

4. ADOLESCENT IDENTITY FORMATION AND THE SCHOOL ENVIRONMENT

INTRODUCTION

Forming an identity that sets a firm foundation for adulthood is the central developmental concern and issue of adolescence. Identity formation is a lifelong development which begins from “the baby’s earliest exchange of smiles” (Erikson, 2008, p. 226). Nevertheless, it significantly emerges to individuals’ consciousness or awareness during adolescence due to some significant physical and psychological changes as well as the emergence of new social expectations from the individuals (Adamson & Lyxell, 1996).

School is among the important contexts within which adolescent identity formation unfolds. Despite a great deal of theoretical discussions and empirical studies in disciplines of psychology and education, little is known about the ways that school environments might support adolescents in their developmental task of identity formation. Similarly, discussions about identity formation during adolescence seem to be missing when designing a new school or refurbishing an existing one. There is a clear knowledge gap about the impacts of school environments on adolescent identity formation and much of the potential of these environments in supporting this developmental task are left untouched.

This chapter presents an interpretation of identity formation that informs creating school environments responsive to this crucial developmental task during adolescence. A school environment was considered in terms of its social, pedagogical, organisational and other key components. Nevertheless, a particular emphasis was placed on the physical component of school environments.

Such insights are expected to contribute to an understanding and awareness of identity formation for educational planners, architects, educators and all others involved in the planning, design and decision making and hopefully creating school environments that support adolescent identity formation.

IDENTITY FORMATION DURING ADOLESCENCE

Identity is a complex phenomenon. Defining identity and the ways that it develops over the course of human life have inspired many researchers for many years. In the literature, different terms such as ‘self’, ‘ego’, ‘identity’, ‘I’ and ‘me’ have been

used interchangeably and there is argument for the distinct nature and definition of each term (Erikson, 1968; Marcia, 1994). It is not within the scope of this chapter to further address these distinctions and depending on the context to mean the same developmental process, the terms ‘identity’, ‘ego identity’ and ‘self-identity’ are used throughout this review.

Erikson was among the first theorists who introduced and elaborated important concepts related to identity in adolescence (Adams & Marshall, 1996; Kroger, 2003). In conceptualising identity, he drew on an early theoretical use of the term ‘identity’ by Sigmund Freud as well as his own clinical experiences with veterans returning from World War II and emotionally disturbed young people. He defined “a sense of identity” as “a subjective sense of an invigorating sameness and continuity.” According to him, a sense of identity is never fully achieved at one stage of an individual life; it is “constantly lost and regained” and a lifelong development. However, identity formation can be considered as the “normative crisis” of adolescence due to the development of “the prerequisites in physiological growth, mental maturation, and social responsibility to experience and pass through the crisis of identity” (Erikson, 1968, pp. 23, 91).

In his conception of identity, Erikson (1968, 1974) considered a significant role for the social context. According to him, identity is shaped by the confluence and interrelation of three elements: (1) an individual’s biological characteristics; (2) psychological needs, interests and defences; and (3) the social and cultural context within which a person resides. Social and cultural contexts support the formation of individuals’ identities by recognising their biological characteristics and psychological needs and providing opportunities for their expression.

James Marcia is another person who is credited for his significant contributions to broadening empirical investigations on identity formation (Adams, 1992). Observing the insufficiency of the dichotomy of “identity versus identity confusion” in Erikson’s conception to capture the variety of styles of identity resolution for different individuals, Marcia (1994) proposed a practical conceptualization of ego identity development, the ego identity status model. The model is composed of four identity statuses of ‘identity achievement’, ‘moratorium’, ‘foreclosure’ and ‘identity diffusion’, which are determined based on the twin criteria of ‘exploration’ and ‘commitment’.

Exploration refers to “the extent to which an individual has genuinely looked at and experimented with alternative direction and beliefs” and commitment refers to “the choice of one among several alternative paths in the different interview domains” (Marcia, 1994, p. 73). Identity achievement, the positive end of the ego identity status model, is in place when an adolescent experienced a period of exploration and made rather firm commitments (Marcia, 1994).

Drawing upon Erikson’s conceptualisation of identity formation and Marcia’s ego identity status model, empirical studies have emerged which identify a number of common factors and experiences involved in adolescent identity formation. Studies conducted by Peter Bloss (1962, 1967, 1979), among others, have made significant

contributions to broadening our understanding of the first crucial experience to be considered here: separation and individuation.

