развојних исхода код ученика. Међутим, досадашња истраживачка настојanja не била претерано фокусирана на испитивање фактора и процеса који се налазе у његовој основи, те се у литератури идентификује недостатак јасног модела деловања који школски актери треба да примени зарад његовог унапређивања и, последицима, уживаног његових бенефита. Основни циљ рада је анализа релевантне литературе ради идентификовања фактора који доприносе развоју осећаја припадности школи код ученика. У складу са основним поставкама адаптираног Бронфенбренеровог био-психо-социо-еколошког модела припадности школи, резултати спроведеног прегледа указују на то да је осећај припадности школи системске природе, те да су његов развој и интензитет детерминисани вишеструким искуствима, интеракцијама и факторима који уобичајено егзистирају на индивидуалном, школском релационом и контекстуалном нивоу. Иако рад пружа почетне увиде у факторе који доприносе развоју осећаја припадности школи, неопходна су даља истраживања ових фактора која ће испитати њихово предиктивно дјество, обезбедити могућност дефинисања јасног модела деловања, те представљати полазну основу за конципирање адекватних интервенција.

Кључне речи: припадност школи, индивидуални фактори, школски фактори, био-психо-социо-еколошки модел.

INTRODUCTION

The role of the school is very complex and implies several different meanings, but at the base of each are the intention of socialisation and the shaping of active and purposeful members of society through meeting the emotional and social needs of students, and through indirect influence on general health and well-being. As one of the basic goals of education and upbringing includes ensuring the well-being and support for the overall development of children, students, and adults (Zakon o osnovama sistema obrazovanja i vaspitanja, 2021), the school is increasingly recognised as a place for the promotion and encouragement of positive development, and the prevention of various problems and difficulties (Damon, 2004; Maksić & Đurišić-Bojanović, 2017). Various elements of the school environment are recognised as important for adequate student developmental outcomes, and a sense of belonging is widely recognised as one of them (e.g., Allen et al., 2018a; Rowe & Stewart, 2011). According to the most widely used definition, the sense of school belonging is “the extent to which students feel personally accepted, respected, included and supported by others in the school social environment” (Goodenow, 1993, p. 80).

Researchers in the field of education and public health recognise the sense of school belonging as a significant protective and promotive
Factors of a Sense of School Belonging: Bronfenbrenner’s Theoretical Model... 373

c-factor for all youth (CDC, 2009), and empirical evidence testifies to its association with a wide range of positive developmental outcomes (e.g., Arslan, 2021; Korpershoek et al., 2020; Zhang et al., 2018). However, although there is an intense emphasis on the importance of the sense of school belonging, there are few efforts directed towards analysing ways to encourage it (Allen et al. 2018b). In other words, few efforts are directed at examining the factors and processes that form the basis of the sense of belonging. Given that not knowing the factors that contribute to the development of a sense of school belonging results in the impossibility of creating specific interventions to encourage it, it is not surprising that the available literature identifies the absence of an adequate and clear model, or framework, that schools should follow when encouraging belonging (Allen et al., 2018a).

Therefore, respecting the aspirations of prevention science in the domain of identifying factors that strengthen protective processes, a review of the relevant literature was carried out in order to identify the factors which contribute to the development of a sense of school belonging among students. Encouraged by the efforts of relevant authors in this field (Allen et al., 2016), the adapted Bronfenbrenner’s bio-psycho-socio-ecological model of development, described in the following chapter, was used as the initial theoretical framework of the analysis. The following electronic bibliographic databases were searched: Academia.edu, Google Scholar, KoBSON, and ScienceDirect. The key words used to search for papers are: ‘school belonging’, ‘sense of school belonging’, ‘school belonging factors’, ‘predictors of school belonging’, ‘individual factors’, ‘school factors’, ‘Bronfenbrenner’ and ‘bio-psycho-socio-ecological model’ were not among the key words because some authors do not explicitly mention this theory as the starting theoretical framework of their works, although they deal with the factors of the sense of school belonging that can be interpreted via this model. The main criterion for the selection of papers was to address factors whose influence can be observed in the context of subsystems, postulated in Bronfenbrenner’s bio-psycho-socio-ecological model. The review included 32 papers, published in Serbian and English in the period between 2000 and 2022, whose results point to the importance of various individual and school factors for the development of the students’ sense of school belonging.

