



Jarvis, P., Newman, S., & Swiniarski, L. (2014). On 'becoming social': The importance of collaborative free play in childhood. *International Journal of Play*, 3(1), 53-68.
<https://doi.org/10.1080/21594937.2013.863440>

Document version
Peer reviewed version

Copyright information

This document is made available in accordance with publisher policies. Please cite only the published version using the reference above.

Unless a licence is specified above, all rights (including copyright and moral rights) in this document are retained by the authors and/or the copyright holders. The express permission of the copyright holder must be obtained for any use of this material other than for purposes permitted by law.

Takedown policy

Any individual, whether within or external to the University, has the right to request the removal of content from the Leeds Trinity University Repository, on the grounds that it breaches copyright, is in any other way unlawful, or represents research misconduct.

Complaints can be submitted via the Repository Complaints Form at
<https://www.leedstrinity.ac.uk/media/site-assets/documents/key-documents/pdfs/repository-complaints-form.pdf>

On ‘becoming social’: the importance of collaborative free play in childhood

Pam Jarvis^{a*}, Stephen Newman^b and Louise Swiniarski^c

^aSchool of Children, Young People and Families, Leeds Trinity University, Leeds, UK

^bSchool of Education and Childhood, Leeds Metropolitan University, Leeds, UK

^cFaculty of Education, Salem State University, Salem MA, USA

* Corresponding author. Email: pamannj@gmail.com

Notes on contributors

Dr Pam Jarvis is a graduate psychologist, social scientist and educational researcher. She is currently working as a Senior Lecturer in the school of Children, Young People and Families at Leeds Trinity University and as an Open University tutor, supporting education and child development students on a wide range of programmes at undergraduate and master’s level. She was awarded a PhD by Leeds Metropolitan University in 2005 for her thesis 'The role of rough and tumble play in children's social and gender role development in the early years of primary school'.

Dr Stephen Newman has experience of teaching in secondary and higher education, and has qualified teacher status. He is currently Senior Lecturer in Education & Continuing Professional Development in the School of Education and Childhood at Leeds Metropolitan University, and Course Leader for the MA in Leadership and Management in Education. He was awarded a PhD by The University of Sheffield in 1997 for his thesis on Schön, teacher education and professional development, which was subsequently published.

Dr Louise Swiniarski, Professor of Education at Salem State University in Massachusetts, has been a Visiting Professor at Leeds Metropolitan University and a Visiting Practitioner at Harvard University's Principals' Center. She presents at conferences worldwide on global education, early childhood, and on an American educator, Elizabeth Peabody. She is a recipient of many awards including the International Research Scholarship for International Scholars from the government of Finland. As an author of professional books, book chapters, editorials, and articles, she serves on the editorial board of the *Early Childhood Education Journal* and is editing a publication on world class early education.

On ‘becoming social’: the importance of collaborative free play in childhood

There is increasing concern about declining mental health amongst children in the UK and the US. Evolutionary and anthropological theorists have begun to build a theory linking this situation to decreasing opportunities to engage in free play. This paper will explore typical contexts for children in these nations, concluding that a range of recently emerging environments have decreased opportunities for collaborative peer free play and ‘discovery’ activities for the current generation. We will draw the theoretical analysis from a broad area of research encompassing psychology, anthropology, education, sociology, marketing, and philosophy to offer a new blend of practical and theoretical perspectives that may shed further light upon this topic.

Keywords: collaborative free play; evolution; children’s well-being; discovery learning; education; human primate

Introduction: Collaborative free play and childhood

Human infants are born at a much earlier point in their neuronal development than their nearest primate relatives, and are equipped by nature to build a substantial number of neuronal connections in response to the physical and social environment. Human beings evolved within the environmental niche of a hunter-gatherer, but our cognitive flexibility and consequent technological innovation have led us to a succession of new ways to structure our societies, with the initial innovations occurring around permanent settlements that replaced a nomadic existence, approximately 10,000 years ago. In evolutionary terms, 10,000 years is insufficient time for any major change to have occurred in the evolved physiology and psychology of a species with the life-span of a human being. Whilst there have been some minor environment-driven changes in the

current human species ‘Homo Sapiens’ at the ethnic level over this period (for example dietary tolerances and disease immunities), the phenomenon of play in the developmental period is far more deeply embedded in time within many evolutionary layers, those of the evolutionary class (mammalian), order (primate), and species (human). Many anthropologists and evolutionary psychologists propose that play has an important role in enabling children, in common with other, albeit less cognitively flexible mammalian young, to become more competent and confident. Lancy argues that ‘play is a cultural universal. Children are observed playing in every society studied by anthropologists’ (Lancy, 2007, p. 274), and Bjorklund and Pellegrini write:

The ubiquity of play in juveniles’ lives has led many scholars to assume that play serves a very important developmental function. For example, some scholars have listed over 30 possible functions of play (Bjorklund and Pellegrini, 2000, p. 1693).

It can thus be posited that *homo sapiens* (the man who knows) can only fully develop through *homo ludens* (the man who plays) (Huizinga, 1949).

However, sweeping societal changes have recently been driven by the advent of industrial/post-industrial urban environments, greatly altering the conditions in which we raise young human beings. In his essay ‘The decline of play and the rise of psychopathology in children and adolescents’, Gray (2011) argues for a causal link between these two issues:

Over the past half century or so, in the United States and in some other developed nations, opportunities for children to play, especially to play outdoors with other children, have continually declined. Over this same period, measures of psychopathology in children and adolescents—including indices of anxiety, depression, feelings of helplessness, and narcissism—have continually increased (Gray, 2011, p. 443).

Here, in agreement with Gray (2011; 2012), we argue that a variety of cultural changes in contemporary Anglo-American society have unfolded over the past half-century, gaining speed and momentum over the latter half of this period, resulting in rapidly decreasing opportunities for children to engage in free play and ‘discovery’ activities, and that a range of correlational evidence is beginning to point to a particular set of effects, the majority of which cannot be studied in a ‘cause and effect’ manner due to the impossibility of variable and ethical control. This paper will explore a range of research in the arenas of psychology, anthropology, education, sociology, marketing and philosophy that may shed some light on why these changes are important.

A range of concerns relating to children’s and adolescents’ behavioural and emotional problems, and mental illness amongst this demographic group, have been carefully traced by Collishaw, Maughan, Goodman, and Pickles (2004). The extent of the issue can be considered in different ways. One approach is to consider the numbers involved as a percentage of the relevant population; another is to consider the trends. The picture that emerges is complex. In Great Britain, a survey carried out in 2004 by the Office for National Statistics on behalf of the Department of Health and the Scottish Executive, concluded that ‘one in ten children and young people ... aged 5 to 16 ... had a clinically diagnosed mental disorder’ (Office for National Statistics, 2005, p. 24), noting that there had been no overall change in this proportion since the previous study in 1999 (Office for National Statistics, 2005, p.xxi). In a different study, which was commissioned to further investigate a proposed ‘lack of well-being’ in British children initially raised by UNICEF (2007), The Children’s Society report posited a link between mental health and children’s’ experiences, obliquely concluding that, ‘if mental health difficulties have increased, it must be because the quality of children’s experience has deteriorated’ (Layard and Dunn, 2009, p. 116). More recently, The Children’s Society

and the University of York conducted research, as a result of which they estimated that about ‘half a million children in the UK in the eight to 15 age range have low well-being at any point in time’ (The Children’s Society, 2012, p. 5), a phrase they use to indicate deep-rooted unhappiness.