Relational context is the second important factor in identity formation during adolescence. Erikson's emphasis on the role of social context and the necessity of individuals being recognised by the community in the process of identity formation highlights the important role of relational context. In addition, studies on women's identities have also born out the importance of relational context (e.g., Gilligan et al., 1990). Adolescents' identities are not the mere products of separation or individuation, marked by autonomy and independence, or 'intrapersonal dialogue' (Flum & Levi-Yudelevitch, 2008).

Instead, identity formation involves the complex interplay of intrapsychic processes and interpersonal experiences (e.g., Marcia, 1993; Guisinger & Blatt, 1994; Blatt & Blass, 1996). An issue to be noted in relation to the relational context of identity is the significance of providing response and support for adolescents. This is what Josselson (1994, p. 90) describes as the relational dimension of "holding" and suggests that only adolescents who have been supported properly are confident enough "to venture forth into new experience, to risk separation and individuation."

A supportive school environment along with teams, teachers and other trusted adults who provide adolescents with support for exploration of identity alternatives and confirm adolescents' commitments are some embodiments of holding environments (Josselson, 1994; Good & Adams, 2008). Research on adolescent identity formation in the family context (e.g., Cooper et al., 1983; Grotevant & Cooper, 1985; Grotevant & Cooper, 1986; Allen et al., 1994; Berzonsky, 2004; Matheis & Adams, 2004) provide further evidence for the importance of "holding environment." A consistent finding of these studies is that adolescents in families that encourage individuation and a degree of exploration within a warm and supportive relational environment tend to be in identity achievement status (Cooper et al., 1983).

The third crucial experience involved in identity formation during adolescence is psychosocial moratorium. Psychosocial moratorium is a period "during which the individual through free role experimentation may find a niche in some section of his society" (Erikson, 2008, pp. 224–225). During adolescence, individuals are faced with the urgency of making choices and decisions that lead them to a more final self-definition, irreversible role patterns and life-long commitments. It is during this period that societies offer individuals intermediary periods between childhood and adulthood. Defining psychosocial moratorium as "a delay of adult commitments by youth as well as a period of permissiveness by a society to allow young people the exploration time", Kroger (2007, p. 12) regards it as a necessary period if adolescents are to form "deeper and more meaningful psychosocial commitments."

Marcia (1994) goes as far to suggest providing adolescents with an 'exploratory period' as a starting point for intervention with regard to adolescent identity formation. In the context of educational institutions, this exploratory period may involve placing less pressure on students to make firm decisions, offering the possibility of

switching major areas of studies, developing flexible curricular requirements and providing counselling services (Marcia, 1994).

This section aimed to examine identity formation during adolescence by highlighting theories of two leading figures in the field: Erik Erikson and James Marcia. In addition, references were made to the empirical studies of identity formation in order to address some of the influential experiences and factors determining how identities are evolved and developed during adolescence. The next section places the discussion in the context of schools and focuses on the issues and factors associated with education of adolescents for identity formation processes.

ADOLESCENT IDENTITY FORMATION IN THE SCHOOL CONTEXT

School is an important context within which adolescent identity formation is shaped and influenced. The significant amount of time that adolescents spend in school is a basic reason for the importance of schools in identity formation. In addition, adolescents are engaged in activities and programs in schools that can help them discover their abilities and interests and further develop them.

A considerable part of adolescents' social interactions and interpersonal relationships, in particular with peers, are also formed in schools. In that sense, schools can become arenas for exploration and socialisation where young people experiment with different roles, values and relationships. This is particularly the case for many adolescents living in poor and working class urban communities and deprived of enough opportunities for exploration outside schools (Nakkula, 2003). In schools, adolescents are confronted with the necessity of making decisions or selecting pathways for such issues as career directions, gender orientations, life values and attitudes for the future.

Choices and decisions made in schools are affirmative of adolescents' identities and can facilitate the emergence of commitments which is the first sign of identity achievement (Lannegrand-Willems & Bosma, 2006). Referring to some of these reasons, Kroger (2007) argues that factors such as general school structure and climate, alongside interactions with teachers and peers all provide social and emotional experiences with possible long-term implications for identity.

Only a few empirical studies have investigated the ways that school context might influence identity formation processes during adolescence. In one study Lannegrand-Willems and Bosma (2006) examined the impact of school climate on identity formation in three high schools which were different in terms of students' socioeconomic backgrounds. Their findings suggested that impacts of context in the three schools became stronger as the school year progressed and the level of students' identity exploration and commitment was higher in the school with students from higher socioeconomic backgrounds. The study does not provide a clear image of factors and variables in the schools that support adolescent identity formation.