**INDIVIDUAL AND SCHOOL FACTORS OF THE DEVELOPMENT OF THE STUDENTS’ SENSE OF SCHOOL BELONGING**

Bronfenbrenner’s bio-ecological model (Bronfenbrenner, 1979) represents the most widely used theoretical framework for explaining belonging in an organisational setting, such as a school (Anderson et al., 2014). Therefore, authors relevant in this field (Allen & Kern, 2017) use...
this model as a starting point for understanding the factors that influence
the sense of school belonging, and further expand it by pointing out the
importance of psychological and social factors. Thus, a new model was
conceived and called the bio-psycho-socio-ecological model of school be-
longing. More specifically, ‘bio’ refers to a student’s genetic and biological
predispositions; ‘psycho’ refers to certain psychological aspects of the
student, such as attitude, way of thinking, personality, cognitive styles
and emotions; ‘socio’ implies relationships with peers, teachers and oth-
ers in the school environment (microsystem); and ‘ecological’ implies the
wider school environment and local community, policies and cultural
norms – the wider influences that shape the student’s experience at school

The model implies the existence of systems in society (the micro-
system, the mesosystem, the exosystem, and the macrosystem) that
have an effect on the individual who is at the centre of multiple levels of
influence over time (chronosystem). The individual level includes the
students’ personal biological and genetic predispositions that affect their
relationships with peers, parents, teachers, other school staff members,
and people from their immediate environment (Allen et al., 2016). The
mesosystem includes school resources, management processes, policies,
rules and practices that can affect the students’ sense of belonging to the
school (Saab, 2009); the exosystem consists of other schools, organi-
sations, external services, extended families, local businesses and communi-
ity associations that exist outside the school; and the macrosystem in-
cludes features such as national or federal government influence on the
education system through policies, legislation, and data collection, and
takes into account the cultural and historical climate of each school (Allen
et al., 2016). A chronosystem identifies interactions between systems
over time (Allen et al., 2021). Some authors operationalize the chronosys-
tem as a year of study (Allen et al., 2018a) or as changes in educational
policies that occur over time (e.g. additional curriculum) that can affect
the sense of school belonging (El Zaatari & Ibrahim, 2021). Each of these
levels achieves mutual dynamic interaction and affects the sense of
school belonging among students.

In accordance with the basic principles of the adapted model of the
development of the sense of school belonging, the summarised research
results on the factors that influence the sense of school belonging among
students, which exist at the individual and school (relational and contex-
tual) level, that is, at the microsystem and mesosystem level, will be pre-
sented below. The decision not to consider the macrosystem and exosys-
tem factors is justified by their low representation in the existing research
material, due to the uneconomical nature of their examination, i.e. the
need to allocate significant material resources and invest a lot of time
(Brown Kirschman & Karazsia 2014).
**Individual Factors of the Development of the Students’ Sense of School Belonging**

The individual characteristics of students are often the subject of research into the predictors and correlates of the sense of school belonging. Although certain factors consistently prove to be significant for improving the sense of school belonging, empirical findings also indicate the existence of numerous inconsistencies. For example, findings on gender differences regarding the sense of school belonging are quite inconsistent, and some research results indicate that the sense of school belonging is more pronounced in female students (Allen & Kern, 2017; Nuttman-Shwartz, 2019). Others present findings in favour of male students (CESE, 2020; Renick & Reich, 2020), or find that differences do not exist (Cemalcilar, 2010). Although the age of students has not been particularly examined in the context of significant factors, there is evidence that the sense of school belonging decreases linearly with age, so that high school students report the lowest level (Anderman, 2003; Renick & Reich, 2020). On the other hand, there are also results which indicate that age differences do not exist (the level of the sense of belonging to the school is stable during primary and secondary education) (Nuttman-Shwartz, 2019). Also, students of lower socio-economic status generally report a weaker sense of school belonging (CESE, 2020).

The results of a recent meta-analysis (Allen & Kern, 2017), which included 45 studies conducted on a total sample of 67,378 students ages 12 through 18, suggest that academic motivation (e.g. writing homework, academic support, goal setting, and aspirations), mental health (e.g. mental illness, anxiety, depression, and suicidal ideation), and personal characteristics (e.g. self-efficacy, self-esteem and self-concept, positive emotions, social awareness, self-awareness, adaptive skills, and emotional regulation) are significantly related to the sense of school belonging, while personal characteristics stand out as one of the most significant correlates of the sense of school belonging.

