Serenella Besio, Daniela Bulgarelli and Vaska Stancheva-Popkostadinova (Eds.)
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Contents

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and Vaska Stancheva-Popkostadinova

Introduction

This book is one of the results of the COST Action TD1309 "LUDI – Play for Children with Disabilities" (2014–2018), a multidisciplinary European network of researchers and practitioners who have been working on the theme of play from their different and complementary perspectives.

Following two previous publications, "Play Development in Children with Disabilities" (Besio, Bulgarelli & Stancheva-Popkostadinova, 2017) and "Barriers to Play and Recreation for Children and Young People with Disabilities. Exploring Environmental Factors" (Barron, Beckett, Coussens, Desoete, Cannon Jones, Lynch, Prellwitz & Fenney Salkeld, 2017), this book brings on the LUDI Network's reflection about play, reviewing the existing knowledge with respect to play evaluation and presenting tools and methodologies for the assessment of play.

In the foreword "Assessing play to pave the way to the child's freedom", Serenella Besio considers the role of play for children's full development and stresses the importance of the right to play for every child, with or without disabilities. The evaluation of play is presented as one of steps to fulfil for building an authoritative knowledge that adults should use to better support play for the sake of play in childhood. The author concludes mentioning the urgent necessity of the concept of play for the sake of play for children with disabilities to be spread and to be implicated in everyday life.

In Chapter 1 "Evaluation tools: notes on definition, reliability, validity and administration", Paola Molina and Ana Muntean present the main features that characterize the evaluation tools and guarantee their effectiveness. Ethical considerations concerning assessment and child's play assessment are also discussed. The authors mention important factors that must be considered during the evaluation process, such as cultural differences in test responses and tool adequacy with respect to the specific impairment of the children to observe.

In Chapter 2 "The evaluation of play from occupational therapy and psychology perspectives", Sylvie Ray-Kaeser, Sandra Châtelain, Vardit Kindler and Eleanor Schneider introduce the distinction between play and play-based assessment: in the first case, play is the direct focus of the evaluation process, whereas in the latter, play is a means to evaluate other competences of the child, such as cognitive functioning, linguistic abilities, emotional skills, etc. Moreover, five dimensions of play and the methods to assess them are presented and discussed: play preferences, skills, activities, playfulness and physical and social environment. The evaluation of play in children with disabilities is deepened, also taking into account the role of parents.

In Chapter 3 "Review of tools for play and play-based assessment", Daniela Bulgarelli, Nicole Bianquin, Francesca Caprino, Paola Molina and Sylvie Ray-Kaeser

present the results of a literature review which aimed at analysing the existing methodologies and tools used to assess play and playfulness both in research and clinical practice. Twenty-nine tools available in English are presented within a uniform frame including 16 different features, such as the characteristics of the target population, the objectives of the tool, a short description, information about reliability and validity, the procedures to follow and setting and toy materials requested.

In Chapter 4 "Play assessment tools and methodologies: the view of practitioners", Daniela Bulgarelli and Vaska Stancheva-Popkostadinova report the voices of 107 European practitioners coming from 14 countries, all of them expert in the field of play for children with disabilities. The study focused on the experiences of using methodologies and tools for the evaluation of play and investigated the opinions of practitioners from different fields: special education, occupational therapy, paediatrics, psychology, education, etc. The most used tools present some common features: the possibility to draw a clear description of the child strengths and weaknesses, the possibility to support the intervention planning, the perception that the tools are effective in practice. Nevertheless, most of the respondents were used to assess play through non-standardized instruments, and rarely discussed the limitations of non-standardized tools and methodologies. This result highlights the importance to share the knowledge about the evaluation of play and the tools that have been developed in the past years.

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Serenella Besio

Foreword

Assessing play to pave the way to the child's freedom

In the framework of the LUDI approach to play, at a first glance this book might seem like a contradiction. In fact, if – as the huge literature in the field states (Besio, 2017) – the play activity is free by its nature and exempt from constraints other than those it creates by itself; if it is able to change, to modify itself, to become more complex during its development during both solitary play and play with peers; if it gives players the opportunity to experience contemporarily and consciously different degrees of reality; then, why should it be catalogued, measured, evaluated? Why should it be necessary to set the seals of rationality and regularity on it? Shouldn't the existence itself of tests and tools for the assessment of play contradict or contrast its nature, shouldn't it impose on play the imperative, rationalizing, perhaps even destructive shadow of the adult's gaze? Doesn't it force the play within a perspective that impoverishes it, a reductive interpretation, doesn't it deprive play of its playfulness?

As it is known, the European network "LUDI – Play for Children with Disabilities" aims at achieving two ultimate objectives: a) the recognition of the importance of play for children with disabilities, as an exercise of a right that is enshrined in the major UN Conventions in the field (1989; 2006); which must still be implemented, in the form of appropriate practices, inclusive social attitudes as well as adequate skills and competences; b) the emphasis on play for the sake of play, especially for the child with disabilities, whose life is often forced into the narrow tracks of rehabilitation practices and educational recovery.

While claiming the children with disabilities' right to play, and in particular to the play without external objectives, LUDI ultimately claims their right to the acknowledgement of their childhood, viewed as the period of human life to which care, attention, resources and protection must be mostly devoted – as indicated by the UN Convention on the Rights of the Child (1989). Only in this way, in fact, the needed time and the necessary spaces can be made available to these children – in the family and more generally in the society where they grow up – so that they can develop all their potential and try out their autonomy.

The rights to the freedom of the child, mentioned several times in this Convention, are themselves the result of a long journey undertaken throughout history by the successive concepts of *child* and *childhood* in the related science fields, particularly in the pedagogical area.

Only in the twentieth century, however, it has been clearly established that the child is not a diminished individual, a miniature adult, nor a savage to be subjected to a discipline – to duty or work, for example (Becchi & Julia, 2004). Only in the last century the need to consider childhood as an extraordinary and unrepeatable period in

the individuals' life has finally proved clear. As a consequence, the main cornerstones of the educational processes, in formal and non-formal contexts, should become the exercise of playfulness – the quintessentially activity of childhood – within settings and relationships that allow the total absence of responsibility (Limone, 2007). These cornerstones, however, demand the presence and the participation of responsible adults, aware of what is at stake. In order to respect the natural propensities of the child and to carefully discover and cultivate his/her talents, a refined direction must be adopted, which includes a watchful choice of the activities to propose, a consistent organization of the day schedule and the acknowledgement of the role played by the establishment of good relationships with peers as well as with adults.

These statements are well clear today in the studies and practices dedicated to childhood. The Reggio Emilia Approach (Thornton & Brunton, 2015; Hewett, 2001) is considered as one of the most promising proposals in this area: the child has rights, he/she is an active builder of knowledge within the social contexts he/she lives in; the adult is a collaborator of his/her growth, in co-evolution with the learning development in act and is a guide, a facilitator, but at the same time a researcher. Knowledge, in its turn, is seen as a multifaceted object, including different areas and modalities to evolve, but always within relationships and social contexts (Tzuo et al., 2011; Edwards et al., 1998).

Thus, freedom is an end. Also for the child with disabilities: it means in fact being free, expressing oneself freely, without any constraints.

What is it, if any, that prevents the child with disabilities from living his/her childhood through play, from experiencing and displaying their autonomy and freedom? On the one hand, the children and their life contexts have to deal with the functional limitations; however, on the other hand, these limitations are such – the WHO's definition of disability (2001) clearly states this point – only in relation to the social, physical and relational environments where children live and which they come into contact with.

Being able to see *the child* in the child with disability means first of all to consider the functional limitation exclusively as his/her way to interact with the world, which must be dealt with, an element intrinsic to the situation. Secondly, it means to look beyond this limitation, and to make available to the child that care, that attention, that protection which allow the adult to change the world around him or her, and to change it radically, if necessary.

Freedom is not just an end, then: it is also part of the process (Renaut, 2002). To make the children with disabilities free to exercise their full right to play, many measures are still necessary, and this has been one of the study fields of LUDI during the last years.

We need to release their lives from confining obstacles, we need to open up their future towards wider perspectives. Physical barriers must be broken down (Barron et al., 2017): for example, toys and playing tools are not accessible (Costa et al., 2018), playgrounds have not yet fully adopted the Universal Design principles (Moore &

Lynch, 2015). To reach these goals radical leaps of mentality are needed, the related norms must be significantly modified, the stakeholders – companies of the sector, policy and decision makers – must become aware of the necessary changes.

But we must also rally people at large around new and different cultural perspectives: in the educational field, for example, they must start to look at play as an essential, unique activity of the child's life, of all children, and therefore they must set up adequate spaces and time accordingly, in order to implement play activities in the best and most complete way. In particular, this means setting up environments and activating inclusive relationships, shared by all children, integrating also different approaches and different characteristics and abilities (Watkins & Meijer, 2016).

A similar change must take place in the medical and rehabilitative fields, where the unveiling of the human behind the label, or behind the disease (Guerin, 2017) is more difficult. In fact, if the need to present the exercises and the rehabilitative activities in a playful way or at least according to a playful mood (the so-called *play-like activities*; Visalberghi, 1958) – is today fortunately spreading, a real and deep awareness on the importance of play for these children would require more radical changes. It would need, in fact, a rebalancing of the activities undergoing in these children's life, in order to dedicate daily time and space to play, totally free from therapeutic goals.

Furthermore, the opportunity to play should become an area of investigation and application (not only of research, where it begins to receive some interest) (Cruz et al., 2017; Sobel et al., 2015), also for what concerns the technical aspects, for example in the Assistive Technologies area, because in some cases the identification of individualized solutions is crucial to allow access to play.

Last, but not least, parents and adults sharing their time with a child with disabilities should be supported to re-discover his/her childhood, including their own play memories. A special responsibility is entrusted to this scope to the Associations and the pressure groups, which should help relatives to face and overcome the possible anxiety towards the rehabilitation results, and to take back their parenting, serene and creative relationship skills, as adults, with their child.

The end of freedom can be obtained through its exercise in the process of growth. One learns to be free; one learns to play, studies say (Schaffer, 1977; Bondioli, 2002). As a consequence, once this kind of learning is considered a need, one can also teach how to play.

Today, however, a contemporary culture of play for the sake of play is not widespread. In general, play is considered important as a vehicle for learning, especially literacy and school learning (Adolfsson et al., 2013; Veitch et al., 2006); and this is the main reason for toy companies stress the "educational" value of their products. Or, play is intended as private moment of relaxation. It needs scarcely to be reminded the incredible spread of videogames with respect to the dramatic loss of play activities in natural environments, that characterizes the children's life in the world's Northwest societies today.

Moreover, in the case of the child with disabilities, some studies report that play is only rarely a clear evidence for adults (Smith et al, 2015), so demonstrating that, at least so far, the discovery and/or the awareness of an impairment, and the establishment of rehabilitation goals subtract *hic et nunc* to these children their own childhood.

Yet, there are many studies now – even if still cautious and sporadic – highlighting that the play of children with disabilities, if supported carefully and adequately, can improve, become more complex, rich, intentional; some of them indicate that a positive change in play can be related to a change in the child's cognitive and linguistic abilities (Dempsey et al., 2013; Lillard, 2001; Ingersoll & Schreibman, 2006). Some systematic literature reviews have also begun to focus on specific types of play – as in the case of pretend play (Barton & Wolery, 2008; Swindells & Stagnitti, 2006) – or on particular types of disability (Oates et al., 2011), so underlying the various characteristics and differences the play activities may assume, with respects to these variables. Autism spectrum disorders are specially represented, in this sense, perhaps due to the fact that play – for example, imitative or symbolic – is in this case an area of specific functional limitation.

In these studies the accent is often placed, as said, on the obtained functional changes and improvements: the step towards the interest in play for the sake of play is short, and this bodes well. But this short step requires a complete change of epistemological perspective, and this constitutes an important challenge to face.

From where to approach it, then? And, returning to the questions presented at the beginning of this work, why proposing a book which contains a structured, reasoned and in-depth review of play assessment tools and methods? Doesn't this choice still insist on the clinical, evaluative perspective of play as a play-like activity?

We don't think so; we think indeed that gathering all the existing knowledge in the sector is urgent; and that this knowledge must be harnessed for an innovative goal, potentially disruptive in the overall conception of disability. Establishing the goal of respecting the play for the sake of play of children with disabilities means building an authoritative, appropriate and competent area in favour of these children's needs. It certainly does not mean only providing time and objects; on the contrary, it means bringing into play social relationships, inclusive contexts, expert knowledge. In this way, the children with disabilities will be able to take over their playing skills, thus expanding their freedom.

It is now necessary to disseminate awareness, through appropriate and devoted training models, about the importance of the adult's role in the child's play, in order to favour its emergence and its development. Vygotskij had already pointed out, many years ago, that the action of the adult within the Zone of Proximal Development (ZPD) is decisive for the emergence of new skills and the solicitation of abilities and still unveiled capacities (Bodrova & Leong, 2015). Other authors (Hakkarainen et al., 2013; White, 2012) have identified in the "play facilitation" methodology a possible key for further developments in this field. LUDI itself has taken some steps forward in the direction of

an investigation and a systematization of the playful relationship modes adopted, in particular supporting the scaffolding methodology, highly inspired by the ZPD concept.

To pursue this task, adults – educators, rehabilitation professionals, but also parents – must achieve full competence on the subject, including the management of play contexts, relationships, methodologies and tools; above all they must acquire self-awareness on their role as companions, mediators, or scaffolders, rather than instructors.

In the meantime, it is also necessary to improve the adults' ability to perceive and evaluate the real playfulness of the play situations and relationships; methods and tools should be found – or developed – to support them in this respect. On the other hand, children should also be given the opportunity to express their own opinion on the same topic (and appropriate strategies should be developed to make this possible, in spite of possible impairments). How playful is the play situation proposed? How should it be improved? Which are the major changes to implement?

Most is still to be built: the existing literature is not always perfectly suited to the LUDI's particular perspective and needs; and the field still requires huge, exciting experimentation and study in-depth.

Play for the sake of play for children with disabilities is not a successful slogan, nor a dream. It represents a precise idea of child, and of disability. Therefore, it also represents an idea of mankind, social participation and relationships between humans.

This is why we must insist on this concept, this is why we need to build the way for it to spread. This book is intended as a part of that way.

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Paola Molina & Ana Muntean

1 Evaluation tools: notes on definition, reliability, validity and administration

In this book evaluation tools on different aspects of play are presented (see Chapter 3, Bulgarelli, Bianquin, Caprino, Molina & Ray-Kaeser, 2018). A preliminary consideration about these tools concerns their validity and reliability, aspects that allow to consider them as *tests* and their ethical use.

But what are tests indeed? What features do they need to have in order to trust on them? Why are they useful?

1.1 History of development of test

A short historical overview of these instruments may be useful (Gregory, 2014). The first examples of the tools that can be compared to the modern tests date back to antiquity: in the China empire, particular evaluation procedures were intended for selection of Mandarins (staff selection); in ancient Greece, various philosophical schools used specific tools to evaluate pupil's learning (profit tests). The first true tests, however, were born between the late nineteenth and the early twentieth centuries, during and in relation to the development of psychology as a science:

- In the psychophysical laboratories in which experimental psychology was born (Wundt).
- For clinical purposes, i.e. to differentiate people suffering from intellectual disability from mentally ill individuals, who show the same intellectual performance but because they suffer from psychic problems: these instruments were developedand utilized by the psychiatric scholars as Esquirol or Séguin.
- To study individual differences, the Galton's goal. Galton himself, and then his students, among them the most well-known is Cattel, develop a series of tests, especially of physiological and sensory type (ranging from the size of the skull to the force of the handshake or the sensory thresholds), which in their intentions should provide an assessment of the intelligence of individuals: unfortunately, the scores obtained with these tests showed no relation to success in life or in academic path, success that should be associated with high intelligence. Nevertheless, the evaluation method remains an intake consolidated for a subsequent research.
- To answer practical problems given by the extension of compulsory education: the first true intelligence test was published in 1905 by Binet and Simon. They were instructed by the Ministry of Education to design a screening of children whose intellectual level did not allow to benefit from normal school, and subsequently to include them in special instruction classes. Unlike the previous

authors, Binet and Simon thought that intelligence could be better measured by means of the higher psychological processes rather than the elementary sensory processes such as reaction time. In the Scale published in 1905 (Binet and Simon, 1905), the items were arranged by approximate level of difficulty instead of content, level established by the examination of typical responses of children from 3 to 11 years: a sort of rough standardization (see later, p. 12). In accordance with the definition of tests, the Binet–Simon Scale is considered as being the first true test.