Nevertheless, by identifying a confluence of students' socioeconomic background and the impacts of schools on identity formation, the study highlights the complicated process through which schools might support or deter adolescent identity formation. In another study, Roker and Banks (1993) examined the effect of school structure on identity formation of adolescent girls who were attending both private and state schools. Their findings showed a significantly greater number of girls attending private schools in foreclosure status compared to those attending state schools who tended to be in moratorium and identity achievement statuses.

The authors argued that the homogenous environment of the private school that exposed students to few ideological viewpoints along with the pressure on students to make decisions about career plans might account for a higher number of foreclosed adolescents. On the contrary, adolescent girls in the state school were exposed to a greater range of different ideological viewpoints and belief systems, a context that facilitates exploration of alternatives and making commitments (Roker & Banks, 1993). This study provides evidence for the role of school environments in facilitating or preventing adolescents' exploration of different alternatives.

Two other studies of identity formation in the context of college and universities are relevant to this review. Adams and Fitch (1983) studied possible psychological environment effects on identity status and ego stage development of university students. They found that educational institutions promoting a supportive intellectual environment while offering critical and analytic awareness of societal issues facilitate identity development through creating conditions for "exploring and broadening one's perspective."

In a similar study, Adams et al. (2000) examined the impacts of family and educational environments on university students' identity formation and ego strength. Their findings suggested that supportive educational environments and democratic families positively correlate with ego strength and facilitate identity formation during the college or university experience. In other words, support systems embodied in democratic family environments and supportive educational environments help "adolescents feel comfortable to more fully explore their identity options" without being "pressured to adhere to certain values by the school or from their parents" (Adams & Palijan, 2004, p. 240).

A review of the existing studies of adolescent identity formation provides insights into the complex interrelationships of factors and contexts influencing this developmental process in educational environments. For example, a school environment may prove less effective if the policies, educational philosophies and teaching practices merely provide alternatives or choices for adolescents' identity exploration and fail to pay attention to the role of relational contexts. It is equally important that the relational contexts within and outside a school provide necessary support, guidance and affirmation for adolescents to explore and make free choices and commitments. It is essential to take into account the complex interrelationships of factors when examining the implications of adolescent identity formation for schooling.

SCHOOLING FOR ADOLESCENT IDENTITY FORMATION

In the discipline of education, there have been efforts to better understand attributes of different learning environments and activities in middle- and high- schools which are based on adolescents' developmental needs and characteristics (Phelan et al., 1998). Only a few studies examined the implications of identity formation for schooling. Even in this sparse body of research on schooling for identity formation, more concrete outcomes, contents and constructs associated with identity formation processes such as self-esteem, self-concept, social and emotional well-being were the study focus. This section summarises some of the implications of identity formation for education of adolescents which have been identified within existing educational research.

Building upon Erikson's (1968) emphasis on the experience of "psychosocial moratorium" as a determinant of an optimal identity development by the passage through adolescence, some educational researchers have considered 'creating opportunities for exploring diverse values, roles and relationships' as one main concern of schooling for adolescent identity formation. Nakkula (2003, p. 12) regards multiple possibilities for exploration as a way to help adolescents "redirect their investment of mental or psychic energy" and by doing so increase their options for healthy development. Similarly, Dreyer (1994) argues that educational environments that stimulate exploration and commitment encourage adolescent identity formation.

Outlining some characteristics of an "identity-enhancing curriculum," he suggests that providing opportunities for exploration of alternatives in such areas of life as occupation, religion and politics is one way that curriculum can promote identity achievement (Dreyer, 1994). In creating possibilities for exploration in schools, special attention needs to be paid to providing real-world work experiences for adolescents. According to Cooper (1998), a characteristic of schools which foster identity formation experiences is that they provide adolescent students with real-world work experiences, internships and mentoring programs for career decisions.

Vocational directions and career choices form an important domain of adolescent identity formation and inability to make commitments in the realm of occupational identity is what disturbs most adolescents (Erikson, 1968).

Educational research also suggests 'relationship building' as another important factor with a significant role in promoting adolescent identity formation in schools. Nakkula (2003) views fostering connectedness to school and engaging adolescent students as the key to identity development in school. This requires teachers and other supportive adults in schools who develop caring and compassionate relationships with their adolescent students and in turn foster students' relationship to learning (Nakkula, 2003).

Similarly, Dreyer (1994) points out the importance of teachers' building supportive relationship with their students. Multiplicity of social roles in adolescence brings both opportunities for growth and developing identity as well as confusion and loss of identity. Hence, maintaining consistency across roles is the main challenge

for adolescents. One way by which school can contribute to the role continuity in adolescents is through caring and compassionate responses from teachers who take the time to know each student as “a whole person with a complex life and dreams that extend far beyond the classroom” (Dreyer, 1994, p. 132). Other researchers also referred to development of meaningful and trusting relationships with adolescent students as a dimension of teachers’ responsibility with regard to supporting students’ connection to the identities of their families, communities and peers (e.g., Stanton-Salazar, 1997; Phelan et al., 1998).