In considering the individual factors of the development of the sense of belonging to the school, special attention is paid to examining the socioemotional competencies of students (Allen et al., 2018a). In general, the development of the socioemotional competencies of students at school holds a prominent place in the prevention of student behavioural problems (Kovačević-Lepojević et al., 2022). The available literature usually talks about five key socioemotional competencies, namely: responsible decision making, relationships skills, self-management (self-regulation), social awareness, and self-awareness (CASEL, 2018). Research supports the fact that socioemotional competences and a sense of school belonging have significant connections, although the nature and direction of that relationship is not entirely clear, i.e. whether socioemotional competencies strengthen the sense of school belonging or vice ver-
sa is unclear (Allen et al., 2017). There are points of view according to which students’ socio-emotional competencies have a significant impact on the development of a sense of school belonging (Panayiotou et al., 2019) by influencing the quality of relationships with teachers and peers (Eisenberg et al., 2010). The assumption is that students with developed socio-emotional competencies probably feel more comfortable in the school environment due to their ability to control their emotions and adapt to school requirements, and that they receive support from teachers and peers on this basis, which has a favourable effect on the development of a sense of belonging (Valiente et al., 2007).

**School Factors of the Development of the Students’ Sense of School Belonging**

As previously stated, relational factors, i.e. microsystem factors of importance for the sense of school belonging concern students’ relationships with teachers, other students and other members of the school staff, while contextual, i.e. mesosystem factors refer to school resources (e.g. extracurricular activities, professional development of employees), management processes, policies, rules and practices.

A meta-analysis (Allen & Kern, 2017), which included 45 studies conducted on a total sample of 67,378 students ages 12 through 18, showed that parental support (e.g. care, compassion, encouragement, and positive relationships), peer support (acceptance, encouragement, and support), teacher support (e.g. academic support, social support, likability, and fair treatment), and environmental factors (classroom climate, availability of space and opportunities for play and socialising, classroom seating arrangements, safety processes and factors influencing culture, organisational structure, behaviour management, support structures for staff members, and pleasant environment) are important for the development of a sense of school belonging. Additionally, it was found that satisfaction with social relations (teacher-student relations, relations student-student, and student-school leader relationships) is more predictive for the sense of school belonging than satisfaction with the school environment, i.e. its structural characteristics (physical characteristics, supporting resources, and perception of violence) (Cemalcilar, 2010).

In general, supportive relationships in the school environment form a safe base for students that encourages them to get involved in curricular and extracurricular activities, motivates them to realise their potential, and acts protectively when facing various challenges (Cemalcilar, 2010). Students who perceive the school climate positively also report a greater sense of school belonging (Korpershoek et al., 2020). If the classroom environment allows students to feel comfortable expressing opinions and sharing ideas, the classroom is more likely to be a positive environment where students feel a sense of belonging (Griffiths et al., 2009).
Factors of a Sense of School Belonging: Bronfenbrenner’s Theoretical Model...

Although the prevailing opinion is that relationships with peers are the most important for adolescents, research shows that relationships with teachers can be more important for adolescents than for younger students (Anderman, 2003). Related to this are the findings that teacher support is the most significant correlate of the students’ sense of school belonging (Allen & Kern, 2017). Findings about the significant role of teachers in the development of a sense of school belonging are confirmed by studies with different methodological designs. For example, a meta-analysis (Allen et al., 2018a), which included 14 studies on a sample of 12,433 students, also indicated a large effect (p = .46) of teacher support on the students’ sense of school belonging. Additionally, in a longitudinal study conducted on a sample of 714 elementary school students, it was shown that students are more likely to see themselves as academically capable and to feel a sense of belonging at school when they perceive their teacher as warm and accepting, supportive and caring, and respectful (Hughes, 2011). Teachers who are rated by students as caring, supportive, competent and with possessing good communication skills create a highly organised environment with high expectations, and thus influence the strengthening of the students’ sense of belonging (Kirby & Thomas, 2021).