Over the following years, the design and the use of tests were widespread: tests that measure intelligence have been widely used by the US Army for the selection of soldiers and officers. For the same purposes, the first aptitude test batteries have been developed, which measure specific skills tailored to specific tasks (for example, the visual acuity or the reflexes required for a pilot). In education as well, standardized tests have partially replaced the oral examinations, that are more time-consuming and considered less objective and more subject to individual distortion. In the '70s of the last century, a crisis hit the use of tests, mainly because of the indiscriminate use that had been made, with little control over the quality of the instruments and their administration: the tests were considered unfair, especially towards ethnic and linguistic minorities. In the United States, where the criticism movement was born, the result was a more rigorous methodology, coupled with a greater prudence in use, particularly in the field of education: for instance, the American Association of Psychology (APA) proposed the *Standards for Educational and Psychological Testing* (APA, 1992), which have become a worldwide reference point for the educational and psychological tests. There is currently a recovery in the use of tests, which are more rigorous from the methodological point of view and are applied with greater awareness.

1.2 Definition of tests

Tests are tools that psychologists and other professionals use in order to collect data about people (Groth-Marnat, 2003). Considering the ever-increasing plethora of online assessments, this definition, based on the professional interaction between the psychologist and the client, seems less than adequate. A test is an instrument which asks test-takers to perform some measurable or observable behaviour, the intention being to highlight personal characteristics which are not particularly evident, but nevertheless, salient for providing an understanding of the person and the predictability of their behaviours. Tests are considered to be one of the greatest achievements in psychology and are used for the assessment of human behaviour throughout all areas of human activity, examples being health care, education, justice, social protection, industry and transport, and entertainment.

A huge range of behaviour can be explore through different types of tests, including cognitive levels and achievements, human development and personal behaviours, personality and psychopathology, skills including driving safety and academic/educational aptitudes, neuropsychological, language and sensory-motor aspects, and social and vocational characteristics.

Applying tests in assessment provides a great deal of information in a short time and can highlight characteristics of which the subject being assessed is sometimes not aware. The use of tests is based on a number of important assumptions such as respondents' truthfulness and accuracy in their answers and awareness of the risks of the occurrence of errors due to the instrument itself, the respondent, the examiner or the environmental conditions.

Tests are specially designed to highlight individual outcomes for children or adults. For this reason, tests are used for psychological assessments within clinical work or in research as measurement tools intended to prove or correct the hypotheses of a clinician or researcher, to foster predictability and to orientate interventions.

The choice of a specific test is based on the theoretical foundation of the test, its psychometrics characteristics (standardization, reliability, validity) and practical considerations regarding the administration procedure (Groth-Marnat, 2003). Differences exist between tests as assessment instruments in terms of their field of investigation and the goal of the evaluation, the method, the time required for test administration, the content, structure and theoretical orientation, the performed behaviour elicited and the sample of behaviours they are intended to measure, the procedure for scoring and interpreting the results, and above all their psychometric characteristics.

1.3 Test characteristics

The tests, therefore, havea long history, but why such tools are important?

The main function of tests is to allow an evaluation free from subjective bias present in the everyday life. In fact, people's judgments are influenced by a number of factors (partly aware, partly unconscious) that do not always allow them to be objective. For example, people are influenced by the characteristics of the stimuli: more frequent facts (for example, the usual delay), or intense, or exceptional facts (a very intelligent or very stupid answer) are more easily impressed in our memory, and therefore weigh more on our judgment; the information gathered as the first or the last remain longer in mind, etc. Moreover, in evaluating others' stereotypes, implicit personality theories and expectations, the perceived attribution of features on the basis of difference/resemblance with the evaluator, etc., play an important role.

The tests are useful because they grant, as much as possible, an evaluation free from subjective bias. To be a test, a tool shall offer a series of guarantees about what it measures and how it can do so: a test consists essentially of an objective

and standardised measure of a sample of behaviours (Anastasi, 1968). Mainly, a test is a set of verbal or non-verbal tasks, called *items*, proposed to the subject. The set of items is a representative sample of behaviours, directly observable, in which the *competence* measured by the test is revealed. This competence, called *construct*, is instead a psychic quality, not directly observable, which is translated (*operationalized*) through observable behaviours that are evaluated by the test items. For example, I cannot directly observe *aggressiveness* or *anxiety* (constructs), but I can ask the subject if he or she is reacting with a threat when someone unfairly overtakes him or her on the highway, or if he or she bites his/her nails in the waiting room of the dentist. These responses, the items in the test, can be considered as indicators of aggressiveness or anxiety, and a sufficient number of items can discriminate people along a continuum that goes from the *low* presence to the *high* presence of the construct (aggressiveness or anxiety).

Obviously, for a test to work properly, a series of requirements have to be present in order to ensure *objectivity*, relevance to the construct to be measured (*validity*), and accuracy of the measurement (*reliability*).

The first aspect to be considered is the *uniformity of the administration and scoring* procedures: the first significance of test *standardisation* refers to the the administration of the test. The examiner has to give all the instructions in the same standardized way following the test protocol. The model of the test procedure is the model of experimental research. All subjects are observed in equal conditions, and their performance is evaluated in the same way: differences in response among subjects are therefore determined not by differences in the test to which they are subjected, but by true individual differences in the construct measured by the test. Standardization of the procedure requires careful monitoring of the material used, the instructions, the conditions of administration, etc.: the environment in which the test is administered, or even the moment in the day, may have more or less important effects on the performance of individuals (Bronfenbrenner, 1977). In particular, where the administration is individual and a true relationship is established between the administrator of the test and the person to whom it is administered, the administrator must have adequate preparation both in interaction management in general and with regard to the specific instrument. The score calculation must also give the same guarantees of invariance with respect to the different administrators, so the procedure must be defined in a comprehensive and unambiguous manner.

The test must also give assurances that it can measure what it actually states to measure, i.e. its validity: in fact, the constructor's subjective conviction that the test items properly translate the construct is not enough, but whoever builds the test should provide evidence of this link. The validity starts with and is based on the clear purpose of the test. *Face validity*, that is, the fact that items are convincing for those who submit or use the test, is only the first step of validation. The theory that has allowed the test to be made has to be explicit, and the test should prove to be a good translation (operationalization) of this theory. First of all, tests must be

a comprehensive and adequate sample of the competence they intend to evaluate (*content validity*). In addition, if theory hypothesizes, for example, that males and females have different spatial orientation capabilities, then the builder of the test that evaluates this competence, will have to report research data showing that males and females actually get different scores (*construct validity*). Moreover, evidence of the possibility to predict the performance of subjects in related fields based on test scores must be demonstrated (*predictive validity*): for instance, a good score on entrance test at the university should be able to predict student outcomes in terms of success in obtaining the graduation.

Finally, the accuracy and stability with which the test score measures the construct must be indicated. This feature is called test reliability, and the proof of reliability must be provided by the researcher:

- evidence of the test functioning *stability* over time: if the conditions remain unchanged, a subject should receive the same score in two subsequent test sessions (*Test-retest reliability*);
- evidence of the *independence* of the score from the specific item choice (a relationship must be present among different selections of the items);
- evidence of the proximity between the score obtained by the subject in that particular administration and its true competence (*Scorer and Inter-scorer reliability*), although a measurement error is unavoidable: the better the test, the lower the *confidence interval*, the distance of the score obtained in one single trial, influenced by random factors that can intervene both in raising and lowering the performance, from the *true score* of the subject.

When the coder's judgment is relevant to the scores, as in the projective tests, it is important that the scoring instructions are clear and unique, so that several administrators evaluate the performance equally: the researcher must also provide the value of the *agreement* between different judges evaluating the same test of a subject.

However, the most important effort in test building is the collection of an adequate *standardisation sample* (the second use of the term "standardisation"). In fact, the score obtained by the individual in a test (*rough score*) is not entirely informative. For example, the number of items passed by a 6-year-old child in a cognitive development test do not allow to understand whether his/her performance is better or worse than the standard for children of his/her age. To know this, a large number of children have to be tested (*standardization sample*) and the average performance of children of a given age have to be calculated: then, the score of a particular 6-year-old child can be compared to the performance of this sample, which is the test *norm*, and a new score (*standardized score*) is attributed to the child, score that will put his/her performance across standardization performances. In this way, it is possible to observe if the score of that particular 6-year-old child is average, above or below the average for his age.

1.4 Ethical considerations concerning assessment and child's play assessment

In 1953, the American Psychological Association (APA, 2002) laid down ethical principles requiring that all psychologists should perform services, such as assessment and psychotherapy, which are in the best interests of their clients. Since 1953 several revisions of the first document have been made, the most recent being in 2010, in order to protect and guarantee the human rights of test-takers. The APA is the professional body responsible for rules and regulations in the field of psychology, whether practice or research. In accordance with APA principles, every country develops specific ethical rules for the use of assessment instruments for the benefit of people and to avoid any harm being caused to or misconduct practiced towards them. Criticism of assessment has focused on aspects such as confidentiality, invasion of privacy, cultural bias, and the use of tests that were inadequately validated or used within inappropriate contexts (Groth-Marnat, 2003). The APA ethical principles require the professional doing psychological assessment for psycho-diagnostic or for research purposes to be aware not only of the psychometric adequacy of a test but also of the appropriateness of its use and the potential psycho-social consequences of applying such tests (Messick, 1979). Although some aspects remain controversial, ethical standards are in place and apply to all phases of assessment, starting with the reasons for carrying out the evaluation, the choice of tests to be used, the storing and interpretation of data, and the communication and use of results. These standards have to do with the professional's relationship with the client, a relationship which should contribute to the accuracy of test results and must in no case be harmful for the client. Stringent rules prevent the invasion of the client's privacy, chiefly by requiring the professional to provide clear explanations regarding test and testing relevance, and once this has been done to ask the consent of the client. Conscious that the results of the psychological testing do not provide the degree of reliability expected from laboratory analysis, the examiner should avoid labelling and should not give rigid psycho-diagnoses of the behaviour of the test-taker. Due to the developmental process this requirement is of particular relevance when doing assessments with children. All the above warnings are connected with a competent use of tests. In order to use a specific test, the examiner must have specific training and regularly update their knowledge concerning the use of that test. Psychologists' area of responsibility for psychological testings also covers the vigilance they are required to exercise in order to prevent any use of such tests by unqualified persons. Accuracy in interpretation and the ethical use of test results are also provided for by the competence of well-trained examiners. This professional competence must be matched by appropriate skills for communicating test results. During this final phase of the assessment process, the professional should take care when selecting the receiver of the information and the language to be used with the client, bearing in mind their level of education, their familiarity or otherwise with the test and assessment and especially any possible

emotional reaction on the part of the client. The code of conduct for psychologists provides clear rules for the maintenance of test security by requiring the tests to be kept locked away in a secure place and preventing untrained person gaining access to test materials. Other aspects of security and limitations on the use of assessment results are stipulated within the ethical guidelines for dealing with psychological tests.[1]

Assessment of children whether carried out within a clinic or for research purposes necessitate additional rules designed to promote the best interest of the child. The ethics of child assessment is a complex issue involving: consent of the parent or other legal representative, the consent and especially the assent of the child, and an ethical attitude and adequate knowledge on the part of the professionals. The Convention on the Rights of the Children (CRC) is enshrine international law lays down principles and take account of the child's individuality and dignity, and promote the human rights of children. According to the UNCRC the child has the right to express an opinion and to be taken seriously by adults. The Convention recognizes the children's right to take decisions about important aspects of their life in accordance with their capacities, the cultural context, their life experiences and the support available (see Roth et al., 2013). Reflecting CRC principles, countries around the world have developed their specific national regulations for child assessments. In some countries, ethical regulations and standards laid down by ethical bodies lead to slightly different approaches in regards to child assessment and to the informed consent required from parents and child. The parental consent requirement is based on the parent's duty to protect the child from any possible harm or manipulation and on the child's lack of capacity to take responsible decisions. However due to possible conflicts of interests (particularly when child's assessment is carried out in the context of violence against children perpetrated by a parent) the parent may withhold consent. For situations when child's health is being put at risk specific regulations for waiving parent consent are set-up (CIOMS, WHO, 2016). Situations of child disability can make more critical the need for a waiving of parental consent for the child to be assessed. A further issue dealt with in different ways by some national regulations concerns the relationship between the child's age and capacities and the giving of informed consent.

Child assessment for research purposes involves some specific considerations depending on the domain being investigated: health, psychology, sociology, or social work. The standard recommendation is that whenever possible adult subjects rather than children should be involved. Confidentiality and non-discrimination are important issues in any evaluation that uses child subjects. The limits of confidentiality are connected with the responsibility of professional to promote the best interest of the child. For this reason, the researcher cannot assume unconditional confidentiality when requesting informed consent from parents or from children

1 For further information please visit: http://www.apa.org/ethics/code/

participants in research. Depending on the child's capacities the researcher may ask for the informed consent of the child. However, there are legal restrictions on the use of a child's informed consent. These limitations are based on the child's capacity to fully understand the consequences of taking part in the research. Therefore, the child's continuing assent (agreement) to participation is vital and must be taken into consideration by the researcher even when the child has given their consent. If the child shows unwillingness to be part of the research or to continue the process of assessment, this will put a stop to any further assessment despite the parent and child having initially given their consent. Children assent (agreement) is necessary not only to maximize the accuracy of data collected but also in order to safeguard an important research principle: to avoid causing any harm to the child and to carry out the assessment only in the best interest of the child. In the field of health research, the Council of International Organizations of Medical Sciences (CIOMS) in cooperation with the World Health Organization (WHO) has prepared a set of the "International Ethical Guidelines for Health Related Research Involving Humans" which include special provision for children and adolescents and stipulate *Specific protections to safeguard children's rights and welfare in research* (CIOMS, WHO, 2016, p. 65). This document also discusses the discretionary waiving of the requirement for parental consent on the basis of the principle of assuring the best interests of the child.

The paramount characteristic of the child is playfulness which becomes visible and accessible to assessment through the child's play. Most tests used to assess children in clinic clinical situations and in research are focused on the child's play. Play is the basic language the child uses to communicate about their present situation, their previous experiences and their knowledge concerning the world. Assessment of play is carried out in order to provide an understanding of developmental issues and of the impact of experiences to which the child has been exposed. Play assessment whether carried out using a range of specific tests or based on the observation of a child's spontaneous play forms part of clinical work with children. Some ethical considerations for play assessment are different depending on whether clinical work or research is in view. Even in the case of children of 12 or 13 who possess cognitive maturity, the parent's consent has to be given in order for the child to be assessed. Usually when child's assessment takes place within the clinic, the parent consent is implicit. Child assent is the most important restriction on assessment. Play is genuine and spontaneous and therefore when the assessment is carried out through play the child's assent to assessment is implicit. Ethical considerations require child assessment to be carried out in the same places in which support and help for the child are available and the clinical seitting fulfils this criterion.

The issue of ethical requirements in relation to child assessment is a new topic. With regard to the specific subject of assessment of the child's play and playfulness, there are as yet only very few comments and suggestions in the professional literature, and these are based more on the specific features of childhood than on the human rights context.

1.5 Conclusion: Some considerations regarding the evaluation tools for the play and playfulness

Following the previous indication, it is clear that building a reliable and valid test is not easy: it takes years of work, and a constant subsequent validation work, with the help of the different researchers who use it. Many of the tools that are called *test* in the everyday language only share one or few of these features; sometimes they do not share any of them. Then, what caution should we use? First of all, one should keep in mind that not everything that is called test is really a test: if there is no evidence of standardization, reliability, validity, presence of an adequate normative sample, that is not a real test! Such instruments must be used cautiously, because they are not granted by the procedure necessary to build a test.

Nevertheless, for the specific use and conditions, it is important to have other tools, even if not so robust: this is the case of the evaluation of play and playfulness. In fact, the tools utilized for this type of evaluation are principally built for research, clinical or educational purposes, however, some of the aspects relevant for the test are not relevant for these tools. The forms provided for each instrument in Chapter 3 (Bugarelli et al., 2018) present data on validity, reliability and standardization of the considered instruments, and this information must be attentively considered to choose the more useful and reliable tools.