An important arena within which relationship building can be developed and encouraged is school-based extracurricular programs. These programs help adolescents to connect to the world in different ways and experience meaningful relationships with peers and adults. Drawing on an extensive literature review, Feldman and Matjasko (2005, p. 161) state that participation in extracurricular activities is “a means to express and explore one’s identity, generate social and human capital, and offer a challenging setting outside of academics.”

Cotterell (2007) views relationship building and creating relational connectedness as essential elements of a school’s support system that contributes to adolescent identity formation. Creating a connection support structure starts with addressing the question of how the school presents itself to the outsider, which has to do with the impression that the school offers to newcomer students and begins with questions of “what is the school like? is it a friendly place? do the teachers care about their students? will I be happy here?” (Cotterell, 2007, p. 200). In addition, support should be integrated within the school culture rather than merely enacting through specific programs and activities. According to Cotterell (2007), this type of support in schools is reflected in the concept of a “supportive school environment” which is best captured in Mcmillan and Chavis (1986)’s statement on a “sense of community”:

Strong communities are those that offer their members positive ways to interact, important events to share and ways to resolve them positively, opportunities to honour members, opportunities to invest in the community, and opportunities to experience a spiritual bond among members. (McMillan & Chavis, 1986, p. 14)

De-institutionalising schools, humanizing curriculum, maintaining connections between the school and its constituency and ensuring accessibility of staff for students are among the factors that help in creating a supportive school environment, Cotterell (2007) maintains. Of paramount significance in this discussion about developing a connection support structure in schools is his reference to some of the implications of these factors for the physical environments of schools.

He elaborates de-institutionalizing schools as “establishing an environment that emphasizes the human aspects of organization” which has to do with managing time and space by the school in a way that students’ experiences can be enriched (Cotterell, 2007, pp. 221–222). Provision of ample sized and appropriately located spaces for students to socialize and hang out in break time is a step towards the space management that can enrich students’ experiences. Along with planning

social events, provision of appropriate physical settings is also suggested as a way to increase the opportunity for informal interactions among students and teachers. Finally, the proximity of teacher common rooms to the student learning spaces is referred as a factor to ensure accessibility of teachers and school staff for students (Cotterell, 2007).

In addition to ‘creating opportunities for exploring diverse values, roles and relationships’ and ‘relationship building’ which play important role in identity formation in schools, two teaching approaches were suggested to have impacts on this developmental task of adolescence: community service learning and cooperative learning. Involvement in community service learning activities in schools fosters more relevant and meaningful learning, increases adolescents’ social awareness and by allowing them to explore identity alternatives supports their identity development (e.g., Youniss & Yates, 1997; Woolfolk Hoy et al., 2001; Adams & Palijan, 2004).

Drawing on the findings of their studies on adolescents participating in a year-long service learning program, Yates and Youniss (1998, 1999) argue that community service learning, through closing the gap between schools and the communities outside, provides positive identity-defining experiences for adolescents. The significance of cooperative learning for identity formation appears to be linked to its impacts on the relational dimension of identity formation. Slavin (1995) points out that cooperative learning supports interracial friendships, prejudice reduction, acceptance of disabled students, self-esteem, peer support for academic goals, altruism, empathy, social perspective-taking, liking fellow classmates and feeling liked.

Educational research concerning the ways that learning environments and curricula can be structured to support identity development provides insights into the implications of adolescent identity formation for schooling. Two common factors identified include: (1) providing opportunities for exploration of identity alternatives; and (2) encouraging relationship building and a supportive school culture. An important point that should be noted is the interrelationship among these factors. It is in the context of relational connectedness and belonging to a social group that adolescents are offered a secure base for exploration of identity alternatives and making meaningful commitments (Cotterell, 1996).

CHARACTERISTICS OF SCHOOLS THAT SUPPORT ADOLESCENT IDENTITY FORMATION

Reviewing existing research and empirical studies (See Table 1 for a summary of this), two characteristics of school environments that support adolescent identity formation can be proposed which are further elaborated in this section:

- i) They are supportive addressing adolescents’ individuation and social integration needs; and
- ii) They offer adolescents opportunities for developmental exploration.