Yet the evidence of trends is not conclusive. In 2008, Maughan, Collishaw and Goodman (on this occasion, with Meltzer) revisited their original study and found that there had been some signs of a plateau, or possibly even a slight reversal, in the trends that they had originally identified (Maughan, Collishaw, Meltzer, and Goodman, 2008). Their evidence was mixed; parents and teachers proposing that there had been a slight improvement in pro-social behaviours from children, but that there had been no similar change in emotional difficulties, peer problems, conduct problems and hyperactivity. This is a dichotomous finding, indicating that the change in outwardly expressed behaviour no longer entirely fits the underlying issues. It is possible that adults are engaging in more conscious ‘coaching’ relating to children’s social and emotional expressions in response to formal school-based initiatives such as ‘New Labour’s’ SEAL (Social and Emotional Aspects of Learning) (Department for Education and Skills, 2005) which has had some impact on behaviours which occur directly under the adult eye. However, this is entirely speculative and, as the researchers conclude, ‘further data-points are needed to test whether, as in the US, this plateau signals the beginning of a more general decline’ (Maughan et al., 2008, p. 310).

In 2013 UNICEF also renewed its exploration of children’s sense of well-being in rich European nations, and found the UK in 16th place, still well behind the Scandinavian nations and all the Northern European nations apart from Austria, which ranked in 18th place. The United States was ranked in 26th place, with only Lithuania, Latvia and Romania respectively filling the three places behind (UNICEF, 2013). The

UK emerged with some very clear indicators of childhood stress still firmly in place; for example, high alcohol-abuse rates in young people aged between eleven and fifteen, and a low rate of further education take-up which, UNICEF suggested, may be due to a narrow emphasis on academic achievement during the school years.

Elkind (2007) proposed that, in the United States, stress and despair results from contemporary US children's experience of being 'hurried' through childhood by busy, stressed adults, resulting, he theorised, in a dwindling sense of mental 'wellness' in American society. Twenge (2000, p. 1018) reported that, in the US, 'self-reports of anxiety have risen by about a standard deviation between the 1950s and the 1990s' and that 'anxiety is so high now that normal samples from the 1980s outscore psychiatric populations from the 1950s'. She concluded that societal factors, namely 'low social connectedness and high environmental threat' were the underlying culprits, adding her hypothesis that 'until people feel both safe and connected to others, anxiety is likely to remain high' (Twenge, 2000, p. 1017).

On 'becoming social'

One theoretical perspective that can be used to describe human psychological factors underlying the need for a large amount of authentic social interaction during development is that offered from a cultural psychological paradigm by Moghaddam, who suggests that developmental scientists have for too long concentrated on what he calls the 'embryonic fallacy', characterised as 'the assumption that as soon as life begins, the individual becomes the source of psychological experiences' (Moghaddam, 2010, p. 466). Such a view leads to the notion of the child as a 'self-contained individual [who is]... assumed to be the sole or main source of psychological experiences' (Moghaddam, 2010, p. 466). In contrast to this, Moghaddam draws on

some of his earlier work (Moghaddam, 2003) and work by others (e.g., Sammut, Daanen, and Sartawi, 2010) to argue that it is the understandings shared within and between cultures about social reality that develop the notion of interobjectivity, and that it is from this notion that intersubjectivity develops (p. 466). Intersubjectivity is here taken to mean how individuals understand other individuals, and ‘how individuals perceive others’ (Moghaddam, 2010, p. 466), which of course, are vital to everyday life within all human societies. Such concepts are also beginning to emerge in neuropsychology, where Hood (2012, p. ix) argues that ‘while the daily experience of our self is so familiar ... brain science shows that this sense of self is an illusion’. Hood’s central point is that the ability of human beings collectively to create a complex dynamic culture has the emergent property of each individual creating an illusionary sense of self, which is largely used as a social navigation tool; in this area of theory, the collective mind precedes and actually *produces* the existence of what we perceive as our own individual mind.

We can find a philosophical expression of this debate in the later philosophy of Ludwig Wittgenstein who, in his later writings, argued against the existence of ‘private languages’. This perspective, we believe, supports the proposal that peer collaboration in play-based activity is crucially important in the intricate interconnectedness of children’s social, emotional, intellectual, and linguistic development; in such activity, children develop an ability to contribute, which in turn produces an emergent of sense of competence and, within members of a highly social species, feelings of ‘belonging’, ‘usefulness’, and subsequent well-being.

In this context, one important point is that ‘primitive natural expressions’ (Wittgenstein, *Z*, §218)¹ of fear, anger, joy, pain, playfulness and so on, provide the basis (Wittgenstein, *PI*, §257) for the acquisition of a first language; by training and

persuasion, infants can be brought into a community of shared meanings which provide the frame of reference through which verbal language can be first acquired (Gilroy, 1996, p. 113). In any mundane, everyday context, experienced users of verbal and non-verbal language *and* infant novices see, hear, and imitate, gestures, actions, expressions, tone of voice, and the like (Wittgenstein, *OC*, §10; Wittgenstein, 1935/1968, p. 248); ‘linguistic and non-linguistic behaviour are woven together into an intricate organic whole’ (Pitcher, 1964, p. 240) or ‘language-game’ (Gilroy, 1996, p. 109). With this perspective, terms such as ‘fractiousness’, ‘friendliness’, and so on, are seen as having meaning by being used to describe certain behaviours in certain circumstances within a language-game (Wittgenstein, *Z*, §540; Malcolm, 1981), where a language-game consists of ‘language and the actions into which it is woven’ (Wittgenstein, *PI*, §7). A key point here is that children’s development of language (verbal and non-verbal), in which meanings are ascribed to various verbal and non-verbal behaviours, presupposes their engagement in a range of organic, authentic, social interactions. Thus person-to-person, and face-to-face interaction, are not merely desirable or ‘useful’, but a fundamental prerequisite for first language acquisition.

This then sets the scene for children at a later stage of communicative development (Gilroy, 1996, p. 161) to engage in simple ‘exchange’ activities, for example the adult-child interaction described by Zeedyk (2006, p. 322) as a ‘jazz duet’. Such activities enable them to develop ‘socially-based communicative behaviours’ (Gilroy, 1996, p. 161). In most human societies, activities are spontaneously staged for children to access developmentally appropriate experiences of self-determining responses to authentic, open-ended communications. In the smaller families of the west, this is largely furnished by interaction with parents, as described by Zeedyk (2006) above; in the pre-industrial village there is more emphasis upon a ‘large brood of sibling

playmates' (Lancy, 2007, p. 277), demonstrating a core human need within a culturally-flexible situation. As Gray reflects:

Humans are extraordinarily adaptive to changes in their living conditions, but not infinitely so. They evolved as a species in conditions in which children learned through play [so]... without play, young people fail to acquire the social and emotional skills necessary for healthy psychological development (2011, p. 444).

The key would seem to be to retain the aspects that are necessary for human social development from our hunter-gatherer past, whilst embracing the advances that we have made over centuries of technological progress.