Perhaps the most important aspect for this type of tools, which are mainly based on observation, is the interrater agreement, which guarantees the possibility to use the evaluation tool consistently: therefore, it is necessary not only to pay attention to the evidence of agreement furnished by the authors of the instrument but also check the agreement in the certain/actual use of the tools.

Another aspect to be considered is the cultural difference in test responses: it is very difficult to obtain a standardized sample for each culture or each language, and frequently the only possibility is the use of a tool standardized for another context. In this case as well, it is necessary to be cautious about possible differences linked to the original cultural context in which the tool was developed.

Finally, an important aspect to be considered is the adequacy of the tool in respect to the specific impairment of the children to observe. Often, an adaptation of the test is possible, although in these cases it is difficult or even impossible to obtain a real validation of the tool. In other cases, different tools are available, but they cannot be suitable for every type of difficulties: for instance, the Vineland Adaptive Behaviour Scales (Sparrow, Balla, & Cicchetti, 2005) are considered a good substitute of typical IQ scales to evaluate the intelligence of disabled children in an everyday context; nevertheless, the VABS are reliable for children with intellectual disability or autism, but are not sufficient for children with severe motor impairment.

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2 The evaluation of play from occupational therapy and psychology perspectives

2.1 Introduction

Research on play has provided evidence of the great relevance of play to the fields of early intervention. Play is considered the natural context within which children develop complex social behaviours and competences (Wilkes, Cordier, Bundy, Docking & Munro, 2011). Through play experiences, the child develops many skills in the motor, perceptual, language, cognitive and emotional domains (Rigby & Rodger, 2006; Uren & Stagnitti, 2009). Play is beneficial for healthy child development, learning, creativity and social and emotional wellbeing (Brown, 2009; Ginsburg, 2007; Pelligrini, 2009).

Although play is a common and natural activity of childhood, there is plethora of descriptions and little agreement on a single definition of play (Sutton-Smith, 1997). Literature on the concept of play discusses play as variable and unpredictable, which makes it difficult to define. For example, play is described as "*a contextualized experience*" (Batorowicz, King, Mishra & Missiuna, 2016, p. 1205), "*a transaction between the child and the environment*" (Bundy, 2001, p. 277) and "*play is like beauty – it is in the eye of the beholder*" (Stagnitti, 2004, p. 5).

LUDI (COST, TD1309) adopted the definition of play proposed by Garvey (1990), since it takes into consideration three important and core dimensions of the child's play: pleasure, self direction (spontaneous behaviour, self-imposed goals), intrinsic drive (not governed by external rewards and compliance with social demands): "*Play is a range of voluntary, intrinsically motivated activities normally associated with recreational pleasure and enjoyment*". Freedom of choice is the first feature that infant's play brings to mind, controlled play being no longer play since it loses its spontaneity and means of distraction (Caillois, 2001). Fun and pleasure are other characteristics of play that makes it rewarding in the sense that a child is motivated to repeat it to keep alive the play process (Miller, 1973).

Because play is so important in a child's life, it is often evaluated. However, the many dimensions and conceptualizations of play are problematic when it comes to measuring and quantifying play (Stagnitti, 2004). Several disciplines with different perspectives on play intervene in play-related concerns, which might explain why there is no gold standard for a comprehensive assessment of play. Moreover, the objectivity, reliability and validity of the instruments used to evaluate play are very difficult to attain with the unpredictable nature of play (Gitlin-Weiner, Sandgrun & Schaefer, 2000).

The purpose of this chapter is to broaden our understanding of the evaluation of play and use of play in assessment from an occupational and psychological perspective: what it is, what the objectives are, why professionals evaluate play as well as what methods and instruments are available to assess children's play. Examples of play and play-based assessment tools are provided, the majority being from the field of occupational therapy. In addition, implications for the assessment of play of children with disabilities and for parents are discussed.

2.2 Assessment of play

The assessment of play can be classified into two categories: the first addresses the core dimensions of play through "*play assessment*". The second addresses the developmental skills necessary for play through "*play-based assessment*".

2.2.1 Play assessment

Play assessment primarily reflects the interaction between the child and the social and physical environment. It encompasses tools whose main objective is to measure the many dimensions of play, the pleasure in play and playfulness in children (Stagnitti, 2004). Play assessment tools identify what types or forms of play children favour and master, what are the play activities available to them, how playful they are, when, where and with whom they play. They help understand children's everyday experience and meaning of play in the social context, the nuances of their play and how they functionally participate in play (Miller & Kuhaneck, 2008). Play assessment is based on the child's abilities rather than disabilities, as they are reflected in play (Knox, 2010). Play assessment should be conducted where play occurs, in the naturalistic environment of children and focus on child-initiated and spontaneous rather than adult-initiated and directed play (Kelly-Vance & Ryalls, 2008; McConachie et al., 2006).

Play assessment can provide useful information in order to optimize educational, clinical, community and research programs (Parham, 2015). It has important implications for planning services that provide environments in which a child can have successful and enjoyable play experiences, including interesting and accessible toys and playmates. Play assessment is a way to facilitate play, as the time and space for play have been reduced in the home and school environments (Ginsburg, 2007). It emphasizes the importance of play for its own sake, with play being a goal of intervention and not only a means for developing non-play skills. It promotes play for fun, providing guidelines to parents and educators on how to nurture play and designing interventions that optimize the child's play participation (Stagnitti, 2004). Moreover, play assessment helps to investigate a child's progress through the types of

play, mainly the presence of pretend play, and through social play styles when playing with peers and with adults so that the child's current play performance can be used as an outcome measure for assessing the effectiveness of intervention (Stagnitti, 2004).

There are different tools that can be considered play assessments, for example the "*Assessment of Ludic Behavior*" – ALB (Ferland, 2005), the "*Test of Environmental Supportiveness*" – ToES (Skard & Bundy, 2008) and the "*Test of Playfulness*" – ToP (Skard & Bundy, 2008). They are observations of the child's free play behaviour whose primary objective is to evaluate the child's pleasure in the play experience or the environmental factors that can affect play. They provide qualitative data necessary to acquire an in-depth understanding of a child's play experiences (Parham, 2015). The ALB is a direct observational tool used to document and describe the qualitative aspects of a child's free play behaviour, play interests, ludic abilities, ludic attitude and communication in play, concepts derived from the Ludic Model. Ferland (2005) describes children's play as a subjective ludic attitude characterized by aspects similar to Bundy's concept of playfulness, but also including curiosity, attention and exploration. According to Bundy (2008),playfulness is the children's approach to play, a necessary complement to the play activities in which they engage. Skard and Bundy (2008), in an assessment called the Test of Playfulness (ToP), operationally defined playfulness as consisting of four elements: (1) intrinsic motivation, (2) internal control, (3) freedom from the constraints of reality, and (4) "framing" (i.e., the giving and reading of cues). There are play assessments whose method is to observe the occurrence of specific play behaviours. The "*Test of Pretend Play*" – ToPP (Lewis & Boucher, 1997) can help the therapist focus on the three different types of symbolic play: "*substituting one object for another, reference to an absent object as if it was present and attributing an imaginary property to an object*"(Clift, Stagnitti & DeMello, 1998, p. 200). The behaviours are scored and can be converted to age equivalents (Kaugars, 2011). Such quantitative scores are helpful when the purpose of assessment is to measure play strengths and weaknesses or changes in pretend play over time and the effectiveness of intervention using pretend play (Parham, 2015).

The "*Child Initiated Pretend Play Assessment*" – ChIPPA (Stagnitti, 2007) is a norm-referenced standardized test of the child's initiated pretend and imaginative play skills. It assesses the child's level of complexity and self-organisation in pretend play, the child's use of symbolic skills in play and his/her ability to initiate play.

2.2.2 Play-based assessment

Play-based assessment includes norm-based measures designed to evaluate particular developmental skills that may be observed through play activities, for example motor, process and communication-interaction skills (O'Grady & Dusing, 2015). Such measures were developed by researchers interested in differences between the skills of children with disabilities and typically developing children (Lifter, Mason & Barton,

2011). Play-based assessments have the advantage of providing an opportunity to observe the child's development. They offer an alternative to the traditional standardized assessment with contrived tasks that could give rise to unnecessary emotional pressure or feeling of failure or incompetence in children. Since play skills are often the same as those used in other domains, assessing them may be easier through non-threatening play activities (Howard & McInnes, 2013).

According to Kaugars (2011), play-based assessment may reveal multiple psychological and developmental aspects of a child and give him/her the opportunity to demonstrate a variety of skills that may be hindered in classic test batteries. According to Bundy (1993), play-based assessment tools are advantageous when a therapist wants to learn if a child's skills are adequate to meet the challenges presented in play, and to quantify changes in one or more of these skills. O'Grady & Dusing (2015) indicate however that play-based assessment tools measure a similar but not identical construct than developmental tests. Moreover, such tools are not designed to assess core aspects of play and do not say whether a child actually plays and how often (Parham, 2015).

Examples of play-based assessments are the "*Play In Early Childhood Evaluation System*" – PIECES (Kelly-Vance & Ryalls, 2005), the "*Penn Interactive Peer Play Scale*" – PIPPS (Fantuzzo, 2000) and the "*Transdisciplinary Play-Based Assessment*"– TPBA (Linder, 1993; Linder & Linas, 2009). These instruments are observations of cognitive, social, emotional, communication and sensory-motor development in play situations, alone or with peers. Play behaviour is assessed with conventional toys, classified in types of play and compared to norms.

2.3 Facets or dimensions assessed through play

There seems to be a consensus that play is a complex and multifaceted phenomenon of major importance (Power, 2000). The Person, Environment and Occupation Model (Law et al., 1996) describes the dynamic relationship between people, their occupations and roles, and the environments in which they live, work and play, with occupational performance being the outcome of the transaction between these three elements (Schneider & Rosenblum, 2014). The transactional nature of play and the good fit between the person/player, the environment or context in which play occurs, and the characteristics of the play activity are of major importance in enabling optimal engagement in play experiences (Law et al. 1996; Rigby & Rodger, 2006). Furthermore, children's ability to play is influenced by their interest and level of skill in the different domains of function (e.g., sensory-motor, cognitive, etc.), the potential barriers and enablers in their environment, and the challenges of any given activity (Rigby & Huggins, 2003). When observing and analyzing the child's play, it is important to consider all elements in the child-environment-play transaction.

In order to assess play, the evaluator must identify what elements of play are most relevant to evaluate for a specific child and in what particular context in orderto be able to select the method and instrument that enable the best analysis of these elements. As Bundy (2005) concluded in her review of measures of play performance, there is not one battery of play scales that would enable in-depth evaluation of play. Knox (2010) stated that in order to capture the child's play behaviours, one needs to assess the child multiple times in a variety of settings. According to Mulligan (2003), in evaluating the child's play, it is important to identify and document what the child's play preferences are, how the child uses play materials, the child's social behaviours during play interactions and the emotional and psychosocial manifestations of play. Bundy (2005; 2011[a]) described five important facets of play that should be considered when examining the child's play: the child's approach to play, preferred play activities, the skills a player uses for play, the source of motivation for play, and the environment.

With regard to the source of motivation for play, Bundy (2011[a,b]) has noted this as being an aspect requiring further research. Since engaging in free play means pursuing a task for the interest, fun and challenge it provides, it is closely associated with intrinsic motivation (Ziviani & Poulsen, 2015). There is indeed an important connection between a child's play, his personal play preferences, and the play setting. The most positive experiences occur when a child's interests match his/her abilities (Harding et al., 2009). It is therefore a practitioner's challenge and duty to gather information about a child's play motivation in order to support his/her active engagement in play. However, to our knowledge, no play assessments have been developed for assessing the source of motivation for play or why a child chooses a particular play activity.

Figure 2.1 shows the five facets of play that we recommend be examined when assessing a child's play. These facets are discussed in the sections below.

Figure 2.1. Five facets of play, adapted from Bundy (2011[a])

2.3.1 Playfulness

The player's playfulness is an important element that should be examined when evaluating play. Playfulness, defined as a disposition to play, is seen as a reflection of the combined presence of intrinsic motivation, internal control, freedom to suspend reality and framing (Skard & Bundy, 2008). The "*Test of playfulness*" - ToP (Skard & Bundy, 2008) is a play assessment that was developed to assess the child's playfulness. The child's intrinsic motivation, internal control, suspension of reality and ability to give and read cues are scored through items that relate to the extent of, the intensity and the level of skill of the behaviour displayed. Bundy (2011[a]) states that when a child is intrinsically motivated, he/she is intensely engaged in play for the fun of it and is likely to show persistence in a given activity. When children feel they have internal control over their actions, they feel safe. The ability to suspend reality may be reflected in the child's pretend play, tendency to tease or clown or demonstrate his/her own interpretation of reality/fantasy. Knox (2010) describes playful children as showing flexibility and spontaneity in play and in social interactions, curiosity, imagination, creativity and joy, and the ability to take charge of actions.

2.3.2 Preferred play activities

The child's play preferences and preferred activities also need to be considered when evaluating the child's play. In a longitudinal study of infants from 10 to 14 months of age (Schneider, 2009), infants as young as 10 months showed obvious preferences in the kind of play experiences that they found engrossing, challenging and enjoyable, resulting in enhanced levels of play. Moreover, results indicated that when the object/activity tapped the infant's interest and intrinsic motivation, the infant sustained attention, persisted and engaged in the task or activity for longer periods, and was able to attain a higher level of play. These behavioural manifestations of persistence, engagement and enjoyment concur with behaviours described by Bundy (1997; 2011[a]) as reflecting the child's intrinsic motivation. Findings lend support to Bundy's claim that the inherent aspects of the activity have a major impact on the child's motivation and eagerness to engage in play.

Children's play preferences can be demonstrated through observing their play behaviours. Use of self-report measures such as interviews or questionnaires, for example, the "*Kid Play Profile*" (Henry, 2008) or the "*Play History*" (Takata, 1974; Bryze, 2008), can also provide relevant information on the child's play preferences.

2.3.3 Skills a player uses for play

Bundy (2011[a]) stated that the skills the child demonstrates in play are the most commonly assessed, possibly because it is easier to observe skills than other aspects of play. Knox (2010) gives examples of evaluations that assess skills in a particular area through play, such as the classic assessment of social play developed by Parten (1933). These assessments typically use structured play settings, materials and activities or play observations. Additional evaluations, described previously as play-based assessments, assess developmental competencies through play.

The "*Transdisciplinary Play-based Assessment*" – TPBA (Linder, 1993; Linder & Linas, 2009) assesses social, emotional, cognitive, motor, physical and language aspects of child development in the naturalistic environment. Examples of motor or movement skills include observation of the child's quality of movement when changing positions or whether the child is able to run on different surfaces. Fine motor skills include observation of the child's bilateral hand movement, reaching and grasping skills, manipulative prehension as well as motor planning. The child's ability to problem solve, persist and remain attentive and on task are examples of items that demonstrate the child's cognitive skills and mastery motivation.

The "*Revised Knox Preschool Play Scale*" – RKPPS (Knox, 2008) is another assessment that provides information on the child's developmental maturity in relation to play. It includes four dimensions that are assessed through twelve different categories. The first dimension, space management, describes the way children learn to use their bodies and the space around them. The way in which children handle materials and the purposes for which various materials are used are assessed through the material management dimension. The third dimension, pretense-symbolic, relates to the way in which children gain understanding of the social world and learn to differentiate between reality and imagination. The fourth dimension, participation**,** describes the amount and manner of the child's interaction with people in the environment and the degree of independence and cooperation involved in play activities. This assessment provides a play age as well as a profile of the child's play abilities in the four dimensions.

In conclusion, play performance is likely to be affected by the child's developmental maturity, skills, interests, and motivation to participate in the play activity (Schneider, 2009). Children's forms of play activities change over time and reflect their development (Knox, 2010).

2.3.4 Characteristics and requirements of the activity

Variation in children's play behaviour and competence is influenced by exogenous factors within the child-play-environment transaction (Rigby & Gaik, 2007) such as the physical dimensions of the environment, interactions with others, the variety

of objects available to the child and age appropriateness of toys (Tamis-LeMonda & Bornstein, 1996). Rigby and Rodger (2006) stated that many important transitions occur during childhood, such as the transition from exploratory and sensorimotor play to more social and cooperative forms of play, thus reflecting the occurrence of developmental stages in play. This demonstrates the importance of providing play activities that are appropriate to the child's age or developmental level. Furthermore, it is important to analyze what are the physical, social and cognitive demands of the activity, its complexity, as well as the number and sequence of steps of an activity. Gibson (1977) stated that perception of the environment inevitably leads to some course of action**.** Affordances, or clues in the environment that indicate possibilities for action, are perceived in an immediate way, for example, buttons for pushing. This means that the qualities or properties of an object define its possible uses or make clear how it can or should be used.