Table 1. A summary of literature review on adolescents' identity formation and educational research examining the implications of this developmental process for schooling – Author

	<i>Common themes and findings</i>	
	<i>Key factors</i>	<i>Related issues</i>
Adolescents' identity formation process	Separation or Individuation Relational connectedness Psychosocial moratorium	Support
Implication of adolescents' identity formation process for schooling	Possibilities for exploration of identity alternatives Relational connectedness A supportive school culture	Choices in curriculum Real-world work experiences Extracurricular programs Cooperative learning Community service learning

A Supportive School Environment Addressing Adolescents' Individuation and Social Integration Needs

In a supportive school environment that individuation needs are addressed, every adolescent student feels known and valued as an autonomous and independent member of the school community. A supportive school environment also provides for adolescents' social integration needs. At a basic level, this has to do with encouraging social interactions and encounters.

At a more profound level, social integration needs can be addressed through developing a supportive community where all students, teachers and other school staff are included and connected. An important attribute of such a supportive community has to do with adolescent students' perception of availability and accessibility of teachers and other school staff support. In addition, cooperative learning which has considerable social benefits is also practiced in such a school environment.

Another attribute of a school with a supportive environment addressing individuation and social integration needs is 'smallness'. Considering identity formation as "a product of the individual interface with the society," Josselson (1994, p. 22) defines two forms of interventions for identity formation: individual-level intervention and social intervention. She considers the attempt to reform social institutions as one form of social intervention and suggests reducing classroom size and faculty teaching loads as one aspect of this reform in the context of schools. This intervention in the institutional level creates "conditions where students can get

to know new (and perhaps admired) others in unpressured circumstances and learn about possibilities for being and doing in a way that can make some personal sense to them” (Josselson, 1994, p. 24). Findings of studies on ‘school and classroom size’ provide support for the proposition that smallness of school and classroom support adolescent students’ needs for individuation and social integration (Barker & Gump, 1964; Cotton, 1996).

Literature on school size suggests increases in student performance, a more positive school climate, a more personalised learning environment, more collegial cooperation for teachers, greater parent involvement and satisfaction and cost efficiency as among the advantages of ‘smallness’ (Association for Middle Level Education (AMLE), 2004). A common finding of the studies that examine the relationship between school size and self-concept (e.g., Grabe, 1981; Foster & Martinez, 1985; Rutter, 1988; Stockard & Mayberry, 1992) is that small schools have positive impacts on both personal and academic self-regard. Similarly, the findings of the studies that explore the impact of size on the interpersonal climate in schools (e.g., Burke, 1987; Smith & Gregory, 1987; Fowler & Walberg, 1991; Kershaw & Blank, 1993), mainly focused in terms of “elements such as relations among students and between students and teachers, especially teacher attention and demonstrations of caring toward students,” show positive correlations between small schools and favourable interpersonal relations (Cotton, 1996).

Nevertheless, research demonstrates that smallness “does not automatically guarantee school success” and by itself does not account for positive social consequences and academic-related benefits. Small schools have the potential for providing meaningful and personalised relationships between students and adults. It is the ‘personalised school environment’ that contributes to these positive effects and “personalization is the key for the creation of healthy and positive small communities of learning” (Conchas & Rodriguez, 2008, pp. 117–118).

Opportunities for Developmental Exploration

The essence of offering opportunities for developmental exploration has to do with supporting adolescents to experiment with various social roles and values, try out diverse activities and programs and explore different interpersonal relationships. At a primary level, creating opportunities for developmental exploration to support adolescent identity formation should be addressed within a school curriculum as well as school-based structured extracurricular and leisure activities. The school curriculum should provide adolescent students with choices which may take various forms.

Choices may be in terms of subject areas that students take on, approaches to learning and the ways that students demonstrate their understanding and learning. Given the importance of making commitments in the realm of occupation (Erikson, 1968), providing adolescents with exploratory opportunities with regard to occupation and future career needs to be emphasized. One way to do so is for schools to offer adolescents real-world work experiences through promoting

the links with industry and businesses. At a broader level, connection to the world outside school can be regarded as a key factor that expands the scope of opportunities for adolescents' developmental exploration. In that sense, schools' learning environments should not be confined by its physical boundaries. Instead, school environments should be connected to the world and broader societies. Connections to the world beyond the confines of a school may take the forms of physical links and partnerships.

These connections may also become possible by mean of using Information and Communication Technologies (ICTs). ICTs have the potentialities to open up new learning opportunities. In addition to being creative tools to actively engage students in learning activities, providing access to enormous amount of information, facilitating personalised learning and distant assessment, ICTs allow students to have 'virtual' practical experience where practical activities may be expensive or even dangerous.