The indications are therefore that the cultures of the US and the UK need explicitly to recognise that the human ability to develop and share meanings develops from organic social interactions in which children freely respond to partners with whom they are flexibly and authentically engaged in activity and related conversation; in early-mid childhood, this is most naturally accomplished in collaborative free play with peers, taking equal responsibility for the development of narratives. Thus, for example, 'in social play, players must decide what and how to play... if too many quit, the game ends....to keep the game going players must satisfy not just their own desires, but those of the other players.... [this] is a powerful force for them to learn how to attend to others' wishes and negotiate differences' (Gray, 2012, p. 355). Adult support for children to sustain such interactions is certainly helpful, but adult direction which introduces concepts at too early a stage in development for children to grasp at a level where they can explore them in supplementary peer-generated narrative is not. As Bruner (1986, p. 45) concluded, human beings collectively create 'products of the mind [and] build them into a corpus of culture'; we create our understandings of the world in the spaces *between* people rather than in separate storage areas residing *within* each individual.

The model outlined above creates a picture of a human that comes into the world in an extremely ‘unfinished’ condition. In a process that Ridley (2003) refers to as ‘nature via nurture’, infancy and childhood experiences are thus used to build neuronal connections within the environment in which the child is placed. This process is highly flexible – which is why human beings thrive in every environment on earth, from the Polar to the Equatorial regions – but, as Gray (2012) points out, there are many common features of all human societies that emanate from our evolutionary past. One such feature is the ability of both children and adults to share and communicate, in both verbal and non-verbal language/behaviour. This is first developed through play and discovery activity: ‘the emergence of childhood as a step in the life cycle was crucial to the evolution of the human cultural mind’ (Nielson, 2011, p. 170). However, in order to build and then hone these complex social skills, primate species need to be provided with developmentally appropriate experiences which are shared with others, both peers and adults, such as those we have outlined above. If human beings do not experience these, as the most social animal on earth, it would not be surprising to see deleterious effects.

Our investigations of the practical arena need therefore to focus upon what opportunities for social interaction and collaboration are routinely provided, and when in development they occur for children within a particular culture. The following sections will examine these issues with examples drawn from the contemporary US and UK. We will examine, first, the situation within schools in the US and England (using the term ‘schools’ to include what are now in some places in England termed ‘academies’, and noting that education is a responsibility devolved to the different nations of the UK). We will then turn to consider children’s typical out-of-school activities.

No time to play in school

In England, both inside and outside the school day, and even within settings caring for the very youngest children, state-registered adults are routinely paid to direct children's activities, being closely scrutinised and reported-upon by the national inspection body, the Office for Standards in Education, Children's Services and Skills [OFSTED] for the perceived ability to structure children's moment-to-moment activities to inculcate 'school readiness', rather than to promote play-based/discovery learning opportunities with 'open' agendas.

With respect to the education of English children aged between five and sixteen, it was legislation passed by Parliament in the late 1980s and 1990s that led to the introduction of the National Curriculum; to the creation of the schools' inspectorate, OFSTED, and to the introduction of a regime of regular testing of academic skills, literacy and numeracy in particular, through a range of pencil and paper tests. When the Blair 'New Labour' government was elected in 1997, the controls exerted through the National Curriculum and OFSTED were scaled up; increasingly detailed instructions were provided for teachers relating not only to curriculum content (*what* to teach), but also *how* to teach it, emphasising the concept of education as the transmission of knowledge and various skills sets.

By 2008, care and education for children aged between birth and five was also governed by a statutory framework, The Early Years Foundation Stage or 'EYFS'. Introduced by the Department for Children, Schools and Families [DCSF] under the 'New Labour' government in 2007, this was subsequently renewed and updated in 2012 by a Conservative/Liberal Democrat coalition government under the auspices of a re-named Department for Education [DfE] (DfE, 2012). The Early Years Foundation Stage proposes that for children aged birth to five 'each area of learning and

development must be implemented through planned, purposeful play' (DfE, 2012, p. 6). This immediately seems rather out of touch with the socio-cognitive freedom required for the healthy psychological development of a young human primate in the relevant age range. Additionally, a recent report from OFSTED proposed that childminders providing paid services in their own homes were delivering sub-standard care for young children because they were not dealing with the delivery of 'learning and development requirements' (OFSTED, 2012, p. 12) in the more formal manner found within professional daycare centres. British researchers Whitebread and Bingham reflect:

It is not *whether* a child is ready to learn, but *what* a child is ready to learn... The model of 'readiness for school' is attractive to governments as it seemingly delivers children into primary school ready to conform to classroom procedures and even able to perform basic reading and writing skills. However, from a pedagogical perspective this approach fuels an increasingly dominant notion of education as 'transmission and reproduction', and of early childhood as preparation for school rather than for 'life' (2011, pp. 2-3).

In the United States, each state primarily determines its own policies and practices regarding early education. The U.S. Department of Education's support of education, including Early Childhood Education [ECE], comes from mandates and limited financial support, with the federal government contributing approximately 8% to education funding, while 92% of costs fall to each state and local authority (Breitborde and Swiniarski, 2006). Much of child care and preschool education is provided through the fees and tuitions paying private sector. The federal government sustains Head Start, a programme established in the 1960s by President Johnson's administration's 'War on Poverty' for children from low income families (Breitborde and Swiniarski, 2006). In some communities, public integrated preschool placements are offered to children with special needs along with other community children. However, fees for materials, special events, as well as for tuition, are charged to families whose children are not on

Individual Educational Plans [IEPs] designed to address developmental disabilities. There are also state funds for a limited number of openings in child care centres and preschools for children from families who qualify through means testing. There is a movement to establish Universal Preschool Education [UPE] programmes nationwide (Fuller, 2007; Swiniarski, 2006) but so far only a few states have put the practice in place, as the ways in which the funding stream is tied into the No Child Left Behind agenda tends to attach many complex ‘strings’ to its release. Opportunities for all children to attend free public preschools differ from state to state, which creates an inequitable patch-work approach to Early Education. President Obama’s 2008 campaign promoted Early Education policies (Education Week, 2009, p. viii). The intentions of the plan were that ‘children ... be ready to enter kindergarten [and to] ... create Early Learning Challenge Grants [that would] ... help states move toward voluntary, universal preschool’ education (Education Week, 2009, p. 4). The ‘voluntary notion’ is to assuage families and educators who are sceptical about the kind of experiences three- and four-year olds might have in such programmes, whose concerns may reflect the scene described in 2007 by American educational researchers Henley, McBride, Milligan, and Nichols from Arkansas State University, who wrote:

The playground at Maple Street Elementary School is quiet these days. The only movements on the swing sets are a result of a strong west wind edging the swings back and forth. The long lines that once formed for trips down the sliding boards are empty. There are no softball or kickball games nor are there any games of tag or duck-duck- goose being played. There won't be a fifth grade musical this year. Children will not be learning to play the recorder nor will they be learning to march to rhythms or learn the traditional songs that have transcended the years of music instruction in elementary schools. There will be no art to display. Daddies' [sic] old long sleeved shirts that were handed down to children to cover up school clothes to keep from being stained with tempera paint and water colors are no longer needed. No, Maple Street Elementary School is not closing. It is squeezing every minute of

the school day to meet the mandates of the [2001] No Child Left Behind Act (NCLB)... Maple Street Elementary School is a metaphor for elementary schools across the nation.... With all the diversity among Maple Street's student body, the one commonality is that each student has affective and social needs that, according to some, are being compromised (Henley, McBride, Milligan, and Nichols, 2007, pp. 56–57).