Student-student relationships are also shown to be a significant factor influencing the sense of school belonging (Allen & Kern, 2017; Cemalcilar, 2010; Uslu & Gizir, 2017). In general, friendship plays an important role in fulfilling the emotional aspect of a sense of school belonging (Law et al., 2013). The importance of peers for the development of a sense of school belonging is also indicated by findings which indicate that peer mentoring programmes play an important role in encouraging it (Ross, 2015). Pittman and Richmond (2007) state that students who feel that they have a supportive peer group are more satisfied with their schoolwork and have positive attitudes about school. A meta-analysis (Allen et al., 2018a), which included 11 studies, conducted on a total sample of 9,167 students, also indicates a large effect (p = .32) of peer support on the students’ sense of school belonging. The importance of strengthening relational factors is particularly evident in the so-called COVID and post-COVID times, when students may feel isolated and when parents are more concerned about children’s social development (Randjelović et al., 2022).

When it comes to the contextual factors of the school environment, the existing literature has less consistent findings about their importance for the sense of school belonging. Those factors that prove to be significant for the sense of school belonging in a certain part of the research will be presented in the following paragraphs.

Clear behavioural rules, their consistent application, and fair treatment are found to be factors that can have a positive effect on the development of a sense of school belonging (Montoro et al., 2020). For exam-
ple, on a sample of 19,833 students from 52 high schools, it was determined that school fairness (equal treatment for all students) is positively correlated with the sense of school belonging (Debnam et al., 2014). Thus, the degree to which the school environment is perceived as fair, just, and inclusive is indicative of the students’ sense of school belonging. One explanation for these results is that students who feel they are treated fairly, and who see that rules are clearly stated and consistently enforced may develop more positive relationships with school staff (Konishi et al., 2017).

Also, effectively responding to the occurrence of behavioural problems in the school environment contributes to the creation of a democratic environment that promotes justice and equality, thereby enhancing the sense of school belonging among students (St-Amand et al., 2021). The assumption is that strict school disciplinary practices have a negative impact on the relationship between students and teachers, which consequently affects the sense of school belonging (Tillery et al., 2013).

The sense of school belonging can also be a reflection of safety in the school (Demiroz, 2020) and the absence of bullying (CESE, 2020; Nuttman-Shwartz, 2019). Research conducted on a sample of 1,253 high school students suggests that school belonging is negatively related to the experience of victimisation, regardless of the type of violence (physical, verbal, or relational), with this relationship being strongest with verbal violence (O’Brennan & Furlong, 2010). Certain study findings indicate that close interpersonal relationships, and clear and fair rules of behaviour are potential mechanisms through which the negative relationship between the sense of school belonging and peer violence can be explained (Reaves et al. 2018).

Inequality in the school environment, based on belonging to a certain marginalised group, is associated with a weaker sense of school belonging among students (DeNicolo et al., 2017). When the school represents a context in which a message of respect for all students, regardless of diversity, is sent through interpersonal relations, and the curriculum and educational practices, it is reasonable to assume that students will have a greater sense of belonging. In this sense, the experience of discrimination by adults or peers in the school environment can be considered a factor that negatively affects the development of a sense of school belonging (Gray et al., 2018).

CONCLUSION

A sense of school belonging is considered an important factor for adequate academic and developmental outcomes for young people. Previous research on this construct was predominantly focused on examining its importance in the context of positive development and the prevention of mental health problems, with a certain degree of neglect of the factors and processes underlying it. This approach resulted in the absence of a
clear model of the development of the sense of school belonging, which eliminates the possibility of creating adequate interventions for its improvement, and, consequently, of encouraging positive development and the prevention of student problems.

Based on the findings presented in this review paper, it can be said that the sense of school belonging is a construct whose development is determined by a large number of factors that exist on different levels. In accordance with the basic principles of the adapted Bronfenbrenner’s biopsychosocio-ecological model of school belonging, the research findings confirm the presence of factors at the individual and school (relational and contextual) level, that is, at the individual, microsystem and mesosystem levels. In addition to pointing out the undoubted importance of individual characteristics of students (gender, age, academic motivation, mental health, and personal characteristics) for the development of a sense of belonging to the school, the available literature abounds with inconsistent findings about the nature and strength of their influence. One gets the impression that the greatest attention is paid to the socioemotional competences of students in the context of the interpretation of personal characteristics as a factor in the development of a sense of school belonging.