ADOLESCENT IDENTITY FORMATION IN THE CONTEXT OF AUSTRALIAN SCHOOLING

Four case studies are briefly presented here in order to provide insights into the implications of adolescent identity formation for the design of physical spaces of schools in the context of Australian secondary education. These case studies are schools within which some of the educational strategies and design-related implications identified from the literature review are manifested. A summary of educational philosophies, design principles and responses in these four case study schools which can be considered as contributing to adolescent identity formation is presented in Table 2.

Australian Science and Math School (ASMS)

In the ASMS, the concept of smallness was implemented through open plan and offering students the freedom to move around and having a degree of control over spaces. Except for a number of specialised spaces, service spaces and administrative areas, the general learning spaces are loosely defined open spaces shared by tutor groups. The groups meet for forty minutes at the start of the day in their assigned areas but do not necessarily spend much other time there. Students' lockers are designed on wheels to be moved around and placed where their tutor groups frequent. Open plan also facilitates accessibility of teachers and fosters students' perception of availability of support, if they need it. See Figures 1 and 2.

Canning Vale College (CVC)

In CVC, "learning neighbourhoods" were designed to support the concept of smallness and create a chance for student groups to occupy certain space and have



Figure 1. A learning common with loosely defined home bases for tutor groups



Figure 2. A teachers' preparation area which is open to a learning common

ownership over these spaces. A learning neighbourhood is an open space shared by four student cohorts that take over a certain corner of the space and also collaborate with each other. The two learning neighbourhoods are in two levels of a relatively self-contained building called a “learning community” and share a number of spaces such as teachers’ offices and general purpose studios. A sense of community and social integration were further addressed through creating social gathering spaces for the whole school (refer Figures 3 and 4).



Figure 3. A social gathering space created by widening the staircase and spacing out steps



Figure 4. A learning neighbourhood

Mindarie Senior College (MSC)

In MSC, the atrium space is the central hub and social heart of the school. Among the features of this space are being spacious, enjoying good natural light and views to external courtyard and having adequate seating areas are. In addition to the central location of the space, which makes every school member having to pass it a number

of times each day, a lot of social activities and events happen in this space which facilitate building relationships and promote a sense of community. Another social space of the school, the café, is adjacent to the resource centre and enjoys a strong inside-outside connection. Refer Figures 5 and 6.

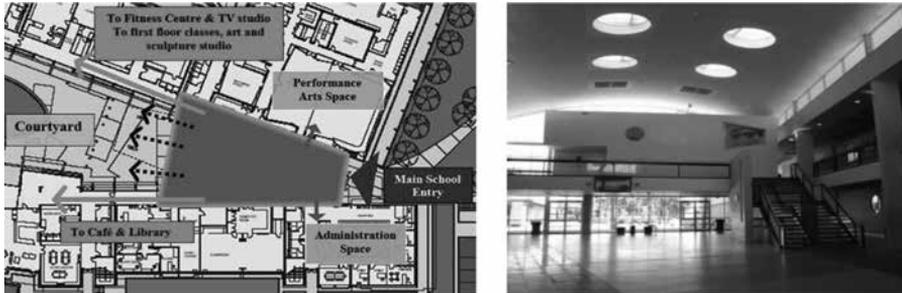


Figure 5. The atrium space as the social heart and central hub of the school



Figure 6. The school café with a strong connection to outdoor spaces supporting students' privacy needs

Reece Community High School (RCHS)

In RCHS, outdoor spaces and covered walkways act as a form of social spaces contributing to students' privacy and personalisation needs. Among features of these outdoor spaces which may account for their popularity among students, as evidenced by a walk-through observation during the break time, are having the feeling of being among a group of students, being involved in some types of activities and keeping an eye on what other students are doing. These covered walkways are structured in a simple and easily readable way, which allows for spontaneous interactions among adolescent students to happen. Refer Figure 7.



Figure 7. The covered walkways connecting building blocks as a form of social spaces – Left: Modified by the author on a plan obtained from the school information brochure

IMPLICATIONS OF ADOLESCENT IDENTITY FORMATION FOR SCHOOL DESIGN

Integrating the findings from the literature review and the exploration of four case study schools, five design principles are proposed which can contribute to adolescent identity formation through supporting the two characteristics of ‘schools as supportive environments addressing individuation and social integration’ and ‘schools as contexts offering opportunities for developmental exploration’.

Downsizing Schools / Design to Support the Idea of Smallness

There is no general agreement about how many students and teachers would make a small group. However, this does not affect the design principle of downsizing schools. The point here is considering the ways through which design supports the idea of smallness of school size. The research and practice of school design suggest a number of design-related strategies that contribute to downsizing schools including “clusters of classrooms” (Moore & Lackney, 1995) and “schools-within-a-school” (Brubaker et al., 1998; Davies, 2005).