Break times in the school day for free play and associative activity have also been reduced in both nations since the advent of the 'transmit and test' culture. In England, this began with a reduction of general break (or play) time during the school day in the 1990s (e.g., Pellegrini and Blatchford, 2002), followed by truncation of the lunchtime break over the early 2000s (Blatchford and Baines, 2008, p. 3). Blatchford and Baines (2008, p. 1) additionally report 'a strong anti-recess [playtime] view in US schools'. A small example from the US illustrates the point: a kindergarten teacher was recently chided by her principal for allowing her class a snack time. When the teacher explained the importance of such a break, the principal responded, 'Fine, as long as it is a working snack' (Swiniarski, 2012). An alternative perspective is offered in the report 'Crisis in the kindergarten: Why children need to play in school', where the Alliance for Children questions values of 'didactic teaching of discrete skills' in which there are 'short term gains in tests scores' but 'little gains' in the long run (Miller and Almon, 2009, p. 1). The Alliance calls for restoring time in early education for young children to socialise and play; perhaps, we might suggest, to enjoy a convivial snack together.

Examples from both nations therefore indicate that once the goal of 'readiness' is set in any early education policy, the play-based teaching and learning practices traditionally offered within statutory education for children under seven are usually replaced by an academic preschool curriculum. The practice of transmission teaching 'to test' within such regimes, where the material to be taught is broken down into specific objectives, funnelling down into a set of highly defined outcomes, sometimes

referred to by teachers as ‘WILF’ [What I am Looking For] has drastically reduced opportunities for children to contribute to the collaborative construction of original shared narratives through open-ended collaborative play promoting genuine ‘discovery’ experiences (Jarvis, 2009; Layard and Dunn, 2009; Santer, Griffiths, and Goodsall, 2007; Bishop and Curtis, 2001; Reay and Wiliam, 1999). McNess, Broadfoot, and Osborn (2003) concluded that, within English education,

a growing policy emphasis on accountability, and the need to raise school standards ... [resulted in] ... a performance-oriented, transmission model of learning [being]... given preference over a sociocultural model which recognised and included the emotional and social aspects (pp. 245–246).

In the US, the testing phenomenon similarly continues to dominate teaching and learning practices and assessments. Pellegrini and Bohn-Gettler (2013, online) propose that both in the US and the UK, recess or playtime ‘is being cut in order to increase time spent on academic instruction’. They claim that in the US, by the late 1990s, this trend had spread to 40% of the school districts in the US, with some schools eliminating recess altogether. Bishop and Curtis (2001, p. 35) describe ‘socialised recess’ in American schools, where adults provide structured, monitored activities for the children, concluding in exasperation ‘oh, brave new world, that has such experts in it...’.

It is thus clear that theorists from both nations point the finger of blame at standards-based education as it evolved through the school reform movements of the late 1980s to the present (Breitborde and Swiniarski, 2006); yet standards-based education is not new to early childhood education. The Prussian founder of the Kindergarten movement, Frederick Fröbel, designed a pedagogy around play using prescribed materials and activities for teaching, which he called ‘gifts’ and ‘occupations’ (Fröbel, 1826); teachers were trained to use his methodology as guides for

developing three- to six-year old kindergarteners socially, spiritually and cognitively (Breitborde and Swiniarski, 2006). Likewise, in Italy at the turn of the twentieth century Dr Maria Montessori, a physician, devised didactic teaching materials and a pedagogy that are now modified in American private and public schools from preschool to grade 8. She carefully embedded instructions on how to implement her methods into her standard approaches (Montessori, 1972). John Dewey's view of education (Dewey, 1966) as life itself, rather than as a preparation for the next stage, was framed by the scientific method in project based activities. However, today's fixation on testing and the requirement to design curricula around its requirements is historically unprecedented in any early childhood education philosophy. No longer is the child the centre of the pedagogy; rather, the approach is reversed, with adult-imposed subject matter relentlessly driving the goals of education to create a different landscape for childhood in this present generation. Learning assessments are quantified data for ease of reporting through technology, rather than multiple qualitative measurements such as portfolios, behavioural observations and developmental checklists. Qualitative educational practices structured on research results that document favourable long-term effects are replaced with short-term targets of arbitrary assessment scores, delineated in identifiable categories. The US Department of Education promotes restrictive practices in awarding 'Race to the Top' [RTTT] grants to states in its financial support of education, based on individual states' performance in terms of preparing pupils 'for college and the workplace' and developing 'smarter data systems to measure student growth and success' (The White House, 2012). It is interesting to note that President Obama recognised early childhood education as the foundation to subsequent learning and, as such, he affirmed it should be based on professional research (Education Week, 2009, p. 3). However, while this point of view created some changes in the RTTT's

new national Common Core Curriculum, the renewal still resonates with ‘No Child Left Behind’ (Henley, McBride, Milligan, and Nichols, 2007); mandated tests continue to drive instruction with a narrow focus on task mind-set.

As Noddings (2007, p. 60) reflects; ‘the school cannot prepare students for democratic life by simply giving them masses of information to be used at some later time. Instead, it prepares students for democratic life by involving them in forms of democratic living appropriate for their age’. This is certainly what Gray describes in his depiction of play in the hunter gather society:

Children learned real skills from adults rather than undertaking simulated exercises... they were given real tools, sometimes specifically crafted for small hands... Children grew up in a play culture which paralleled the larger culture in which it was embedded.... And so, through play, they educated themselves... [in] subsistence and artistic skills, the social skills and values, and the personal traits required for hunter-gatherer adulthood (Gray, 2012, pp. 362–363).

But of course, the whole concept of school would have been totally alien to such societies, and there is no suggestion here that such societies were simplistically somehow ‘better’ than our own. Schooling is clearly needed within a modern developmental process to prepare children for a modern existence in which they develop literacy, numeracy and technological competence, but *not* as the purveyor of all developmental needs. We will therefore move on to explore a wider societal canvas.

No space to play at home

In Anglo-American family environments prior to the last quarter of the twentieth century, opportunities for collaborative free play were spontaneously and routinely provided for children within local neighbourhoods inhabited by a wide circle of familiar peers and adults. The children engaged in a substantial amount of outdoor social free

play, becoming increasingly independent as they entered the primary school phase, but still being casually over-seen by familiar neighbourhood adults who could administer minor on-the-spot admonishments, and take reports of serious bad behaviour back to the relevant parents. Such a scene was described in Britain in 1969, by Opie and Opie who reported ‘there is no town or city known to us where street games do not flourish’ (1969, p. vi). Since then, however, out-of-school play spaces in both nations have been increasingly consumed by motor vehicles and sensational mass-media heightened adult fear of predatory stranger abduction, creating an ‘adult colonisation of children’s lives’ (Corsaro, 1997, p. 38) and a consequent loss of time and space for children’s independent free play in the out-of-school environment (Spencer and Gee, 2011).