Features of the play activities themselves are also critical to the child-play-environment fit: characteristics of the object/activity that allow it to be manipulated, adapted and modified, allow for better child-activity fit (Rigby & Rodger, 2006). Object properties such as novelty, physical responsiveness, the potential to elicit sounds when touched, and the configural complexity of the object can also affect the amount and nature of the exploratory behaviour (Power, 2000). According to Rigby and Rodger (2006), toys and play materials that are multipurpose as well as unstructured, such as blocks, pencil and paper, dolls, play-dough, can encourage the child to be creative, problem solve and take control of the activity.

Analyzing the components of an activity can help identify how to grade an activity appropriately in order to match the skill, interests and motivation of the child. For example, for a child with difficulty in figure-ground discrimination, the games played with the child should have an appropriate amount of visual details. For a child with difficulty in manipulating small objects, the objects provided should be large enough to enable effective grasp and manipulation. When the level of play skill matches the level of challenge of the activity, this is considered the "just right challenge" for facilitating play skills (Rigby & Rodger, 2006).

2.3.5 Environment - physical and social

The environment plays a critical role in facilitating and enabling children's play and playfulness. The physical environment (location in space and time, objects, accessibility) and social context of play (play alone/with others, supports, attitudes) are essential factors in children's play participation (Miller & Kuhaneck, 2008; Batorowicz et al., 2016). The physical environment relates to the various play settings and spaces, e.g. the home, playground, neighborhood or educational setting. The physical features of the environment such as amount of noise or number of sensory stimuli can either be resources or barriers to play. The play settings and materials

need to be safe and accessible for the child. Moreover, children must know what the rules and expectations are of their behaviour in the different settings. The play spaces should have appropriately sized furniture, equipment and materials for the targeted age group. A supportive physical environment is one that uses diverse types of equipment supporting various forms of play, graduated levels of challenge and affords numerous opportunities for social interaction. Assistive technologies and adapted or modified play equipment/materials can also be used to support play (Rigby & Rodger, 2006).

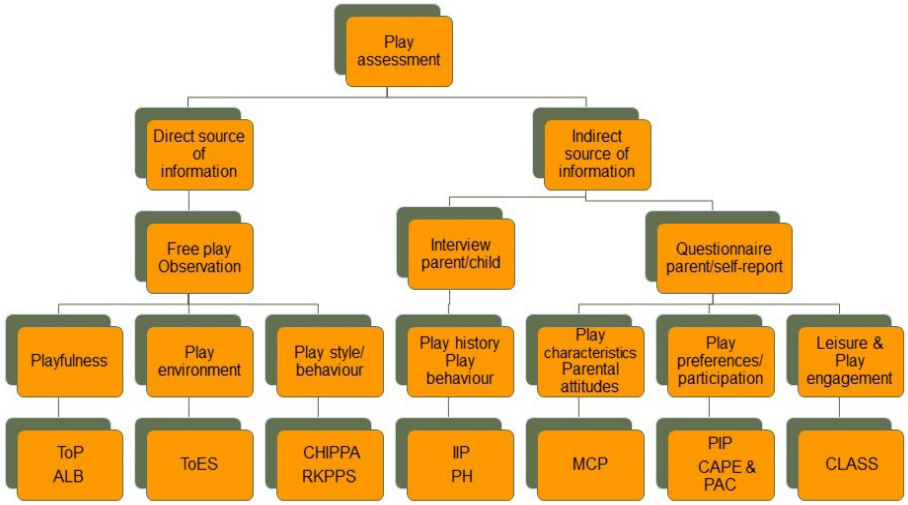
The social environment comprises the individuals with whom a child plays, adults and peers, both familiar and unfamiliar persons who may support or influence the child's play. When looking at environmental factors, the role of the parents in creating and fostering the play environment is crucial. Rigby and Rodger (2006) maintained that adults can support and facilitate the child's play by structuring the time and space for play and providing the necessary resources and materials. In playing alongside the child and being a partner in his/her play, the adult can observe and respond to the child's cues, follow the child's lead and provide assistance in a timely manner. It is also crucial to create opportunities for children to play together or alongside their peers in close physical proximity in order to enable interactive social play.

The "*Test of Environmental Supportiveness*" – TOES (Skard & Bundy, 2008) examines the environmental supportiveness for play. It attempts to determine the source of the children's motivations when relating to the human and physical environment, and includes items that relate to the safety, accessibility, adherence to boundaries and rules, support of play activities, and responsiveness to cues.

In conclusion, the above five facets/dimensions of play should be carefully considered when assessing play.

2.4 Methods designed to assess the core aspects of play

This chapter provides a survey of methods designed mainly to assess core aspects or facets of play such as playfulness, the environment of play and the child's play style, rather than specific motor, sensory cognitive or socio-emotional skills. There are many different methods that canbe classified in two main groups according to the source of information: a) direct sources of information using observations of play behaviours and b) indirect sources of information using questionnaires, self-reports and interviews that address play experiences (Figure 2.2).



Notes: ALB: Assessment of Ludic Behaviour (Ferland, 2005); CAPE: Children's Assessment of Participation and Enjoyment (King et al., 2004); CHIPPA: Child Initiated Pretend Play Assessment (Stagnitti, 2007); CLASS: Children's Leisure Assessment Scale (Rosenblum, Sachs & Schreuer, 2010); IIP: Initial Interview with Parents on the Ludic Behavior of their Child (Ferland, 2005); MCP: My Child's Play (Schneider & Rosenblum, 2014); PAC: Preference for Activities of Children (King et al., 2004); PIP: Paediatric Interest Profiles (Henry, 2008); PH: Play History (Takata, 1974; Bryze 2008); RKPPS: Revised Knox Preschool Play Scale (Knox, 2008); ToES: Test of Environmental Supportiveness (Skard & Bundy, 2008); ToP: Test of Playfulness (Skard & Bundy, 2008)

Figure 2.2. Classification of play assessment methods

2.4.1 Direct source of information: Observation

Observation is the most common method used to capture spontaneous and actual play behaviours of young children. Observations of naturally occurring play behaviours provide the best descriptions of the freely chosen, voluntarily initiated and variable characteristics of play (Parham, 2015). They are without doubt informative and clinically useful but time-consuming and often impractical in applied research.

The observation of play behaviours may require multiple sessions in a variety of settings since a child's play can be very different at different times (Knox, 2010). These settings differ according to the play materials available and the people who are present. Parents and peers can be asked to join during the observation, so that the observer can assess how the child relates to them (Kaugars, 2011). The presence of playmates can prompt more complex play behaviours such as social play behaviours (Garvey, 1990). Moreover, different characteristics in peers can elicit different types of play. Gender and age are known to influence play and are predictors of diversity in participation (King et al., 2006; Kelly-Vance & Ryalls, 2008).

The use of play observational tools with predefined criteria can facilitate the observation of the child's approach to play and play environment (Bundy, 2011[a,b]). The results provide the starting point for intervention. However, most play observational tools examine only certain aspects of play, such as specific play skills and play behaviours. They do not capture the perspective of the child and it is possible that the observed play is more a task than play (Kennedy-Behr, Rodger & Mickan, 2015). Therefore, a good understanding of the child and the environment of play must inform these observations.

a) Play observation settings and materials

Observations aimed at capturing a child's actual play behaviour are commonly conducted in the context of free play (Bundy, 2011[b]). The choice of the location should take into consideration the child's level of comfort (Kelly-Vance & Ryalls, 2008). Contextualized assessment carried out in naturalistic play settings may be more effective in encouraging the young child to initiate the play activity and to participate actively (Short et al., 2011). It may more easily reveal a child's desires and the challenges, barriers, enablers and opportunities for engagement in play. For example, Pierce (2000) observed infants' and toddlers' play at home to get a better understanding of the spatial dimension of play and how the co-occupations of mothers affected the children's play. She described how the mothers supported and shaped the play through the management of home space and play objects, and positioning the child for play.

The play of a child is dependent on what is afforded by the environment. Play materials are an important contextual factor in the play assessment that can influence a child's natural play behaviours (Athanasiou, 2000, in Caprino & Laudanna, 2009). According to Howard and McInnes (2013), the professionals have an important role in creating playful environments, presenting appropriate activities and facilitating positive and fruitful interactions. Thus, the observer should ensure that toys with the potential to elicit more complex forms of play are accessible to the child. When standardized toys are used in structured settings, they may not be accessible to the child and thus might alter or inhibit his/her play (Knox, 2010).

One of the advantages of using naturalistic settings such as the home environment for assessing play is that it provides valid samples of play behaviours in familiar and daily surroundings (Stagnitti, 2004). Knox (2010) described factors that facilitate and promote play as the availability of familiar objects and people, freedom from stress, provision of novelty and opportunities to make choices. Scheduling play experiences when the child is not hungry or tired, within a safe and comfortable atmosphere and interaction, with adults who are non-intrusive and non-directive, also promotes play. On the other hand, too many challenges or excess competition, external constraints, too much novelty and limited choices are factors that may inhibit play. Rigby & Huggins (2003) and Rigby & Rodger (2006) maintained that enabling the child to play in environments that are supportive, stimulating and developmentally appropriate,

and providing play objects and activities that have the "right amount" of challenge and appeal, are of manifest importance in promoting an optimal child-activity fit. Interventions directed at modifying the environment or the difficulty of the play activity might be easier to implement and have greater success than just trying to build the skills of the child.

The "*Assessment of Ludic Behavior*" – ALB (Ferland, 2005), the "*Test of Playfulness*"– ToP (Skard & Bundy, 2008) and the "*Test of Environmental Supportiveness*"– TOES (Skard & Bundy, 2008) are instruments that involve a direct observation of the child's free play behaviour in natural environments and require no special equipment and no standard set of toys. With the ToP, the child is observed playing alone or with peers. In order for the TOES to measure the influence of human environmental factors on the playfulness of a child, it requires the presence of caregivers and playmates. The "*Revised Knox Preschool Play scale*" - RKPPS (Knox, 2008) is another direct observational assessment tool conducted by observing a child's play behaviour in his/her natural environment, both indoors and outdoors with conventional toys. The "*Child Initiated Pretend Play Assessment*" – ChIPPA (Stagnitti, 2007) can be conducted in the home, school or clinical setting. It assesses two aspects of pretend play: conventional-imaginative play using a set of conventional toys and symbolic play using a set of unstructured play materials chosen based on gender neutrality and developmental appropriateness.

b) Role of the observer

In free play observation, play has to be observed in its spontaneity. No prompts should be provided to the child, since the presence of an adult can influence the child's behaviours. When one wants to observe free play and exclude potential influences by the observer, then the adults' role is to observe the child play without intervention of any kind and possibly be hidden from the child behind a one-way mirror (Slade, 1987, in Caprino & Laudanna, 2009). When the presence of the observer is obvious, then familiarity between the observer and the child is recommended (Leyytines, 1991, in Caprino & Laudanna, 2009).

When children are hesitant or unable to engage in play, they might need adults to encourage them to play. When the play observation is guided or directed by adults, it usually incorporates aspects of play not spontaneously initiated by the child. When the observer provides instructions during the observation, this can diminish the spontaneity of play. There is the risk that the child will tend to respond to the demand of the adult rather than engage in self-initiated play (Parham, 2015).

When the observer introduces instructions or prompts to guide the child to perform specific tasks, he must be mindful that he might not be assessing free play (Parham, 2015). For example, with the "*Test of Pretend Play*" – ToPP (Lewis & Boucher, 1997), the children have to demonstrate specific play actions. Symbolic play is modelled for children to copy and children are instructed verbally. The observer, with a standard set of material and toys, shows the child different play actions following

standardized instructions, then the child is expected to reproduce them. The children are asked to play with a teddy bear and have to perform four items: "*make the teddy bear do something to or with an imaginary object, make the teddy bear feels something, make the teddy bear be something else and make the teddy bear carry out a series of activities*" (Kaugars, 2011, p. 69).

c) Observation recording techniques

Observation involves the systematic recording of children's play behaviour. Recording techniques reduce biases in the transcription process but are costly in time and personnel.

Howard and McInnes (2013) present and describe different observation techniques usually used by psychologists and anthropologists. The *narrative techniques and diaries* involve recording observations in some medium such as a diary or video and audio recording. The data recorded in a diary is generally overarching and, because it is often written after the play session, can be more open to interpretation bias. A *running record* allows the practitioner to conduct observations in real time on everything the child does or says. This technique offers the advantage of not being based on practitioner's memories but is very exigent, often time-restricted and involves decision making about the level of details the therapist chooses to include.

The *diagrammatic techniques* allow representing the data visually and can have, for example, the form of a playroom map or an activity clock. The practitioner can record the child's movements, what areas he prefers, how he spends time in the different play activities. The *observation schedules* can be a time sampling, event sampling and behavioural checklist and focus the observation on one of those particular aspects, summarizing data in brief and clear information (Howard & McInnes, 2013).

2.4.2 Indirect source of information: Interview and Questionnaire

Interviews and questionnaires are quick and inexpensive methods compared to direct observations. They can be a reliable, economical and practical source of information about a child's play (Rosenblum, 2006). They can support early identification of play impairments based on the recognition of specific and/or alarming play behaviours and preferences. They help plan services based on the parents' or child's perceptions of his or her play performance and engagement (Rosenblum, Waissman & Diamond, 2016). While observations and interviews with parents and caregivers provide important information on the child's engagement in play, they fail to include the child's own perspective on his or her play (Henry, 2000). Core elements of play such as enjoyment, internal control and intrinsic motivation involve internal experiences (Parham, 2015).

a) Children as respondents

Contemporary studies on children view them as competent persons and critique the traditional approach of questioning parents rather than children. The latter have a right to express their opinion, and to have legal protection when doing so is an accepted practice. Moreover, children's view is valid because they are totally immersed in their experience the whole time and are a constant feature of all the play contexts. Moreover, they showed some stability in reporting on play over time (Sturgess & Ziviani, 1996).

There is evidence that the views of children are different from those of adults, who might provide an opinion about how they think the child should feel in relation to how they themselves would feel in a similar situation (Sturgess, Rodger & Ozanne, 2002). It might be possible that a child may not view a play activity as play, since if he or she has to put so much effort to engage in it, it becomes work (Kennedy-Behr, Rodger & Mickan, 2015).

Children's perceptions of their functioning and play experiences provide professionals with interesting knowledge about the way the environment supports or prevents them from playing and about what matters the most to them (Bundy, 1993; Henry, 2000; 2008). Children's perceptions are useful for promoting a collaborative process through discussion in goal setting decisions and for starting play-related interventions. When goals are child-generated, it stimulates the autonomous and intrinsic motivation that helps children to personally endorse them (Ziviani & Poulsen, 2015). Examples of child play goals are to engage with confidence in play with peers, increase the time and space available for play or play with a variety of toys (Kuhaneck, Spitzer & Miller, 2010).

When focusing on how and why a child wants to play, best practice includes asking the child directly using multiple means for questioning, such as photographs, checklists, questionnaires and interviews (McConachie et al., 2006). According to Bryze (2008), a *narrative interview* enables the interviewer to explore the meaning of the child's play and encourage the parents to discover their child's perception of his or her play experiences. Starting the assessment by asking the children about their play experiences and interests is optimal (King et al., 2006). When the interview is focused on the extent to which a particular child is able to engage in play in a familiar context, and is directed at uncovering the obstacles and oriented to problem solving, then this helps identify the child's desired changes in his or her play engagement (Trombly, 1993; Coster, 1998).

These last decades, there has been an increase in the development of paper and pencil *self-reports*, alongside the increase in use of client-centred practice that gives children a greater voice (Sturgess, Rodger & Ozanne, 2002). Self-reports are a quick method to gather information when it may be too time-consuming or difficult to observe a child in a natural play setting. They are invaluable in facilitating a discussion with the child to identify play-related problems. They are reliable and valid measures when the format is appropriate (Henry, 2000).