A common theme emerged from case studies was “fostering ownership and belongingness to a particular space” as a guiding design principle to contribute to the idea of smallness. Two design responses to this principle include designing: (1) a cluster of classroom spaces that can be opened up to each other; and (2) an open space within which a number of class group spaces are loosely defined.

Designing Social Spaces

Social spaces were found to play a significant role in some of the processes involved in adolescent identity formation. The importance of social spaces in schools is linked to the relational dimension of identity development and encouraging

Table 2. Educational philosophy, design principles and responses in four case study schools contributing to adolescent identity formation (as specified in school year of 2008)

	<i>Educational philosophy</i>	<i>Design principles</i>	<i>Design responses</i>
ASMS	<p>Providing personalised learning</p> <p>Maximising learning choices</p> <p>Encouraging social and collaborative learning</p> <p>Connecting students to the world outside</p>	<p>Spaces for theory, practice and social learning</p> <p>Student-centred spaces</p> <p>Integration of ICTs into spaces</p>	<p>“Learning commons” and “learning studios”</p> <p>Openness and transparency between spaces</p> <p>Maximising accessibility of teachers’ preparation areas through openness</p>
CVC	<p>Developing the environment, structure and curriculum which support students’ exploration</p> <p>Creating a variety of opportunities for formal and informal learning inside and outside the school</p> <p>Fostering within students a sense of ownership and belonging to the school community</p>	<p>Flexible spaces to allow users a degree of customization</p> <p>Breaking down scale and organization of the facility to foster a sense of belonging</p>	<p>Moveable walls to maximise flexibility of spaces</p> <p>Large classroom spaces to enable uses for a range of teaching and learning styles</p> <p>Learning neighbourhoods</p> <p>Social and gathering spaces in circulation areas</p> <p>Indoor nooks with soft seating</p>
MSC	<p>Supporting students to move towards increased independence</p> <p>Encouraging students to establish supportive relationships</p> <p>Developing connections to the local community</p> <p>Promoting cross fertilization of ideas across the curriculum</p>	<p>Welcoming learning environments</p> <p>Flexible design to promote flexible learning styles and teaching approaches</p> <p>Centralized building to house different specialist faculties instead of separate building blocks</p>	<p>A variety of social spaces inside and outside the buildings</p> <p>Creative use of circulation spaces for individual and small group learning</p> <p>Learning spaces which can be separated or opened up to be used flexibly</p>
RCHS	<p>Providing personalised learning</p> <p>Encouraging independent learning skills</p> <p>Developing connections to the local community</p> <p>Fostering within students a sense of belonging to the school community</p> <p>Building powerful relationships among students and teachers</p>	<p>Design incorporating diversity & flexibility</p> <p>Attractive, safe and secure spaces for formal and informal learning</p> <p>Seamless provision of ICTs</p>	<p>Multiple teaching and learning spaces of various sizes</p> <p>Use of operable walls to maximise flexibility of spaces</p> <p>Principal learning areas in middle school as students’ home bases</p> <p>Personal workstations in the senior school</p>

exploration in the realm of relationships. Social spaces might be created in different scales ranging from a small corner of a common space shared by some classrooms to a large atrium space in the heart of a school building. They may also take different forms accommodating informal and formal gatherings of individuals.

Creating social spaces in schools do not necessarily require complex design. For example, a social space may simply be defined in a corner of an open learning space by placing comfortable couches. An important consideration with regard to the design of social spaces in a school has to do with the development of a clear understanding and knowledge of the school context, students' specific needs, social and cultural backgrounds as well as attributes and needs of the local community.

Maximising Flexibility

Educational trends, the needs of schools and communities, the demands of societies and above all interests and abilities of student cohorts change over time. Spaces need to keep pace with these changes if it is to support the changing and emerging choices and pathways offered by schools. Flexibility or design of flexible spaces is suggested as a response to this challenge. Two main approaches to flexibility include achieving flexibility through: (1) a variety of spaces; and (2) a "changing" space or a space capable of being turned into different spaces. Two design-related strategies relevant to either of these two approaches to flexibility are "maximising openness of spaces" and "reducing the number of fixed architectural elements and furniture."