In the US, numbers of playing children have similarly decreased in unsupervised community playgrounds and in neighbourhood streets. Informal games like street hockey, a non-winter version of ice hockey, kick the can and ‘run sheep, run’ are becoming increasingly unfamiliar to 21st century American children. Chudacoff has documented this phenomenon, arguing that ‘a major trend in the location of children’s play is that much of it has moved indoors’ (Chudacoff, 2007, p. 188). He quotes (p. 188) a study by Sutton-Smith that suggested parents ‘feel streets are unsafe and ...take their children to some public organizations or places’; citing other similar research projects, Chudacoff concluded:

The fields and woods where rural youngsters once roamed, the streets and sidewalks where urban kids invented amusements and...the parks and playgrounds where children cavorted away from adult eyes no longer constitute the cherished playscapes that they once provided (Chudacoff, 2007, p. 189).

The organised adult choices of sport leagues increasingly replace the free social child structures of play that children negotiated to create their own culture of play and share ideas with their friends (Chudacoff, 2007, p. 189).

These changes would seem to be significant. In studies of childhood sociability, many researchers have found that young children who are popular amongst their peers deal skilfully with the primary school playground, recognising teasing and ‘rough and tumble’ signals from other children as invitations to play. In contrast, children (particularly boys) who are rejected by their peers are far more likely to mistake such interactions for real aggression and respond in kind. Pellegrini (1991) carried out a longitudinal observational study of children’s rough and tumble play [RTP], in which he observed that the amount of time five-and-a-half-year old boys spent in RTP directly predicted their level of success in social problem solving one year later. Reviewing this finding, and other research, Pellegrini and Blatchford (2000) concluded that ‘children’s breaktime, or recess, does have educational implications’ (p. 75). A later attempt to explore some of these issues (Braza et al., 2007), concluded:

Training in hierarchical play (rough and tumble play and pretend play) particularly seems to reduce aggressive behaviour and help children develop socio-cognitive skills not required in other types of play (for instance, social intelligence, theory of mind) (Braza et al., 2007, pp. 208–209).

There is a body of literature that suggests that young mammals engaged in such play are creating important neuronal connections. The specific neural activity observed indicates that connections are being made within areas of the brain that deal with emotion and sociability (Gordon, Burke, Akil, Watson, and Panksepp, 2003; Pellis and Pellis, 2007). Pellis and Pellis (2012, online) propose that consequently, restricting RTP in particular, may have unforeseen circumstances for children’s future sociability:

a growing body of experimental evidence with laboratory animals suggests that banning RTP may be counter-productive. RTP appears to provide young animals the opportunity to finely tune their behaviour in a contextually relevant manner

with peers and so modify the brain mechanisms that underpin social skills (Pellis and Pellis, 2012, p. 1).

In the UK and the USA, the changing nature of children's out-of-school play activities can also be traced through cultural shifts first noted in the 1980s, as children became targeted as consumers through increasingly sophisticated media. From the advent of mass television ownership from the mid-1950s onwards, the manner in which toys were marketed gradually changed. Classic games were slowly replaced by replicas of TV shows' themes, movies, and multiple-media-hyped themes and characters, and then in 1982, the 'cartoon followed by tie-in toys' direction was reversed for the first time, when the 'Masters of the Universe' cartoon was created to cement the popularity of the 'He-Man' range of toys (Rutgers, 2012). Over thirty years ago, Postman (1982) wrote about television and other media producing a cynical 'adult child' within a changing American society in which dress, interests and pursuits were becoming increasingly less marked between childhood and adulthood. A generation later, the concept of the 'kidult' (Chang, 2010), emerged in marketing theory to describe the adult who continues to engage in behaviour, interests and modes of dress that previous generations would have expected to leave behind in childhood. Online fantasy role-playing games such as 'Star Wars Galaxies' and 'World of War Craft' were created for such consumers over the early 2000s:

Nowadays, there is a new group that exists behind the urban civilization, their behavior and mentality is like the fairy tale character Peter Pan ... Scholars call them 'kidults' ... For kidult product design, three key elements in content were pleasure, topicality and compensation, which could be used as directions for design thinking (Chang, 2010, online).

Predictably, such marketing concepts have recently been applied to similar websites aimed at children. These burgeoning ‘cyber-playgrounds’ are designed for children to play and socialise, drawing in English-speaking children from around the world. However, much of the content of such websites is given over to increasingly sophisticated marketing of various products to children through the parental credit card; what Bryman (1999) referred to as the ‘Disneyization effect’. Marsh (2010, p. 28) referred to children’s websites as ‘child oriented worlds... shaped by social, economic and cultural capital’ where ‘many children adopted a ‘collector-consumer’ role’ (p. 34). For example, in the Viacom-hosted game ‘NeoPets’, players pay to purchase a vast variety of products for their cyber-pets such as food, toys, and clothes. They may also subsequently sell these products, many of which are offered by the website on a ‘limited edition’ basis, to other players. Marsh investigated children’s play activities on two popular social networking sites for English-speaking children, Club Penguin and Barbie Girls. In both online games, children interact with each other via avatars which become their online personas; a ‘Barbie’ in Barbie Girls and a penguin in Club Penguin, for which they can purchase items and sell on to other players. Marsh concludes: ‘commodity purchasing is a key activity in both Barbie Girls and Club Penguin’ (Marsh 2010, p. 27), just as ‘embedded throughout ‘NeoPets’ is a strong culture of consumerism and acquisition’ (Grimes and Regan Shade, 2005, p. 185).

Such experience may logically lead to being hurried through childhood, as predicted by Elkind (2007), into a web of complex adult materialism, without the time to develop the skills of criticism and reflection necessary to become a fully discerning consumer. The collective results of such practices may be located in the upsurge of narcissism, anxiety, depression and the consequent feeling of poor well-being in later childhood and adolescence described by Gray (2011), and may subsequently be posited

to underlie the instant gratification/undiscerning consumption mentality of the ‘kidult.’ In this sense, childhood as a life-stage could be posited to have fundamentally changed within ‘mediated’ English-speaking society, where face-to-face socialisation is overwhelmingly adult-controlled and much of what passes as ‘play’ on a day-to-day basis is undertaken in a technological ‘bubble’.

Conclusion: Children as social beings

The evidence outlined above collectively suggests that over the last few decades, Anglo-American society has increasingly placed children within highly artificial, adult-directed environments, initially aimed at creating a ‘readiness’ for the mainstream experience of immersion within rushed transmit-and-test processes erroneously presented as ‘teaching and learning’. Out-of-school collaborative free play has contemporaneously reduced, being largely replaced by adult-directed pursuits and technologically mediated, consumption-based activities. However, the way that children under eight most naturally learn is through a range of face-to-face discovery and play-based activities, in which they independently interact with others on a moment-to-moment basis, not only learning how to compete for resources and/or individual recognition for appropriate understanding/behaviour, but also how to share, collaborate and ‘be social’ in order to sustain shared narratives; as Gray (2012, p. 354) reflects, ‘the capacity for play... is the capacity that best counteracts the capacity to dominate [both of which] we inherited from our mammalian ancestors’. In this way, ‘natural social play may be an experience-expectation process that helps certain forms of neural maturation with benefits for the development of higher executive brain functions’ (Naravaez, Panksepp, Schore, and Gleason, 2012, p. 460). Drawing upon a wide range of existing theory, social free play and independent discovery activities can be further hypothesised

to underpin the inculcation of crucial knowledge and skills which will later enable the individual to cope with the intricate webs of co-operation, collaboration and competition that are characteristic of all adult social arenas, from neighbourhood committees to international negotiations.