Consideration needs to be given to the age, intellectual and self-perception capacities of the child when using self-report measures. Children as young as four years of age are able to reliably self-report on attitudes, pain, facts and amount of physical exercise (Sturgess, Rodger & Ozanne, 2002). For disabled children, there can be complexities that affect self-report due to communication and learning difficulties. This raises the issue of choosing age-appropriate questionnaires, in terms of items assessed and response methods (McConachie et al., 2006). The design and wording must be adapted for different age groups, language abilities and endurance. Pictorial representations might be a format recommended to help a child understand the questions and select the appropriate answer (Henry, 2000). The advantage of pictures is that they engage and maintain a child's interest although they may suggest a certain answer and reduce the extent of other meaningful ones (Sturgess, Rodger & Ozanne, 2002). The administration of the assessment should include verbal explanation by an adult in order to ascertain that the child has properly understood the question.

The **"***Pediatric Interest Profiles***"** – PIP (Henry, 2008) are self-report questionnaires that collect information about play interests directly from the child and are for three age-groups: "*Kid play profile"* (6-9 years); "*Preteen play profile"* (9-12 years); "*Adolescent leisure interest profile"* (12-21 years). The questionnaires ask questions about how often, why, how well, how much and with whom specific play activities are performed and enjoyed. The preteen version was developed to fill the lack of age-appropriate measures that capture youngsters' perspectives on their play and leisure preferences, involvement, and enjoyment. Each group of questions is followed up by an interview.

The "*Children's Assessment of Participation and Enjoyment" – CAPE* (King et al., 2004) is a picture-based self-report questionnaire that assesses the child's participation in, enjoyment of and preferences for formal and informal everyday activities outside school: recreational, active physical, social, skill-based and self-improvement/educational. It can be self-administered using the test booklet or interviewer-administered using 55 activity cards and visual responsive pages. Children are asked if they have performed the activity in the past 4 months and if so, how often, with whom, where and how much they enjoyed the activity. It can be administered to 6-21-year-old children and adolescents with and without disabilities, who are cognitively able to understand the task.

The"*Preference for Activities of Children*" – PAC (King et al., 2004) is a self-report questionnaire that should be used after the CAPE when used together but can be used independently. It is a child self-assessment of 55 items and it includes an interview-assisted version. It identifies the child's preferred activities. The child looks at drawings of other children performing 55 different activities. He records his preference by circling one of the three facial expressions (three-point scale). A card containing enlarged facial expressions with corresponding written descriptions can assist them in their sorting (interview-assisted version).

The "*Child's Leisure Assessment Scale"* – CLASS (Rosenblum, Sachs & Schreuer, 2010) is a self-report questionnaire developed to examine school aged (10-18 year-old) children's engagement in leisure activities. The CLASS measures multidimensional participation in childrens' and adolescents' leisure activities. The preliminary CLASS contains 50 items or activities belonging to six dimensions of leisure participation: variety (which activities), frequency (how often), sociability (with whom), preference (how much he or she likes the activity), time consumption (how much time invested), and desired activities (which activities are desired but not currently undertaken). The CLASS can be administered in a clinical setting, school or sent by mail and completed at home.

b) Parents as respondents

In recent years, there has been a move to recognize parents as experts on their children, and to give them opportunities to share their knowledge and lived experiences (Gibson et al., 2009). Parents are considered experts because they are able to observe the child across multiple periods of time and varied circumstances.

Interviews with parents enable learning about their child's play history, play preferences, habits, routines, meanings, and the social relationships that occur through play. Asking teachers may also shed light on these elements. The strategies a therapist can use to elicit narratives from parents about their child's play are to establish an atmosphere of partnership in order to interact at a personal level, like a conversation or dialogue. The use of an interview guide might be helpful in order to cover the topics of play experiences, nature of play and participation in play, games and recreational activities (Bryze, 2008).

Questionnaires are especially useful in order to detect signs of difficulties in play observed by parents of young children. They may indicate future difficulties in the child's social participation (Rosenblum, Waissman & Diamond, 2016). Parental questionnaires that indicate the degree of assistance needed and the play choices can facilitate quantification of play participation. Moreover, they can provide a parent with greater insight into the importance of play and their child's daily functioning (Rosenblum, 2006).

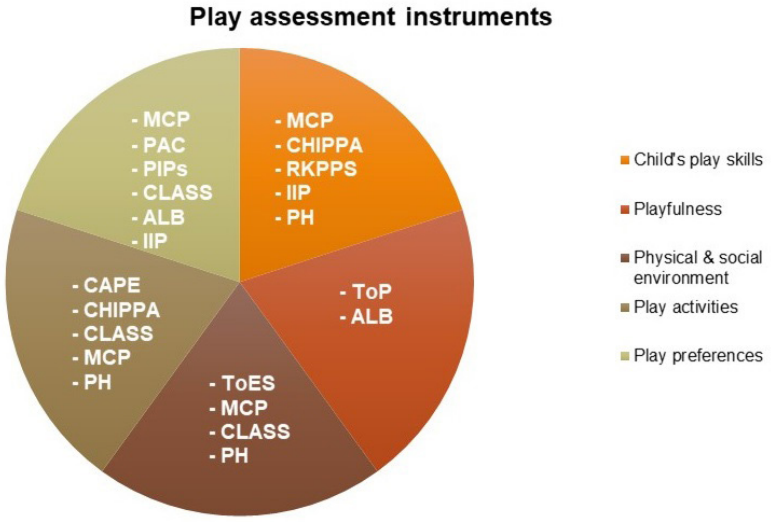
"The Play history" (Takata, 1974; Bryze, 2008) is a semi-structured interview with parents or caregivers of 0 to 16 year-old children. It is a way of identifying the child's play experiences, interactions, environments and opportunities across the time progression of his/her life. The play history is designed to relate information about the quality and quantity of the child's play in each of five developmental phases or epochs: 1) Sensorimotor, 2) Symbolic and simple constructive, 3) Dramatic and complex constructive and pre-game, 4) Games and 5) Recreational. Elements of each epoch are analysed following four categories: materials (with what does the child play), action (how), people (with whom), setting (where and when).

The "*Initial Interview with Parents on the Ludic Behavior of Their Child*" – IIP (Ferland, 2005) provides information on play behaviours at home from the parents' perspective. It gives indications of the child's usual play materials, toy preferences,

play interests, favourite playmates, most functional position for play and frequency of play in the family environment. It is meant to be used with the "*Assessment of Ludic Behavior*" – ALB (Ferland, 2005).

"My Child's Play"– MCP (Schneider & Rosenblum, 2014) is a parent report questionnaire that includes 43 items that provide in-depth information about a child's play in terms of the concepts of person, environment and occupation. The MCP was created to answer the need for a practical tool that enables parents to provide comprehensive information on the play of their children. The questionnaire relates to parental perceptions of the child's play skills and interests, their attitudes towards play and the environmental context. The MCP yields a total score and scores for each of the MCP's four categories: 1) Interpersonal relationships & social participation, 2) Executive functions, 3) Play characteristics & behaviour, 4) Environmental context. Higher scores reflect better play characteristics. The MCP can be administered to parents of 3 to 9 year-old children with or without disabilities.

Because play is such a complex behaviour, it is unlikely that one single assessment method and tool can provide a full understanding of a child's play. Figure 2.3 illustrates the instruments described previously to assess the five facets of play.



Notes: ALB: Assessment of Ludic Behaviour (Ferland, 2005); CAPE: Children's Assessment of Participation and Enjoyment (King et al., 2004); CHIPPA: Child Initiated Pretend Play Assessment (Stagnitti, 2007); CLASS: Children's Leisure Assessment Scale (Rosenblum, Sachs & Schreuer, 2010); IIP: Initial Interview with Parents on the Ludic Behavior of their Child (Ferland, 2005); MCP: My Child's Play (Schneider & Rosenblum, 2014); PAC: Preference for Activities of Children (King et al., 2004); PIP: Paediatric Interest Profiles (Henry, 2008) ; PH: Play History (Takata, 1974; Bryze 2008); RKPPS: Revised Knox Preschool Play Scale (Knox, 2008); ToES: Test of Environmental Supportiveness (Skard & Bundy, 2008); ToP: Test of Playfulness (Skard & Bundy, 2008).

Figure 2.3. Examples of play assessment instruments of the main facets of play adapted from Bundy (2011[a])

2.5 Play assessment of children with disabilities

2.5.1 Rationale for assessing the play of children with disabilities

The literature is dominated by comparisons of the play of children with disabilities to that of non-disabled children. It seems to suggest that while disabled children do indeed play, their play is not only different from non-disabled children's play but also unsatisfying and unproductive (Goodley & Runswick-Cole, 2010). Generally speaking, the medical model of disability is focused on what a child cannot do when playing, describing deficient play, delays in play, less variety and complexity in play behaviours and in use of toys. These challenging play behaviours are usually considered problematic and in need of remediation.

Many researchers studied the play of children with different types of disabilities. Porter et al. (2008) described how the level of play of children with hearing impairments was dependent on their communicative abilities, and how children with visual impairments typically played alone and relied on manipulative toys. Jahr et al. (2000) stated that children with Autism Spectrum Disorder (ASD) lacked the ability to take part in reciprocal play with their peers while Messier et al. (2008) described the interest of children with intellectual disabilities in sensory and sensory-motor play as evidence of their immaturity. Cordier et al. (2010) indicated that the difficulties in social interactive play of children with Attention Deficit Disorder (ADD) and/or Hyperactivity Disorder (ADHD) were related to their lack of inter-personal empathy and difficulty discriminating and identifying the emotional states of others. Despite research that has suggested that children with developmental delays often experience limitations in the extent to which they can participate in typical play activities, it has not indicated ways in which they can play (Bult et al., 2011). For those children who have an impairment, play does not come easily and they may indeed play differently or need help in order to engage in play.

Identifying the barriers children with disabilities encounter that hinder their engagement in play and leisure activity might help in removing the barriers so that the child can participate more fully in play. Indeed, recent studies have shown that children with disabilities have fewer opportunities for free play compared to their typically developing peers due to barriers such as family income, recreational orientation, physical environment and supporting policies (Bart, Jarus, Erez & Rosenberg, 2011; Kennedy-Behr, Rodger & Mickan, 2013; King, Petrenchik, Law & Hurley, 2009; Miller & Kuhaneck, 2008; Shikako-Thomas & Law, 2015). Moreover, these barriers that hinder their participation are being sustained through adolescence and adulthood (Badia et al., 2011; Shikako-Thomas et al., 2013; King et al., 2009).

Assessment of the play of children with disabilities serves various purposes, including screening, diagnosing, describing as well as treatment planning (Short et al., 2011). Play can offer understanding of subtle differences and important information regarding diagnostic differentiations in children with developmental

disabilities, such as children with ASD. The play skills of children with ASD have been shown to be lacking novelty and complexity and imaginative play situations have been incorporated into the diagnostic assessment of the condition (Lord et al. 2000). As play is a barometer of development, it can be used to evaluate other domains (Cordier, Bundy, Hocking & Einfeld, 2009; Lewis, Boucher, Lupton & Watson, 2000). For example, pretend play was used to predict language and social skills in children with ASD (Charman, 2003, in Lifter, Mason & Barton, 2011). The assessment of the play participation of children with disabilities can provide important information for preventing health consequences. For example, intervention that increases the engagement in active play of children with Developmental Coordination Disorder (DCD) can diminish the risk of obesity and cardio-vascular diseases for these children (Cairney et al., 2005; Rosenblum, Waissman & Diamond, 2016).

2.5.2 Context for play assessment of children with disabilities

Understanding the role and fundamental characteristics of play in the developing child is a basic requirement when considering the assessment of play in children with developmental delays. The International Classification of Functioning Disability and Health for Children and Youth (ICF-CY) qualifiers (World Health Organization, 2007) can help understand the child's play activity and participation with regard to his or her movement, sensation-perception, cognition and emotional state. Furthermore the evaluator should be aware of the limitations imposed on the child in relation to the physical and social environment as well as the adult's predisposition to play (Blanche, 2008).

Little is known about the participation of children with disabilities and the factors that may influence this participation. Part of the reason is that adequate measures of participation are still lacking and most play measures for children are related to performance, with play performed without social involvement (King et al., 2006; Adolfsson, Malmqvist, Pless & Granlund, 2011). The ICF-CY (2007) has taught us to view the domains of participation (involvement in life situation) component by two qualifiers of performance and capacity. The performance qualifier describes what an individual does in his or her current environment. The capacity qualifier describes an individual's ability to execute a task or an action, hence, the highest probable level of functioning that a person may reach in a given domain at a given moment. This means that to assess the full ability of the individual, one would need to have a standardized environment to neutralize the varying impacts of different environments on the ability of the individual.

The evaluation of play of children with disabilities requires instruments that enable mediation by the evaluator and are culturally adapted, with age-appropriate standards and sensitive to the difficulties of children due to varied impairments. For disabled youngsters, special consideration needs to be given to their dependency on parents and other caregivers, although the level and frequency of needed assistance is particularly difficult to assess (McConachie et al., 2006).

Although standardized tools offer a consistent way to administer, score and interpret data, they might not allow the examiner to adapt the procedure to a disabled child since they are primarily designed for typically developing children (Short et al., 2011). The use of norm-based measures might be unproductive since children with disabilities will almost always score lower than the norm. For these children, having a play age equivalent to typically developing children is certainly less important than being good at the play they want to engage in (Bundy, 1993; Clifford & Bundy, 1989). Capturing their experiences is fundamental to the development of any measure since they may have different perspectives from adults and their typically developing peers on play and leisure. The design of an appropriate instrument involves qualitative work with young disabled people themselves in order to identify user-friendly modes of presentation and responses (McConachie et al., 2006).

Most existing assessments are biased against children who are unable to demonstrate their abilities due to physical, sensory, cognitive, emotional and other impairments. Therefore, the authors suggest developing a mediated and specifically adapted assessment process for qualifying and quantifying the play of children with various developmental delays.

2.5.3 Mediated play assessment

A dyadic joint engagement and mediated interaction between caregiver (parent or therapist) and child might be necessary when assessing the play of children with severe disabilities. In the authors' viewpoint, a "*mediated play assessment*" is a way to evaluate a child who might be unable to initiate play and to act without assistance.

The clinical reasoning that underlies creating a mediated assessment of play will be demonstrated via vignettes based on the author's (VK) personal experience working with children diagnosed with cerebral palsy (CP). However, the use of a mediated play assessment is not restricted to one population. Therapists and educators should consider using a mediated play assessment and modifying the assessment process for children with other various developmental delays in order to collect representative data regarding the different facets of the child's play. The assessment should be based on in depth knowledge of the clinical manifestations of the child's diagnosis.

a) Mediated play assessment when considering motor disorders in children with CP

A child with CP might not be able to actively access and/or explore the environment. "*Cerebral Palsy (CP) describes a group of permanent disorders of the development of movement and posture, causing activity limitations that are attributed to non-progressive disturbances that occurred in the developing fetal or infant brain. The motor disorders of cerebral palsy are often accompanied by disturbances of sensation, perception, cognition, communication, and behavior, by epilepsy, and by secondary musculoskeletal problems*" (Rosenbaum et al., 2007, p. 9).

The preliminary goal in an in-depth assessment of his/her play must be appropriate positioning in order to allow the child the best possible interaction with the environment. This can be done using adaptive positioning equipment such as adaptive chairs or standers that are "tailored" specifically to the child's abilities.

The child's movement deficits limit the potential to enter spontaneously into active play and engage in the activity for his/her sensorimotor pleasure. His/her inability to enter fully into play early in life may affect his/her perception of having control over the environment and developing intrinsic motivation (Blanche, 2008). This explains why in the assessment process there should be provision of accessibly adapted toys that will enable active and spontaneous engagement in play. When relating to adapted toys, one has to think of the following objectives: selecting play materials that are appropriate and suitable, making sure they have an easy method of activation and are easily adjustable. In addition, they should be safe and durable, provide opportunity for success and promote self-expression. They should be currently popular among peers and have potential for social interaction. When relating to the action of adaptive play, we can think of "*play that has been altered in form, complexity or intent to serve the needs of children with disabilities*" (Musselwhite, 1986, p. 12).

b) Mediated play assessment when considering sensory disorders in children with CP

Sensory processing in a child with CP may impact on the child's preferences for certain play materials and activities. For example, it has been stated that these children prefer hard toys as opposed to soft furry toys. They show strong preference for vibratory toys (Curry & Exener, 1988). The child's sensory environment might have to be adapted to enable the child to fully engage in the play activity.