Contrary to the situation with individual factors influencing the development of a sense of school belonging, the greatest consistency in research findings is present when studying the influence of school relational factors. The undoubted importance of supportive and warm relationships that students have with teachers and other students in fostering a sense of school belonging can be concluded. When it comes to school contextual factors, it can be said that the results are inconsistent, but certain factors whose importance is often confirmed can be singled out. This, first of all, refers to clear rules, fair and just treatment, safety, the absence of strict school disciplinary practices, peer violence, and discrimination.

Observing the summarised empirical findings, it can be concluded that there is a need for the additional study of the factors of the development of the students’ sense of school belonging (especially individual and school contextual factors), which would result in determining their predictive influence, and in defining a conceptual model of action. Such research is important from the practical aspect, because it maps the ‘right’ places for intervention, and provides clear guidelines in the context of applying universal prevention measures and encouraging the positive development of students. The conceptual model of action would target all factors that prove to be significant for the sense of school belonging, and its implementation would imply the involvement of all actors of school life, and systematic action during curricular and extracurricular activities (e.g. various activities aimed at improving the teacher-student and student-student relationship, fostering gratitude, activity-sharing, value-sharing, defining clear rules and consequences for breaking them, consistent reaction to breaking the rules, etc.).
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Factors of a Sense of School Belonging: Bronfenbrenner’s Theoretical Model...


Factors of a Sense of School Belonging: Bronfenbrenner’s Theoretical Model...


ФАКТОРИ ОСЕЋАЈА ПРИПАДНОСТИ ШКОЛИ: БРОНФЕНБРЕНЕРОВ ТЕОРИЈСКИ МОДЕЛ КАО ПОЛАЗНИ ОКВИР ТУМАЧЕЊА

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Резиме

Имајући у виду да један од основних циљева образовања и васпитања подразумева обезбеђивање добробитни и подршке целовитом развоју детета, ученика и одраслог, школа се све више препознаје као место промоције и подстицања позитивног развоја и превенције различитих проблема и тешкоћа. Различити елементи школског окружја сматрају се важним за адекватне развојне исходе код ученика, а осећај припадности учестало се препознаје као један њих. Сходно најшире коришћеној дефиницији, осећај припадности школи је мера у којој се ученици осећају лично прихватаним, поштованим, укљученим и подржаним од стране других у школском окружењу. Овај конструкт смatra se протективним и промотивним фактором који утиче на широк спектар академских и развојних исхода код ученика. Међутим, досадашња истраживачка настојања настовала су претерано фокусирани на испитивање факата и процеса који стоје у његовој основи, те се у литератури идентификовују неувађене у анализи, укљученим и подржаним од стране других у школском окружењу. Овај конструкт сматра се протективним и промотивним фактором који утиче на широк спектар академских и развојних исхода код ученика. Међутим, досадашња истраживачка настојања настовала су претерано фокусирани на испитивање факата и процеса који стоје у његовој основи, те се у литератури идентификовују неувађене у анализи, укљученим и подржаним од стране других у школском окружењу. Овај конструкт сматра се протективним и промотивним фактором који утиче на широк спектар академских и развојних исхода код ученика. Учешће у превенцијским процецама, основни циљ ради је анализи релевантне литература ради идентификовања фактора који доприносе развоју осећаја припадности школи код ученика. Као почетни теоријски оквир анализе коришћен је адаптиран Бронфен...
бренеров био-психо-социо-еколошки модел развоја. Извршена је прегледа следећих електронских библиографских база: Academia.edu, Google Scholar, KoBSON и ScienceDirect. Налази спроведеног прегледа указују да је осећај припадности школи системске природе, те да су шегов развој и интензитет детерминисани вишеструким извештајима, интеракцијама и факторима који уобичајено егзистирају на индивидуалном, школском релационом и контекстуалном нивоу, односно нивоима појединца, микросистема и мезосистема. Иако рад пружа почетне увиде у факторе који доносе развој осећаја припадности школи, неопходна су даља истраживања која ће испитати предиктивно дејство наведених фактора, обезбедити могућност дефинисања јасног модела деловања, те представљати полазну основу за конципирање адекватних интервенција.