There are thus good grounds for arguing that cultural modes of interaction currently existing between the child and society in the contemporary UK and the USA do not adequately tune into the social and emotional needs of developing human beings. We contend that it is only the recognition of the need for flexible, authentic and collaborative play-based and open ‘discovery’ learning activities that will help us to create a modern developmental environment that can holistically nurture children’s socio-cognitive capacity. A reduction in opportunities for collaborative free play can thence be conceptually followed into Twenge’s (2000, p. 1017) construction of ‘low social connectedness and high environmental threat’. From this point, a complex set of circular psychosocial relationships can subsequently be theorised, consisting of underlying feelings of social disconnectedness in socially-privated members of a species that has evolved to live within highly socially connected environments, which are thence subsequently exacerbated by the resulting dysfunctional society, comprised of individuals with poorly developed social skills. As Bruner (1976, p. 56) wrote: ‘development which is separated from a natural social environment ‘provides no guide, only knowledge... These are the conditions for alienation and confusion’.

This situation is summarized in Figure 1.

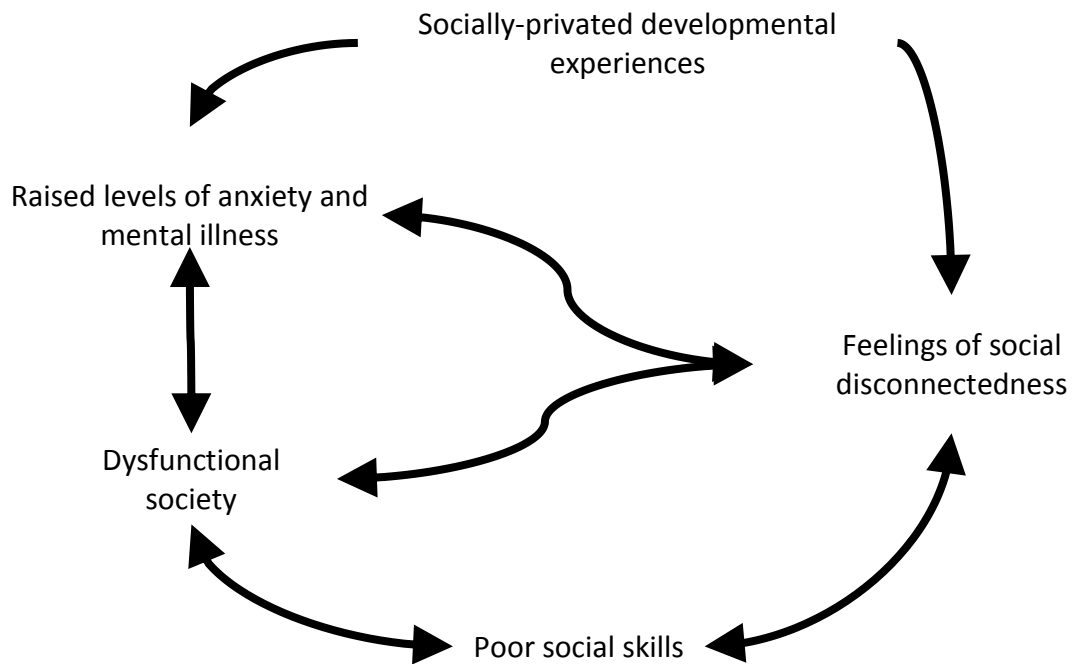


Figure 1: Individual and societal dysfunction interrelationships resulting from socially-privated developmental experiences in a significant proportion of one or more generations (Jarvis, Newman, and George, in press).

As UNICEF propose:

It is through relationships with peers that children experiment with social roles and learn and practise the control of aggression, the management of conflict, the earning of respect and friendship, discussion of feelings, appreciation of diversity, and awareness of the needs and feelings of others (UNICEF, 2013, p. 11).

We therefore propose that policy creation for children and young people in the UK and the US should urgently be reconsidered, taking account of modes of interaction that best support the developmental processes of evolved human primates. Policies and practices

should not, we contend, be narrowly predicated upon human beings as ‘capital’, in a world where children and young people’s arenas become exploitative environments driven by commerce and consumption, and focussed upon what appears to be most expedient within national and international economies. ‘School’ as a public service was initially conceived as an environment in which human beings in mid-late childhood spent just a few hours each day in the classroom in order to inculcate the skills underpinning literacy, numeracy and for some, formal scientific and academic enquiry. Perhaps, then, rather than continuing to be developmentally constricted in such an unbalanced fashion by the traditional model of school/school-oriented environments dominated by highly directive, target-driven adults as the answer to all children’s development needs, we should instead be considering how to create ‘policies... grounded on the best available evidence of what human beings are *like*’ (Singer, 1999, p. 61). One suggestion that could be tabled for discussion is the concept of newly conceived neighbourhood/community oriented arenas which, from mid-childhood onwards, work in a fully equal partnership with more formal education facilities, the latter dealing with academic education, and the former offering an organic environment designed to facilitate the free play, discovery activities, and the resulting relationships that support healthy, holistic development and learning.

Note on referencing:

1. In view of the posthumous publication of much of Wittgenstein’s work, and of the translations into English, the following initials rather than dates have been used, with one exception, to refer to his work.

Abbreviation	Title	Date of writing
<i>PI</i>	<i>Philosophical Investigations</i>	1930–1949
<i>Z</i>	<i>Zettel</i>	1945–1948
<i>OC</i>	<i>On Certainty</i>	1949–1951

In each case references to sections in Wittgenstein’s work are given by the section number for example: (Wittgenstein, *PI*, §347), or the page number for the English translation, for example: (Wittgenstein, *PI*, p. 229e).

References

- Bishop, J., and Curtis, M. (2001). *Play today in the primary school playground*. Buckingham: Open University Press.
- Bjorklund, D., and Pellegrini, A. (2000). Child development and evolutionary psychology. *Child Development*, 71(6), 1687–1708. Retrieved from <http://bernard.pitzer.edu/~dmoore/psych199s03articles/Bjorklund.pdf>
- Blatchford, P., and Baines, E. (2008). *A follow up national survey of breaktimes in primary and secondary schools*. Final Report to the Nuffield Foundation. Retrieved from: http://www.nuffieldfoundation.org/sites/default/files/Breaktimes_Final%20report_Blatchford.pdf
- Braza, F., Braza, P., Carreras, M., Muñoz, J., Sánchez-Martín, J., Azurmendi, A., Sorozabal, A., García, A., and Cardas, J. (2007). Behavioral profiles of different types of social status in preschool children: An observational approach. *Social Behavior and Personality: an international journal*, 35(2), 195–212. Retrieved from <http://www.ingentaconnect.com/content/sbp/sbp/2007/00000035/00000002/art0005>
- Breitborde, M., and Swiniarski, L. (2006). *Teaching on principle and promise: The foundations of education*. Boston: Houghton Mifflin Company.