80% of children with CP have visual limitations of various kinds (Fazzi et al., 2010). It is essential then to have a clear understanding of those limitations and adapt the visual environment and play materials accordingly while assessing play.

Vignette on Ella – an example of adapted play activity.
Ella has Dystonic Cerebral Palsy, Classified as GMFCS[2] V, MACS[3] V and CFCS[4] IV, which means that Ella has limited functional independence. In addition she has cortical visual impairment.
When Ella was five years old her mother was concerned that her daughter could not play by herself at home after coming home from school. All she could do was sit in the corner of the big couch and watch television.
Part of the service given at her school is the OT's home visit to provide consultation regarding various functional needs, including participation in play activities. When

2 GMFCS – Gross Motor Function Classification System (www.canchild.ca)
3 MACS – Manual Ability Classification System (www.macs.nu)
4 CFCS – Communication Function Classification System (www.cfcs.us)

arriving at her home, we asked to see what toys she plays with. All her toys were organized in the closet in an orderly manner and they were all toys for typically developing children (Lego, puzzles, Barbie dolls etc.) All the toys required fine motor abilities, which Ella did not have. We asked the mother how Ella plays with her toys and were told that she doesn't actually play with them but rather watches her siblings play with them. She has the role of a "passive player" or onlooker. We asked for permission to play with Ella as we do in school so we could model to the family how we facilitate active play:

I held Ella in my arms since the toys were high up at my eye level and asked her what she wants to play with and waited for her response. In parallel, I suggested puting the toys on a lower shelf where Ella can stand supported instead of being held and make a voluntary choice.

Ella visually scanned the items on the shelf and then focused her eyes on one area. Because it wasn't clear which toy she wanted, I started scanning each toy verbally while moving my index finger from one item to the next, waiting for a YES/NO response from her. As agreed long before with Ella, she made a sound approximating the word "yes" and no sound for NO. When Ella picked the DUPLO her mother was surprised because Ella never chose to play with the DUPLO before since it requires precise fine motor abilities.

I sat on the floor in front of the mirror, legs apart and sat Ella between my legs (with her back to me) so she could have maximum support for sitting. Before taking the DUPLO pieces out, I asked what she wants us to build together, hence giving her a choice between two: a bed for the doll or a car for the doll. In the same scanning manner as we did before when choosing what to play with, Ella decided she wanted us to build a bed for the doll. Since there were 4 different colored blocks, I spread 4 of them on a dark piece of cardboard (an item I always have with me for visually adapting play items for children with visual impairments) and again scanned each one to know what color bed we were going to build.

The mother was in tears of excitement to watch how much Ella enjoyed the control/mastery she had over the play activity. After playing for almost an hour, we pointed out that Ella cannot play by herself but she can play in a mediated play environment where she is given the time and adapted setting for taking part in a play activity.

c) Mediated play assessment when considering cognitive disorders in children with CP

Cognitive impairments might affect play and be more limiting than the restrictions in movement. Therefore, it is crucial to be aware of what effect cognitive skills such as attention span and preferences, locus of control or distractibility have on play and what level of support the child might need in order to keep engaging in play. Cognitive limitations may also affect the ability to enter into make-believe and fantasy play. During a typically developing child's fantasy play, the child replays the past and anticipates the future (Blanche, 2008). These imitated scheme sequences represent,

among others, the child's cognitive ability for representational thinking and the ability to imitate these sequences. Due to their various activity limitations, lack of exposure to peer play and limited participation in daily life routines and community activities other than their own, children with cerebral palsy might have a poor repertoire of schemes that they imitate. Our clinical experience shows that these children's favorite fantasy scheme is playing "patient – doctor". Therefore, when assessing the child, it is important to understand whether this is based on cognitive limitation, motor limitation or lack of experience.

Vignette on Michael - How cognitive impairments have a greater effect on the child's ability than his motor impairment. Helping parents develop an accurate perspective on their child's play.

Michael was born 5 years ago at 25 weeks gestational age at the weight of 650 grams. In addition to Periventricular Leukomalacia resulting in a shunt and ongoing pulmonary problems during the first two years of his life, Michael has Diplegic Cerebral Palsy, Cortical visual impairment and Attention Deficit Disorder.

It was clear very early on, when Michael first attended the infant/toddler special education setting, that his "capacity" for participation, was much higher than his "performance". Gaining independent mobility using a walker took much longer than expected according to his motor ability (Classified as GMFCS III). Michael's attention problems had a major effect on his overall performance in general and his ability for any type of play in particular. In every activity with learning, solitary or social play, Michael needed one-on-one mediation. He had a hard time understanding and participating in social play activities, and showed initiation only when participating in "wild" action figure pretend play. It was hard for him to sustain active play attention for more than 5-10 minutes at a time. Attending to play activities as well as learning activities was very hard for him. The social implications were such that he became aggressive towards his peers in class and had frequent crying fits of behaviour.

A year ago it was suggested to the parents that they give Michael Ritalin in order to help him cope with his attention deficit disorder. The parents were very much against it and refused because they worried that he would get addicted to the drug. The change in their attitude occurred a few months ago when they were invited to screen video clips of his typical play behaviour in class and in other environments in the school. We filmed Michael in free play situations in the class, outside in the school yard, playing with peers (one vs group) and also had clips of him in the different play stations in class and then using the same activities in a quiet environment (Michael's different capacity & performance in different environments).

Sitting together with the mother, we asked her to watch the clips and afterwards reflect on what she saw. Michael's mother was very emotional. She commented on how hard it was for her to watch him in the different play environments and how it

never occurred to her how distinct his attention problem was but even more so she noticed the "social price he pays" because of the ADD.
Michael has been taking Ritalin for 3 months and the effect is remarkable. He started using quadruped canes for walking independently, his play is more controlled, planned and enjoyable and he has made friends that initiate play dates with him in the afternoon.

d) Mediated play assessment when considering communication disorders in children with CP

For those children with CP who are non-speaking, and have to undergo a play assessment, it is crucial to know what the child's nonverbal and verbal skills are. It is fundamental to incorporate the aided and unaided techniques the child uses to communicate with, and the types of alternative and augmentative system available to them for independent interactive communication in the assessment process.

Vignette on Muhamad - Using an arousing mediated play activity to facilitate active engagement: An example of how play needs to be facilitated for children with severe disabilities in order to assess these children's ability to play for play's sake.
Muhamad is a 4 year-old boy. He is diagnosed with Quadriplegic Cerebral Palsy classified as GMFCS V, MACS V, CFCS V and cortical visual impairment.
Muhamad needs adaptive sitting/standing during the day. This is his first year in our school and it is unclear what his cognitive level is. Muhamad smiles, makes sounds and at home he's his older sister "toy". When we asked what he plays with at home, the sisters pulled out a baby toy that plays music and lights up when pressed. Because Muhamad does not yet have an adapted seat at home, he sits in his car seat in a reclined position and therefore cannot have enough trunk extension to hold his hand in space in order to actively press the toy. After watching a video clip on the way Muhamad plays, we invited the parents to address the issue of finding adaptive ways for him to sit upright at home (until he will get an adaptive chair) and be able to play ACTIVELY!!
First we showed the parents that Muhamad can play while standing up (supported as in the picture) in front of a small table so he can initiate full participation in a fun play activity. We started at the basic level of an interactive communication play activity: On the table in front of him, Muhamad had a speech generating device (BigMack) with the message "Ruti come back!" recorded on it. When one presses on the device it plays the message that was recorded on it. I asked Ruti the Speech Language therapist to leave the room and then after she left I asked Muhamad where she is, took his hand and together we pressed the BigMack. As soon as it played the message Ruti charged in and said "you called me?" Muhamad started laughing and looked at the door, clearly understanding the play activity.

Ruti ran out and immediately Muhamad pressed the BigMack and looked at the door waiting for Ruti to barge in. We explained to the parents that this kind of activity shows us that he clearly made the connection and that we are ready to raise the level of activity to the next stage and so added another BigMack where Muhamad could ask Ruti to leave and then call her back again... The parents were eager to try this play activity at home and told us the following week that they expanded the play activity: "We decided to see if Muhamad can choose with whom he wants to go out of the room. He reached with his left hand excitedly each time at a different member of the family to leave the room and burst out laughing when he/she came in barging into the room when he called! We all had such fun playing as a family together"!

e) Mediated play assessment when considering parents' perspective on play

In their study, Graham, Truman & Holgate (2015) described the multifaceted perspectives that parents of children with CP have on play. The parents described the burden of play: the time and energy needed to play with their child and the need for more than one person to facilitate therapeutic play. Parents said that due to the children being limited in their ability to physically manipulate or access toys, they were not able to play on their own. Parents added their view of play as being vicarious, the importance of communication in play and the theme of play and therapy.

It is suggested that part of the mediated play assessment of the child includes exploring the parent's view on play: for example, how do they view play as an everyday occupation? How does their child play? We need to clarify a number of issues: does the facilitation of play place a burden on these parents? Do the parents understand the concept of play? Do the parents recognize the importance of play for play's sake? Michael's vignette (section c) not only exemplifies how parents are asked to provide their thoughts on how they view their child's play but also how the child's performance changes when the environment changes.

Vignette on Judy – A mother's perspective.
Two years ago, Faye was asked to write her perspective on her daughters' play. This is her narrative about her play improvement:
"Judy (5 years old) was diagnosed with Cerebral Palsy (CP) around her first Birthday. She was also diagnosed with cortical visual impairment (CVI).
She started physiotherapy when she was 6 months old. At the age of 1 year 7 months, she joined her first rehabilitation kindergarten, where the therapists instructed me on how to help Judy to improve, physically and visually.
As a mother of a CP baby, I focused on Judy's treatment. I converted our whole daily life into a mini-rehabilitation center. I put all dolls, teddy-bears and toys in a big box in a storage room, and focused on the following:

- *Red and yellow coloured items to treat CVI. Judy's room (in the old apartment) was painted in red with some yellow coloured circles.*
- *Lego because I was told they are good for arms and brain*
- *Maracas that will improve hands*
- *Light and sound toys that move to enhance her vision.*

I spend a lot of time with Judy playing, but I've never thought of really playing with her, until I had my first meeting with the therapist in her new kindergarten, where the therapist and the teacher told me that Judy doesn't know how to play.
I thought to myself, it's true. I've never played with Judy! All I was doing is exercising her muscles and vision, but I've never played with her! Also, I don't know how to play with her or how to teach her to play.
The therapists and teachers started teaching Judy how to play, using toys and dolls. This year they started lending toys, which I use when I play with Judy.
When we received the first toy from the kindergarten, I asked Judy if she wanted to play with me. I received the biggest smile ever from Judy, and she was so enthusiastic that I was going to play with her toy and not the one that I impose on her. We played for more than an hour, and she was so happy.
Now, after almost a year of teaching Judy how to play, I find a 180 degrees change and continuous improvement in her play behaviour.
Most of the improvements are in the following fields: selecting the toy/game she wants, initiating the play, persisting at play with the same game for a long time, more cooperative play with other children, prepared to play by herself."

In conclusion, as demonstrated in the four vignettes, in order to gain knowledge of the play occupation of children with disabilities, a specific mediated assessment method has to be constructed. This should focus on providing optimal play environments (special adapted positioning, visual and sensory environment), adapted play materials and clear awarenessof the child's aided and unaided communication. Therefore the motor, sensory, cognitive, social and emotional strengths and limitations of each individual child must be acknowledged to best adapt the mediated assessment process. In addition, it is important to have a clear understanding of the parent's perspective on their child's play, as parents have a crucial role in facilitating play experiences.

2.6 Occupational Therapy perspective on the evaluation of play

Throughout the years, occupational therapists have addressed play inconsistently in the evaluation of children. They viewed play mainly as an indicator of other abilities, such as fine-motor skills (Miller Kuhaneck, Tanta, Coombs & Pannone, 2013). Occupational science, however, has shifted the focus away from this functional view and has offered a unique perspective on play as the primary occupation of childhood (Reilly, 1969; Pierce, 2000). As occupation denotes engagement in the performance of an activity that has a meaning and purpose for the person, it is assumed that engagement in occupation contributes to health and wellbeing (Kielhofner, 2008; Wilcock, 1999). Thus, "*embodied experiences of occupation in play and in the real world influence how human systems learn to think and communicate about all significant components of life*", supporting the use of play as therapy (Yerxa, 2000, p. 92).

In recent years, a significant body of literature has been published that legitimizes and enhances the importance of play in occupational therapy (Bundy et al., 2011[a,b]; Kennedy-Behr, Rodger & Mickan, 2013; Lynch, Hayes & Ryan, 2015; Lynch, Prellwitz, Ray-Kaeser, Jansens & Coussens, 2016; Miller Kuhaneck, Tanta, Coombs & Pannone, 2013; O'Connor & Stagnitti, 2011; Prellwitz, & Skär, 2016; Ray-Kaeser & Lynch, 2017; Wilkes-Gillan, Bundy, Cordier, & Lincoln, 2016). They showed that examining play from an occupational perspective could be a valuable means for helping children participate in play activities in their everyday environment.

Contemporary theories in occupational therapy consider optimal engagement in play experience a good fit between the child's abilities, the play performance requirements and the play opportunities in the child's environment (Law, Baum & Dunn, 2005). They call for the profession to examine how a child's characteristics interact with the play environment to support or hinder play performance. Tools to assess play have been developed to evaluate play as a worthwhile outcome of therapy, an occupational domain in its own right as well as to serve as a medium for achieving an optimal child-play-environment fit and for improving play participation (Bundy, Nelson, Metzger & Bingaman, 2001; Miller Kuhaneck et al., 2013). For example, play assessment tools designed by occupational therapists and introduced to the field in the last decade are the "*Test of Playfulness*" – ToP (Skard & Bundy, 2008), the "*Revised Knox Preschool Play Scale*" – RKPPS (Knox, 2008), The "*Children's Leisure Assessment Scale*" – CLASS (Rosenblum, Sachs & Schreuer, 2010), "*My Childs' Play*" – MCP (Schneider & Rosenblum, 2014) and the "*Kid and Preteen Play Profiles*" – PIPs (Henry, 2008). These tools consist of observational tools, child-reports and parental questionnaires.

The multiple methods of play assessment represent the variety of approaches under which this complex and multi-faceted phenomenon that is play has been studied (Miller Kuhaneck et al., 2013). The combined use of these methods is particularly helpful in determining the child's play preferences and playfulness, the demands and supports of the activity and environment, and the significance of

the play activities for the child and his or her family. When more than one source of information is used, it offers a meaningful assessment and broader perspective that encompasses not only the "doing" component denoted by play behaviours but also the social, spiritual and temporal elements of the occupation of play (Coster, 1998).

In spite of the additional instruments developed to assess play per se, practitioners usually continue to collect information about a child's play by using free unstructured observation and by asking significant others. When practioners use instruments, they are most likely based on the ICF-CY body function and structure domain, especially with children with cerebral palsy (Saleh et al., 2008; Miller Kuhaneck et al., 2013). In studies of occupational therapy practice in three European countries (Ireland, Sweden and Switzerland), therapists all prioritised using assessments that examine functional skills over play (Lynch, Prellwitz, Schulze & Moore, 2018). This trend was evident despite a strong shared valuing of play as an essential occupation in childhood. Even when play assessments were used, the goal of assessment was to establish which body functions were impaired in order to develop intervention plans. These findings mirror other studies that show that play is more often used as a medium to observe motor, sensory and process skills rather than an occupation in itself (Stagnitti, Unsworth & Rodger, 2000). The supremacy of what Trombly (1993) described as a traditional "bottom-up" approach, meaning that the focus is on abilities with expectation that normalizing these abilities will result in better performance, is still prominent.

According to Miller Kuhaneck et al., (2013) occupational therapists feel obliged by prescribers and funders to give assessment of the child's abilities priority. They also are highly aware of the pressure of early intervention to remediate impairments, particularly in young children, and so prioritise motor function over play (Page, Roos & Banziger, 2015). Moreover, many therapists feel inadequate in assessing play in practice, because play is addressed more fully by other professionals, or is not considered a productive and a respectable goal for intervention. Since a majority of therapists work in a clinical setting, they lack the time and resources to assess play in a child's familiar setting (Stagnitti, 2004).