Addressing Considerations for Design and Arrangement of Furniture

The significance of school furniture for adolescent identity formation was found to be particularly relevant to the characteristic of 'a supportive school environment'. Furniture is an important factor that has impacts on meeting students' privacy and personalisation needs, social interactions and cooperative learning in schools. With regard to the characteristic of "offering opportunities for developmental exploration," school furniture can contribute to the integration of technologies into spaces and hence facilitating virtual connection of schools to the world outside. The findings suggest three main qualities for school furniture to support adolescent identity formation including: (1) moveability; (2) appropriate size i.e. being modular; and (3) simplicity of form.

Promoting Transparency

Transparency facilitates giving adolescent students opportunities to enact their independence and autonomy. The issue of duty of care and supervision may account for compromising adolescent students' privacy needs of spending time alone or with their groups of peers in schools. Transparency between spaces allows for passive

surveillance to occur and hence students can be given opportunities to be on their own while the school staff and teachers are keeping an eye on them all the time. Transparency between spaces also supports adolescent students' needs for social integration through maintaining visual relations, a design-related strategy which can contribute to the quality of schools as social environments (Hertzberger, 2008).

CONCLUDING REMARKS

Identity formation is an influential issue significantly influencing adolescents' lives and schools play a major role in shaping and reshaping adolescent students' identities. A great deal of research in disciplines of psychology on identity formation confirms that this as an important issue for adolescents and has uncovered significant aspects of this developmental process and factors involved and their interrelationships. In addition, there have been efforts within the realm of education to examine its implications for schooling. Nevertheless, little is known about the contributions of school environments to adolescent identity formation.

The review outlined in this chapter was mainly carried out to begin to fill this knowledge gap and identify some potential areas for further and future inquiries. The review of theories of adolescent identity formation and educational research exploring its implications for schooling provided important insights into the characteristics of school environments which contribute to this developmental task of adolescence.

This review identified that school environments responsive to adolescent identity formation have two key characteristics: *they are supportive addressing adolescents' individuation and social integration needs*; and *they offer adolescents opportunities for developmental exploration*. Some of the key terms which can describe these characteristics are empowering, social, supportive, cooperative, small and personalised, accommodating of choices, connected and technology-rich, which relate to broad issues and concepts (See Table 3 for a summary of characteristics of school environments responsive to adolescent identity formation).

Future inquiries need to closely examine the two key characteristics and their descriptive terms to cast light into ways of translating them into the language of physical environment design and their impacts on adolescent identity formation. Considering the five overarching design principles identified in the course of this study is the very first step in an attempt to support adolescent identity formation in schools through the design of physical spaces. Depending on schools, the contexts in which they are situated, their people and the processes involved, there might be numerous ways to respond to these design principles.

One may start from examining the ways that the physical environments of schools might support adolescent students' independence and autonomy. Another potential area for research is in relation to the impacts and contributions of physical environments to encouraging social interactions and fostering a sense of community in schools. The role of technologies and how they could be integrated into physical

Table 3. A summary of some of the key words that describe the two characteristics of school environments responsive to adolescent identity formation – Author

School environments responsive to adolescent identity formation are ...

EMPOWERING	Every adolescent student feels known and valued as an autonomous and independent individual.
SOCIAL	Social interactions and encounters are encouraged. A sense of community among school members is fostered. This means that students, teachers and other staff feel that they are part of the school as a community.
SUPPORTIVE	Students perceive accessibility of teachers and other school staff support.
COOPERATIVE	Cooperation among students and teachers is encouraged.
SMALL & PERSONALISED	The school benefits from advantages of ‘smallness’ of the size of school or classroom.
ACCOMMODATING OF CHOICES	Provision of choices in a school curriculum and the school-based structured extracurricular activities are supported.
CONNECTED	Schools’ connections to their local communities, other schools and universities, industries and business as well as museums and libraries are promoted.
TECHNOLOGY-RICH	Integration of Information and Communication Technologies (ICTs) into school environments is encouraged.

environments to facilitate schools’ connections to the world outside and broaden explorational opportunities needs to be investigated.

Another influential area of future research has also to do with the ways that physical environments can meet the demands of schools’ curricula and accommodate choices provided in them. In the planning and design of physical environments of schools, there is significant potential to contribute to the development of a supportive learning community. For example, future research in this regard may examine the ways that teachers’ preparation areas and offices can be designed and located within a school to foster students’ perception of support.

It is of paramount importance for school principals and leadership teams, educational planners, architects and all those others involved in the planning and development of new school environments or renovating and upgrading existing ones to acknowledge the crucial role of schools in supporting adolescent identity formation and address this issue alongside pedagogical, organisational, technical, financial and other key issues. Addressing adolescent identity formation in any school development can only be fully achieved when a firm and robust research base exists to guide intervention strategies and improvement efforts.

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