- Bruner, J. (1976). Nature and uses of immaturity. In J.S. Bruner, A. Jolly, and K. Sylva (Eds.) *Play: Its role in development and evolution* (pp. 28–64). New York: Basic Books.
- Bruner, J. (1986). *Actual minds, possible worlds*. Cambridge, MA: Harvard.
- Bryman, A. (1999). *The Disneyization of society*. Retrieved from <http://www.canyons.edu/Faculty/haugent/Disneyization%20of%20Society%20Article.pdf>
- Chang, H-Y. (2010). A preliminary study on the kidult phenomenon of product design. Unpublished Master's Thesis: etd-0713110-171025. National Taiwan University of Science and Technology. Retrieved from http://140.118.33.1/ETD-db/ETD-search/view_etd?URN=etd-0713110-171025.
- Chudacoff, H. (2007). *Children at play: An American history*. New York: New York University Press.
- Collishaw, S., Maughan, B., Goodman, R., and Pickles, A. (2004). Time trends in adolescent mental health. *Journal of Child Psychology and Psychiatry*, 45(8), 1350–1362. doi: 10.1111/j.1469-7610.2004.00335.x
- Corsaro, W. (1997). *The sociology of childhood*. Thousand Oaks, CA: Pine Forge Press.
- Department for Education [DfE] (2012). *Statutory framework for the Early Years Foundation Stage*. Runcorn: Department for Education. Retrieved from <http://media.education.gov.uk/assets/files/pdf/e/eyfs%20statutory%20framework%20march%202012.pdf>
- Department for Education and Skills [DFES] (2005). *Excellence and Enjoyment: social and emotional aspects of learning guidance*. London: DFES.
- Dewey, J. (1966). *Democracy and education*. New York: The Free Press.
- Education Week (2009). *The Obama Education Plan: An Education Week Guide*. San Francisco CA: Jossey Bass.
- Elkind, D. (2007). *The hurried child*. Cambridge, MA: DaCapo Press.
- Fröbel, F. (1826). *On the Education of Man [Die Menschenerziehung]*, Keilhau/Leipzig: Wienbrach (translated from the German and annotated by W.H. Hailmann). Retrieved from <http://babel.hathitrust.org/cgi/pt?num=1&u=1&seq=5&view=image&size=100&id=inu.32000000336497&q1=occupations>

- Fuller, B. (2007). *Standardized childhood: The political struggle over early education*. Stanford, CA: Stanford University Press.
- Gilroy, P. (1996). *Meaning without words: Philosophy and non-verbal communication*. Aldershot: Avebury.
- Gordon, N., Burke, S., Akil, H., Watson, S., and Panksepp, J. (2003). Socially-induced brain ‘fertilisation’: play promotes brain derived neurotrophic factor transcription in the amygdala and dorsolateral frontal cortex in juvenile rats. *Neuroscience letters*, *341(1)*, 17–20. Retrieved from <http://www.sciencedirect.com/science/article/pii/S0304394003001587>
- Gray, P. (2011). The decline of play and the rise of psychopathology in children and adolescents. *American Journal of Play*, *3(4)*, 443–463. Retrieved from <http://www.journalofplay.org>
- Gray, P. (2012). The value of a play-filled childhood in the development of the hunter-gatherer individual. In D. Naravaez, J. Panksepp, A. Schore, and T. Gleason (Eds.), *Evolution, early experience and human development: From research to practice and policy* (pp. 352–370). New York: Oxford University Press.
- Grimes, S., and Regan Shade, L. (2005). Neopian economics of play: children’s cyberpets and online communities as immersive advertising in NeoPets.com. *International Journal of Media and Cultural Politics*, *1(2)*, 181–198. Retrieved from http://www.academia.edu/183321/Neopian_economics_of_play_childrens_cyberpets_and_online_communities_as_immersive_advertising_in_NeoPets.com
- Henley, J., McBride, J., Milligan, J., and Nichols, J. (2007). Robbing elementary students of their childhood: the perils of No Child Left Behind. *Education*, *128(1)*, 56–63. Retrieved from <http://kellywilliams.wiki.westga.edu/file/view/perils+of+NCLB.pdf>
- Hood, B. (2012). *The self-illusion: How the social brain creates identity*. New York: Oxford University Press.
- Huizinga, J. (1949). *Homo Ludens: a study of the play element in culture* (English edition). London: Routledge and Kegan Paul. Retrieved from http://art.yale.edu/file_columns/0000/1474/homo_ludens_johan_huizinga_routledge_1949_.pdf
- Jarvis, P. (2009). Play, narrative and learning in education: a biocultural perspective. *Educational and Child Psychology*, *26(2)*, 66–76. Retrieved from

[http://kenniscentrumfe.hu.nl.accept.evident.nl/Data/Lectoraten/~media/KENNI SCENTRA/Documents/FE/Lectoraat%20Spel/Play%20and%20learning%20in%20educational%20settings.pdf#page=66](http://kenniscentrumfe.hu.nl.accept.evident.nl/Data/Lectoraten/~media/KENNI%20SCENTRA/Documents/FE/Lectoraat%20Spel/Play%20and%20learning%20in%20educational%20settings.pdf#page=66)

- Jarvis, P., Newman, S., and George, J. (in press). Play, learning for life: in pursuit of well-being through play. In A. Brock, P. Jarvis, and Y. Olusoga (in press), *Perspectives on play: Learning for life* (2nd ed.). Harlow: Pearson Longman (in press).
- Lancy, D. (2007). Accounting for variability in mother-child play. *American Anthropologist*, 109(2), 273–284 doi: 10.1525/AA.2007.109.2.273. Retrieved from <http://onlinelibrary.wiley.com/doi/10.1525/aa.2007.109.2.273/pdf>
- Layard, R., and Dunn, J. (2009). *A good childhood: Searching for values in a competitive age*. London: Penguin.
- McNess, E., Broadfoot, P., and Osborn, M. (2003). Is the effective compromising the affective?. *British Education Research Journal*, 29(2), 243–257. doi: 10/1080/0141192032000060966
- Malcolm, N. (1981). *Wittgenstein: The relation of language to instinctive behaviour*. Swansea: University College of Swansea.
- Marsh, J. (2010). Young children's play in online virtual worlds. *Journal of Early Childhood Research*, 8(23), 24–39. doi: 10.1177/1476718X09345406
- Maughan, B., Collishaw, S., Meltzer, H., and Goodman, R. (2008). Recent trends in UK child and adolescent mental health. *Social Psychiatry and Psychiatric Epidemiology*, 43, 305–310. doi: 10.1007/s00127-008-0310-8
- Miller, E., and Almon, J. (2009). *Summary and recommendations of crisis in the kindergarten: Why children need to play in school*. College Park, MD: Alliance for Childhood.
- Moghaddam, F.M. (2003). Interobjectivity and culture. *Culture and Psychology*, 9, 221–232. Referred to in F.M. Moghaddam (2010). Intersubjectivity, interobjectivity, and the embryonic fallacy in developmental science. *Culture and Psychology*, 16(4), 465–475. doi: 10.1177/1354067X10380160
- Moghaddam, F.M. (2010). Intersubjectivity, interobjectivity, and the embryonic fallacy in developmental science. *Culture and Psychology*, 16(4), 465–475. doi: 10.1177/1354067X10380160
- Montessori, M. (1972). *Spontaneous activity in education: The advanced Montessori method*. New York: Schocken Books.