A top-down assessment process that comprises the examination of role competence, meaning and barriers to task achievement is argued to better support truly occupation-centred intervention (Rodger & Kennedy-Behr, 2017). However, when occupational therapists adopt a top-down approach, their focus is mainly on self-care rather than play (Miller Kuhaneck et al., 2013). A focus on play depends on the availability of culturally adapted, reliable and valid tools that are occupation-focused and consider the child in context (Coster, 1998). Based on the Person-Environment-Occupation Model (Law et al., 1996), the assessment process should reflect the child-environment-play dynamic relationship, with the play performance being the outcome of the transaction. According to Coster (1998), a top-down approach to play places the child's participation and how he/she is included or excluded from participating in play on the first level of assessment. The second level addresses the play performance, the adaptations and assistance necessary to achieve it. On the

third level is the assessment of the child's strengths and limitations in performing the play activity. The fourth level addresses the component processes necessary to the play performance.

With such an assessment process, a therapist is able to answer the following questions: What skills and attributes does a child bring to the play situation? What are his/her play challenges, interests, preferences and opportunities in varied contexts? How does a child react, does he/she take turns, what appears to motivate him/her? Does he/she have the attention and problem-solving skills for the play activity? How does he/she handle the frustration, the waiting? Does he/she manipulate objects and toys easily? How does he/she communicate? What play activities are available, when and where, with what requirements? What are the aids and services necessary to support a child with disabilities equal access to play (Miller Kuhaneck, Spitzer & Miller, 2010)?

In using an occupational frame of reference, it is necessary that occupational therapists be equally knowledgeable about the child's disability, process of development, play activity and environment, and methods of play assessment. They need to acknowledge the power of play and to reframe their thinking about play. A stronger emphasis regarding the role of play in evaluation and intervention needs to be provided in the educational and practice settings of occupational therapy. As Florey stated over 30 years ago (1981, p. 524): "*Just as the use of scooter boards does not equate to a knowledge of Sensory Integration, the use of play materials and toys does not equate to a knowledge of play*".

2.7 Psychological perspective on the evaluation of play

Psychologists consider play as the child's natural means of expression, which is why they paid attention to it over the years (Edling Harris & Landreth, 2001). According to Landreth (2001), play allows children to express feelings, strong emotions, thoughts and situations experienced in a safe environment. In this sense, it can be considered as a specific language that doesn't necessarily require verbal words. Thus, play can be viewed as a limitless expression form. Unlike the verbal language, it doesn't require specific rules or meaning, thus it can be expressed in many nuances. For example, the psychologist can use symbolic play to make assumptions about a child's experience by interpreting the theme of his play, the recurrence of the theme and the behaviour related. "*In assessing play behaviour, the observer, then, is constantly comparing what an individual child is doing, saying and feeling to what is normal for that child's age, level of development and environment*" (Landreth, 2001, p. 11). Therefore, there is a consensus in the field that play provides a window for assessing child's development and allows an understanding of children's experiential and psychological world (Perry & Landreth, 2001).

Psychologists might, given their behavioural or constructivist perspective on play, focus more on how a child uses play or on what it reveals about a developing child (Lifter, Mason & Barton, 2011). Research from a behavioural tradition puts emphasis on small samples or single case studies to capture a child's play experience, with a problem in generalizing the findings. In a constructivist perspective, attention is placed on what populations of children do when playing, which expresses what they know and are learning (Lifter, Mason & Barton, 2011). These two perspectives on play must be acknowledged for the value each adds.

According to Howard & McInnes (2013), psychologists use mainly play-based assessments to highlight certain skills and aspects that are necessary for the child's development such as, for example, happiness, physical activity and socialization with other children or problem solving. Such assessments are generally used for two purposes: to track developmental progress and to make important decisions about the intervention (Brassard & Bohem, 2008, in Howard & McInnes, 2013). They usually use different observational tools that can be structured, unstructured or a mixture of both, based on documentation or observation schedules developed by the practitioner. The aims of the observations have to be clearly identified and the way psychologists collect their data has to be adapted accordingly. In order to be as objective as possible, the clinician has to lead his/her observations paying attention to many aspects and in particular, he/she should be aware of the danger associated with interpretation. Actually, some behaviours that can be expressed by the children in play may have different significance for an adult. Children often play for learning about the world and what happens around them. Therefore, the underlying rules of play can be different from that of an adult.

Affective processes can be assessed for example with the "APS - *Affect in Play Scale*" (Russ, 2004). It is an observational tool of the cognitive and affective processes occurring in pretend play in a standardized play task. Social and cognitive aspects of play may be evaluated with the revised "POS - *Play Observation Scale*" (Rubin, 2001). This assessment shows individual differences and differences in age, gender and socio-economic status and highlights withdrawn and aggressive behaviour of children at risk for developing psychological difficulties or children with disabilities.

In conclusion, we can report that psychologists predominantly use play-based assessments that emphasize play as a mediation activity. The aim of an evaluation might not be to focus on the children's abilities to play for the sake of play but to gather information on children's psychological abilities from a therapeutic perspective.

2.8 Parental contribution to the evaluation of play

Play is a very important activity for children. Therefore, parents show commitment to play by promoting it in many ways. They manage play space, select the toys, adopt

attitudes that foster independent play and help their child maintain a proper degree of arousal and interest in the play activity (Pierce, 2000; Hughes, 1999).

Children with disabilities, such as children with autism and learning disabilities, have cognitive impairments that may affect daily activities such as play. Play has many cognitive demands that vary according to the type of play and the activities involved. It may require attention, language, planning, visuo-spatial or theory of mind skills. Thus, it is very important to analyse the different aspects of the play activity.

Is the duration of the activity allowing the child to maintain concentration efficiently until the end? Can the verbal rules be understood correctly or should they be given visually? Does the play activity involve communication and theory of mind skills tailored to the child? Are the visual aspects of the play activity correctly perceived and the motor constraints suitable for the child? The level of difficulty of the play is important too. The play has to be difficult enough to stimulate and interest the child but must remain accessible. These different characteristics need to be adapted so that the child will enjoy and succeed in the play activity. It is important that parents receive guidelines that will help them in adapting and facilitating enjoyable play experiences for their child.

In order for parents to select and manage the play activity as well as support the child in playing, parents should answer two questions: 1) "Is my child showing pleasure in the play?" and 2) "Is the play situation adapted to my child?" In so doing, they can intervene in four dimensions to manage and eventually modify the play situation: pleasure in the play, interest in the play, play space and play object.

1. It might be possible to answer the first question by observing how the child's behaviour differs when expressing pleasure and interest in play as for example: laugh, smile, good participation, good responses, motivation to play again; or, to the contrary, displeasure or disinterest, for example sigh, distractibility, no-response, stress indicators (tears, agitation, nervousness), wish to give up the play.
2. To answer the second question, parents may quickly observe the setting of the play situation, which comprises the play space (position of the child and objects, accessibility) and characteristics of the play objects' (usability of the toys) in order to adapt their level of support.

Figure 2.4 illustrates the two questions the parents should answer and the four dimensions on which they can intervene in order to adapt their child's play situation.

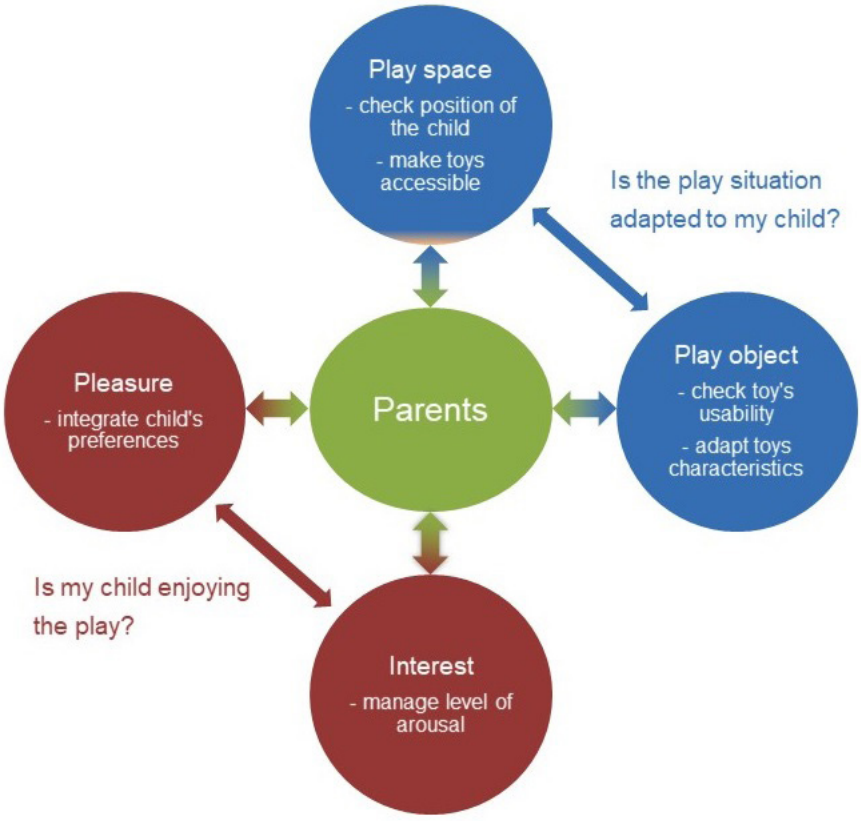


Figure 2.4. Parents'contribution in adapting their child's play

2.9 Conclusion

Professions operate within particular frames of reference with core assumptions that shape their approaches to assessment and intervention. Some of these assumptions are embedded in traditional neuromaturational and rehabilitation approaches that use the information regarding children's play to determine and act on impairments. Some emphasize more social approaches that use this information to determine the children's needs and assist them in playing and participating in their community.

To best meet the children'sneeds and support for play, flexible services are needed and helping children with disabilities play for the sake of play requires new directions. A "wake-up call" is needed to make play happen. This is necessary in order to provide children with fun and playful experiences, allow meaningfulness and active engagement in free play and to prevent play deprivation. This requires solutions that go beyond the child's proximal environment.

Provision of an ecologically valid play assessment to a child in his or her play context is a first step. Inclusion of parents, caregivers, teachers and children in the evaluation process is more likely to bring play to their attention and enable better adherence to an early intensive intervention program. Dissemination of general information and guidelines about how to observe and mediate children's play to parents and educational and clinical service providers is a second step. Such strategy could not only support the development of interventions for children to prevent play limitations and participation restrictions but also facilitate positive and enriching play experiences.

The assessment of play per se requires a greater level of specificity of children's expression in play and play performance. Experience related to societal and technological changes, new descriptive studies on children's play abilities, activities and participation are needed. Further research is crucial in order to support the use of play in assessment.

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3 Review of tools for play and play-based assessment

3.1 Objectives

The review of the tools and methodologies for the evaluation of the play had several aims:

- to report the state of the art of the existing tools and methodologies to assess play;
- to identify the most suitable tools for the assessment of different aspects of play to be applied for children with disabilities;
- to give directions for future research and also to support the development of aspects that have not yet been addressed;
- to share the state of the art with researchers and practitioners, in order to enable an autonomous choice of the best tool for particular case.

3.2 Method

The literature review was performed between the Summer 2016 and the Summer 2017; it was meant to analyse the existing methodologies and tools used in experimental research and clinical practice. The review was performed focusing on the following topics:

- evaluation of play of children with disabilities;
- evaluation of children's play;
- evaluation of playfulness and other play skills;
- evaluation of play from the perspectives of different fields: Occupational Therapy, Psychology, Education, Information and Communication Technology.

The following keywords were used: child, play, playfulness, assessment, evaluation. The sole criterion for exclusion has been: play therapy. However, play-based child assessment tools were included as well in the database, because they show an operationalisation of the play construct. Moreover, the Working Group 1 decided to focus on tools developed in different cultural and linguistic areas that had at least one publication in international papers. The query was run on the following databases:

- PsychInfo
- PubMed
- Google Scholar
- Google search engine

The review reports 29 tools for play or play-based assessment; among them, the following tools are derived from the review by Caprino and Laudanna (2009) "Literature analysis on play assessment methodologies" within the European Project IROMEC:

1. Assessment of Ludic Behaviour
2. Observed Peer Play in Unfamiliar Settings
3. Parten Scale adapted
4. Penn Interactive Peer Play Scale
5. Social Play Continuum
6. Smilansky's socio dramatic play Inventory Scale
7. Transdisciplinary Play-Based Assessment

3.3 General overview of the tools: descriptive analysis of some characteristics

The tools presented in this chapter had been developed since the 60s of the Twentieth Century; the first version of most of them was published between the 1981 and the 2010 (see Figure 3.1).

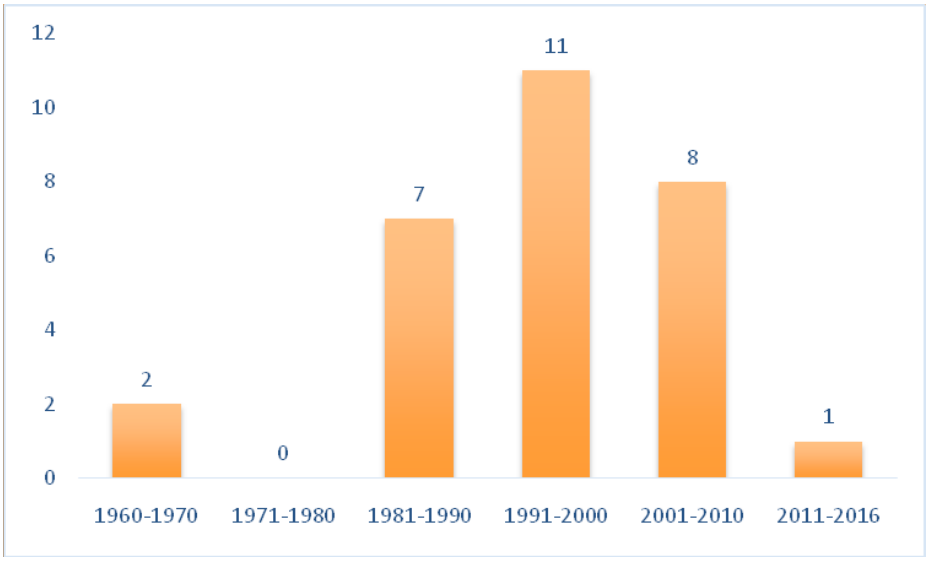


Figure 3.1. Year of publication of the tool first version

The 58.6% of the tools were developed in the United States of America (see Figure 3.2). The other tools were developed in other English-speaking countries, or are available in English, as this was one of the criteria of selection of the current study.

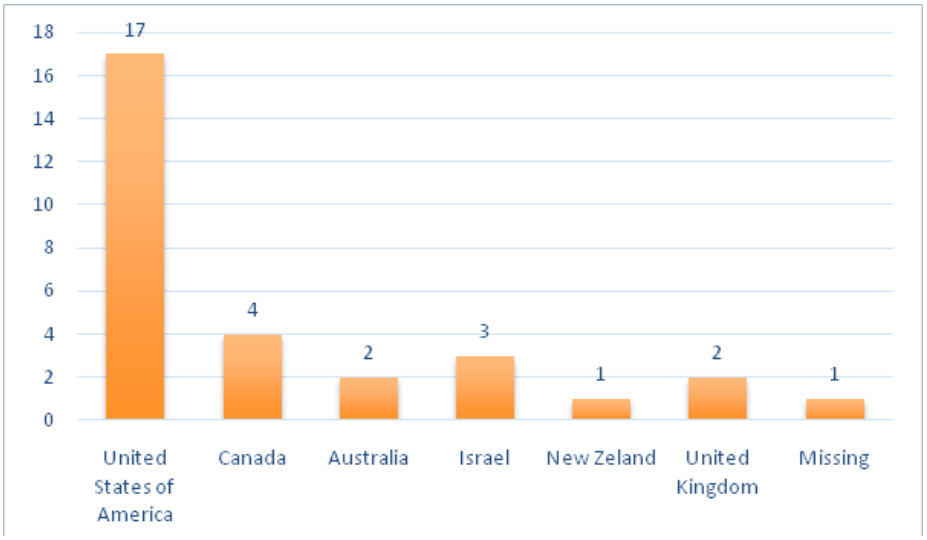


Figure 3.2. Country of origin of the tools

Figure 3.3 reports the scientific fields in which the tools were developed (occupational therapy: 41.4%; psychology: 37.9%; education: 10.3%; psychology and education: 3.5%; psychoanalysis: 7%).