- Narvaez, D., Panksepp, J., Schore, A., and Gleason, T. (2012). *Evolution, early experience and human development: From research to practice and policy*. New York: Oxford University Press.
- Nielson, M. (2011). Imitation, pretend play, and childhood: Essential elements in the evolution of human culture?. *Journal of Comparative Psychology*, 126(2), 170–181. doi: 10.1037/a0025168
- Noddings, N. (2007). *Philosophy of education* (2nd ed.). Cambridge, MA: Westview Press.
- Office for National Statistics (2005). *Mental health of children and young people in Great Britain, 2004*. Basingstoke: Palgrave Macmillan. Retrieved from <https://catalogue.ic.nhs.uk/publications/mental-health/surveys/ment-heal-chil-youn-peop-gb-2004/ment-heal-chil-youn-peop-gb-2004-rep1.pdf>
- OFSTED (2012). *The report of Her Majesty's Chief Inspector of Education, Children's Services and Skills: Early Years*. Manchester: OFSTED Publications Centre. Retrieved from <http://www.ofsted.gov.uk/resources/report-of-her-majestys-chief-inspector-of-education-childrens-services-and-skills-early-years>
- Opie, I., and Opie, P. (1969). *Children's games in street and playground*. London: Oxford University Press.
- Pellegrini, A. (1991). A longitudinal study of popular and rejected children's rough-and-tumble play. *Early Education and Development*, 2(3), 205–213. doi: 10.1207/s15566935eed0203_3 Retrieved from http://www.tandfonline.com/doi/abs/10.1207/s15566935eed0203_3#.Ug-H6Fwxwbl
- Pellegrini, A., and Blatchford, P. (2000). *The Child at School*. London: Arnold.
- Pellegrini, A., and Blatchford, P. (2002). Time for a Break. *The Psychologist*, 15(2), 60–62. Retrieved from <http://www.thepsychologist.org.uk/>
- Pellegrini, A., and Bohn-Gettler, C. (2013). The Benefits of Recess in Primary School. *Scholarpedia*, 8(2). doi: 10.4249.scholarpedia.30448 Retrieved from: http://www.scholarpedia.org/article/The_Benefits_of_Recess_in_Primary_School
- Pellegrini, A., Dupuis, D., and Smith, P.K. (2007). Play in evolution and development. *Developmental Review*, 27, 261–276. Retrieved from <http://evolution.binghamton.edu/evos/wp-content/uploads/2008/11/Pellegrini01.pdf>

- Pellis, S., and Pellis, V. (2007). Rough-and-Tumble Play and the Development of the Social Brain. *Current Directions in Psychological Science*, 16(2), 95–98. doi: 10.1111/j.1467-8721.2007.00483.x Retrieved from: <http://cdp.sagepub.com/content/16/2/95.abstract>
- Pellis, S., and Pellis, V. (2012). Play-fighting during early childhood and its role in preventing later chronic aggression. In R.E. Tremblay, M. Boivin, and R.DeV. Peters (Eds.) *Encyclopedia on Early Childhood Development* [online]. Montreal, Quebec: Centre of Excellence for Early Childhood Development and Strategic Knowledge Cluster on Early Child Development; 2012:1–4. Retrieved from: <http://www.child-encyclopedia.com/documents/PellisANGxp1.pdf>
- Pitcher, G. (1964). *The philosophy of Wittgenstein*. Englewood Cliffs, NJ: Prentice-Hall.
- Postman, N. (1982). *The disappearance of childhood*. New York: Delacorte Press.
- Reay, D., and Wiliam, D. (1999). ‘I’ll be a nothing’: structure, agency and the construction of identity through assessment. *British Educational Research Journal*, 25(3), 343–354. doi: 10.1080/0141192990250305
- Ridley, M. (2003). *Nature via nurture*. London: Fourth Estate.
- Rutgers, E. (2012). *He-Man action figures: Cartoon series history*. Retrieved from <http://ezinearticles.com/?He-Man-Action-Figures:-Cartoon-Series-History&id=5404870>
- Sammut, G., Daanen, P., and Sartawi, M. (2010). Interobjectivity: Redefining objectivity in cultural psychology. *Culture and Psychology*, 16(4), 451–463. Referred to in F.M. Moghaddam (2010). Intersubjectivity, interobjectivity, and the embryonic fallacy in developmental science. *Culture and Psychology*, 16(4), 465–475. doi: 10.1177/1354067X10380160
- Santer, J., Griffiths, C., and Goodsall, D. (2007). *Free play in early childhood*. London: National Children’s Bureau.
- Singer, P. (1999). *A Darwinian left: Politics, evolution and cooperation*. London: Weidenfeld and Nicolson.
- Spencer, C.P., and Gee, K. (2011). Environmental psychology. In Smith, P.K. and Hart, C.H. (eds) (2011) *Wiley-Blackwell Handbook of Childhood Social Development*. 2nd edition. Chichester: Wiley-Blackwell.

- Swiniarski, L. (2006). Guest editorial: On behalf of children: Free universal preschool for all children. *Early Childhood Education Journal*, 33(4), 201–202. doi: 10.1007/s10643-006-0079-x
- Swiniarski, L. (2012). Teacher interviews for study on play in schools. Unpublished notes.
- The Children's Society (2012). *The Good Childhood Report 2012: A review of our children's well-being*. Leeds: The Children's Society. Retrieved from http://www.childrensociety.org.uk/sites/default/files/tcs/good_childhood_report_2012_final_0.pdf
- The White House (2012). *Education: Knowledge and skills for the jobs of the future, K-12*. Retrieved from <http://www.whitehouse.gov/issues/education/k-12>
- Twenge, J. (2000). The age of anxiety? Birth cohort change in anxiety and neuroticism, 1952–1993. *Journal of Personality and Social Psychology*, 79(6), 1007–1021. doi: 10.1037//OO22-3514.79.6.1007
- UNICEF (2007). *An overview of child well-being in rich countries*. Florence: UNICEF. Retrieved from http://www.unicef-icdc.org/presscentre/presskit/reportcard7/rc7_eng.pdf
- UNICEF (2013). *Child well-being in rich countries: a comparative overview*. Florence: UNICEF. Retrieved from: http://www.unicef-irc.org/publications/pdf/rc11_eng.pdf
- Whitebread, D., and Bingham, S. (2011). School readiness; a critical review of perspectives and evidence: Occasional Paper 2. TACTYC Conference, Birmingham: *Ready for School? Research, Reflection and Debate*. 11–12 November 2011. Retrieved from <http://www.tactyc.org.uk/occasional-papers/occasional-paper2.pdf>
- Wittgenstein, L. (1935/1968). Wittgenstein's notes for lectures on 'Private Experience' and 'Sense Data' (R. Rhees (Ed.) (1968). *Philosophical Review*, 77, 271–320. Reprinted as 'Private Experience' and 'Sense Data', in O.R. Jones (Ed.) (1971). *The Private Language Argument* (pp. 232–275). London: Macmillan.
- Wittgenstein, L. (1953/1958). *Philosophical investigations*. Oxford: Basil Blackwell (3rd edition 2001). [The German text, with a revised English translation by G.E.M. Anscombe.]
- Wittgenstein, L. (1967). *Zettel*. Oxford: Basil Blackwell (G.H. von Wright, R. Rhees, and G.E.M. Anscombe (Eds.)), (G.E.M. Anscombe, Trans.).

- Wittgenstein, L. (1969/1975). *On certainty*. Oxford: Basil Blackwell (G.E.M. Anscombe, and G.H. von Wright (Eds.)), (D. Paul, and G.E.M. Anscombe, Trans.).
- Zeedyk, M.S. (2006). From intersubjectivity to subjectivity: The transformative roles of emotional intimacy and imitation. *Infant and Child Development*, *15*, 321–344.
doi: 10.1002/icd.457