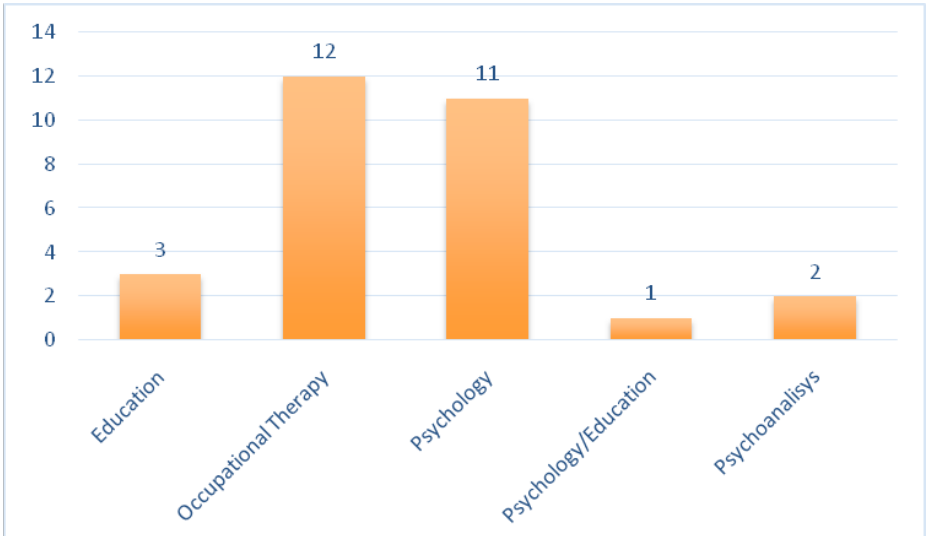
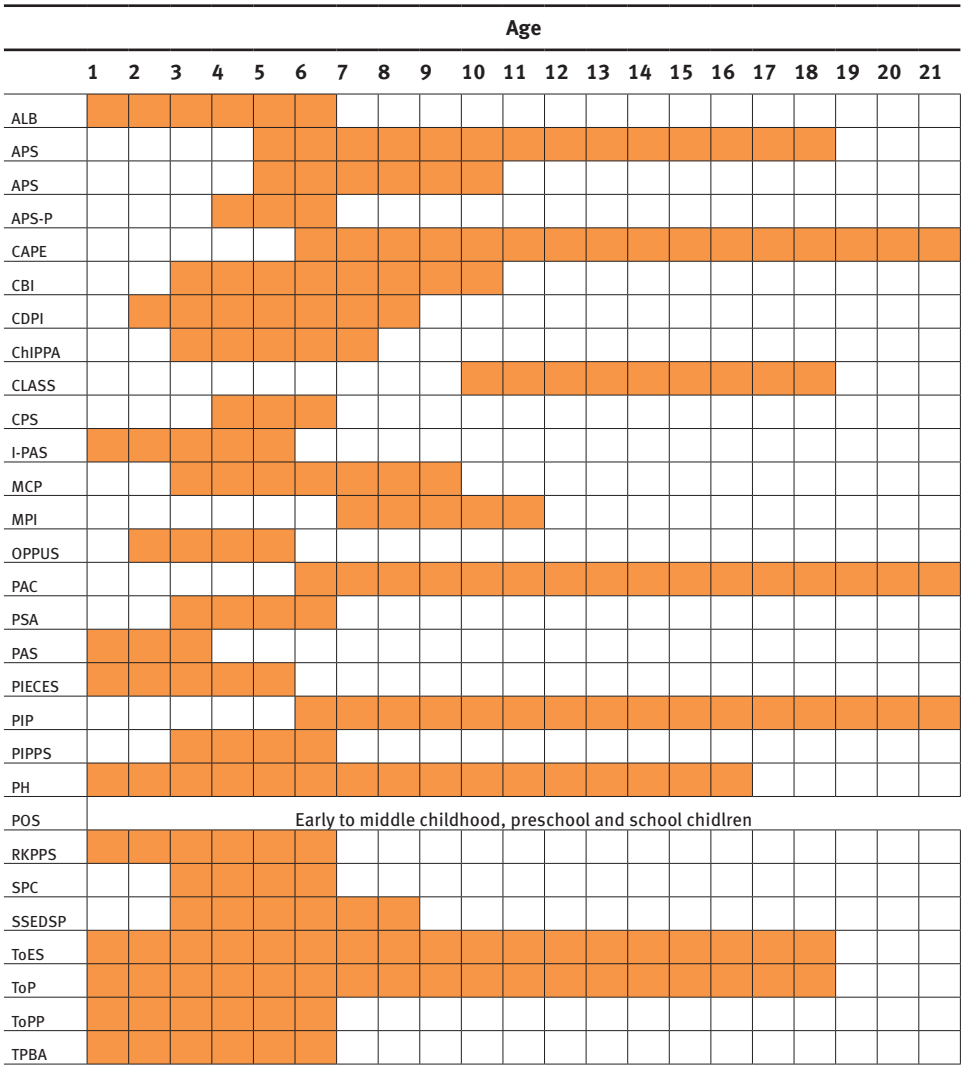


Figure 3.3. Scientific context of the tools

Twenty-two tools are devoted to play assessment (75.9%) and seven to play-based assessment (24.1%).

Table 3.1 reports the age range covered by each tool.

Table 3.1. Age in years covered by the tools



With respect to some psychometric characteristics of the tools, eight of them have a normative sample[5] (27.6%), whereas 21 tools do not have a normative sample or this information was not available. Twenty-five tool (86.2%) present some information about their reliability and validity; for the rest

5 The norms of a tool are scores used to set the typical score of a child in a given age group. To do this, a large number of children, divided into age groups (e.g., 5-year-olds, 6-year-olds, etc.) are assessed using the tool. Their scores and their standard deviations constitutes the norms and the children constitutes the normative sample. The norms are usually reported in the manual or in the scientific paper describing the tool. For a wider discussion, see Chapter 1 (Molina and Muntean, 2018)

of them, the information was not available.
As to the requirement needed to use the tools, eight of them (27.6%) require a training; for he rest of them, training was not necessary or the information was not available.
Sixteen tools (55.2%) are available in at least one language different from English.

3.4 Review of the tools

In this section, 29 tools are alphabetically listed and presented including the following characteristics:

1. Author/s.
2. Year of publication: the first date of publication and date of revised versions, if available.
3. Origin: country of the normative sample or affiliation of the main author/s.
4. Existing translations and/or adaptations.
5. Professional context in which the tool has been developed.
6. Target population for which the tool has been developed.
7. Objectives: play assessment or play-based assessment.
8. Short description.
9. Normative sample.
10. Reliability.
11. Validity.
12. Is training required to use the tool?
13. Time/ sessions.
14. Setting.
15. Toy materials are provided together with the tool?
16. References.
17. Notes.

Some of the tools are devoted to the assessment of play and some are play-based instruments used to evaluate children's cognitive and social skills that are necessary for play as well as their ability to initiate play interactions.

Assessment of Ludic Behaviour (ALB)

Author	Francine Ferland
Year	1997; 2005
Origin	Canada (French): original title «L'évalutation du comportament ludique (ÉCL)»
Translations	Brazilian Portuguese (Sant'Anna, 2008); English (Ferland 1997; 2005); French (Ferland, 2003)
Context	Occupational therapy
Target population	0- to 6-year-old children with physical disabilities
Objectives	Play assessment
Short description	The Assessment of Ludic Behaviour (ALB) is a criterion-referenced evaluation tool designed to assess the development of the social and object play in children with motor impairments. The assessment procedure includes a parent's interview and the observation of child's free play behaviour. The Initial Interview with Parents on the Ludic Behavior of Their Child (Ferland, 1997, 2005) provides information on the child's play behaviour at home from the parents' perspective. It provides information about the child's play material, toy preferences, play interests, favourite playmates, most functional position to play and frequency of play in the family environment. The purpose of the observational assessment is to characterize the qualitative and individual aspects of a child's play behaviour with respect to his/her play interests, play abilities, and play attitude. The manner in which the child communicates is noted as well. Based on observation procedure, five different areas are examined, encompassing different categories: General level of interest and motivation (Human, Sensory); Basic Ludic Abilities (Action with regard to objects, Action with regard to space, Use of objects, Use of space); Ludic Interest (Action with regard to objects, Action with regard to space, Use of objects, Use of space); Ludic attitude (Curiosity, Initiative, Sense of humour, Pleasure, Enjoyment of challenge, Spontaneity); Communication in play. Each area encompasses a different number of items, scored according to a 3-point scale. The evaluator scores the items with the aid of a check list while the child is playing; at the end of the session if some item has not been observed the evaluator can initiate the play activity trying to involve the child. The ALB can be used to set up play-based interventions.
Normative sample	Data not available
Reliability	Data not available
Validity	Some indications of validity are retrievable here: Ferland, 1997; Messier et al., 2008
Training required	No
Time/Sessions	Variable (1 hour average length)

Setting	Familiar; Naturalistic; Indoors
Toy materials	No
References	Ferland, F. (1997). *The Ludic Model: Play, Children with Physical Disabilities and Occupational Therapy*. Ottawa, CAN: University of Ottawa Press. Ferland, F. (2003). *Le modèle ludique: le jeu, l'enfant ayant une déficience physique et l'ergothérapie*. Les Presses de l'Université de Montréal. Ferland, F. (2005). *The Ludic Model. Play, Children with Physical Disabilities and Occupational Therapy*. Nepean, CAN: Canadian Association of Occupational Therapist. Messier, J., Ferland, F., & Majnemer, A. (2008). Play behavior of school age children with intellectual disability: Their capacities, interests and attitude. *Journal of Developmental and Physical Disabilities*, 20(2), 193-207. Sant'Anna, M. M. M. (2015). *Instrumentos de avaliação do modelolúdico para criançacomdeficiênciafísica (EIP – ACL)*. São Carlos, BR: ABPEE M&M Editora.
Notes	The tool is provided in the book "The Ludic Model" (see reference above). The Brazilian version of the tool can be downloaded at this address: http://abpee.net/homepageabpee04_06/editora/avaliacao.pdf

Assistance to Participate Scale (APS)

Authors	Helen Bourke-Taylor, Mary Law & Linsey Howie
Year	2009
Origin	Canada and Australia
Translations	Data not available
Context	Occupational therapy
Target population	5- to 18-year-old school aged children with every kind of disabilities
Objectives	Play assessment
Short description	The APS is an other-report questionnaire meant for caregivers. It measures the assistance that a school aged child with a disability requires to participate in play and leisure activities at home and in the community, from the primary caregiver's perspective. Eight items referring to general types of play and leisure activities are included: watching television, listening to music, indoor play, outdoor play, sharing time with people or attending organized recreational club. Caregivers are asked to rate the level of assistance that they typically provide to their child using a 5-point Likert response scale (1 = Unable to participate; 2 = Participates with my assistance at all stages of the activity; 3 = Participates after I have set him/her up and help at times during the activity; 4 = Participates with my supervision only; 5 = Participates independently). Three separate scores are calculated for the APS: APS-Home alone; APS-Community social and APS-Total. The APS may be used as an outcome measure and to evaluate and predict the amount and type of additional assistance families need to facilitate their child's participation in play and recreation.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Bourke-Taylor et al., 2009; Bourke-Taylor &Pallant, 2013
Validity	Some indications of validity are retrievable here: Bourke-Taylor et al., 2009; Bourke-Taylor &Pallant, 2013
Training required	No
Time/Sessions	10 minutes
Setting	Familiar; naturalistic; indoor and outdoor
Toy materials	No
References	Bourke-Taylor, H. M., Howie, L., & Law, M. (2010). Impact of caring for a school aged child with a disability: understanding mothers' perspectives. *Australian Occupational Therapy Journal*, *57*(2), 127-136. Bourke-Taylor, H. M., Law, M., Howie, L., & Pallant, J.F. (2009). Development of the Assistance to Participate Scale (APS) for children's play and leisure activities. *Child: Care, Health and Development*, *35*(5), 738-745. Bourke-Taylor, H., & Pallant, J.F. (2013). The Assistance to Participate Scale to measure play and leisure support for children with developmental disability: Update following Rasch analysis. *Child: care, health and development*, *39*(4), 544-551.
Notes	The APS booklet can be downloaded at this address: https://www.canchild.ca/en/resources/231-assistance-to-participate-scale-aps

Affect in Play Scale (APS)

Author	Sandra W. Russ
Year	1987; 2004
Origin	United States of America
Translations	Italian (Chessa et al., 2011; Mazzeschi et al., 2016)
Context	Psychoanalysis
Target population	5- to 10- year-old typically developing children or children at risk
Objectives	Play-based assessment
Short description	It is an observational rating scale that requires videotaping. Children are asked to play with two puppets and few blocks as they like, for 5 minutes. The Scale measures two factors in children's fantasy play. The first one is a cognitive dimension that encompasses organization (scored by rating the organization of the play and quality and complexity of the plot from 1 to 5), imagination (scored by rating the novelty and uniqueness of the play ranging from 1 to 5) and comfort in play (scored by rating the child's involvement and enjoyment of the play ranging from 1 to 5). The second factor is the affective process that encompasses the total frequency of affect expression, the variety of 11 affective expressions (happiness/pleasure; anxiety/fear; sadness/hurt; frustration/displeasure; nurturance/affection; aggression; oral; oral aggression; anal; sexual; completion) and the intensity of affective expression measured on a scale ranging from 1 (low) to 5 (high). The Affect in Play Scale–Brief Rating version is an adaptation of the scale that does not require videotaping. The APS can be used to evaluate prevention programmes and/or interventions to monitor progress in play and in functions connected to play.
Normative sample	Yes
Reliability	Some indications of reliability are retrievable here: Sacha Cordiano et al., 2008
Validity	Some indications of validity are retrievable here: Russ & Schafer, 2006; Sacha Cordiano et al., 2008
Training required	Yes. It requires videotaping and extensive training to score.
Time/Sessions	5 minutes.
Setting	Unfamiliar; clinical; indoor.
Toy materials	No

References

Chessa, D., Di Riso, D., Delvecchio, E., Salcuni, S., & Lis, A. (2011). The Affect in Play Scale: Confirmatory factor analysis in elementary school children. *Psychological Reports*, *109*, 759–774.

Mazzeschi, C., Salcuni, S., Di Riso, D., Chessa, D., Delvecchio, E., Lis, A. & Russ, S. (2016). *E tu giochi? La valutazione del gioco simbolico in età evolutiva: l'Affect in Play Scale*. Milano, I: Franco Angeli.

Russ, S. W. (1987). Assessment of cognitive affective interaction in children: Creativity, fantasy, and play research. In J. Butcher & C. Spielberger (Eds.), *Advances in personality assessment*. Vol. 6 (pp. 141 -155). Hillsdale, NJ: Lawrence Erlbaum Associates.

Russ, S. W. (1993). *Affect and creativity: The role of affect and play in the creative process*. Hillsdale, NJ: Lawrence Erlbaum Associates.

Russ, S. W., & Schafer, E. D. (2006). Affect in fantasy play, emotion in memories, and divergent thinking. *Creativity Research Journal*, *18*(3), 347-354.

Sacha Cordiano, T. J., Russ, S. W., & Short, E. J. (2008). Development and validation of the Affect in Play Scale – Brief Rating Version. *Journal of Personality Assessment*, *90*, 52-60.

Affect in Play Scale – Preschoolers (APS-P)

Authors	Karla K. Fehr & Sandra W. Russ
Year	2009
Origin	United States of America
Translations	Italian (Delvecchio, Di Riso, Li, Lis, Mazzeschi, 2016; Delvecchio, Mabilia, Li, & Di Riso, 2016).
Context	Psychology
Target population	4- to 6-year-old children
Objectives	Play-based assessment
Short description	This tool is based on the Affect in Play Scale developed by Russ (1987; see page 64 of this document). Kaugars and Russ (2009) report that "the theoretical foundation for the APS-P is the same as that for the APS in that it is expected that the APS-P also assesses cognitive and affective processes in play. The primary differences in the two measures are in (a) the selection of age-appropriate toys and a greater variety of toys in the APS-P, which allows children the opportunity to engage in the task in an age-appropriate way; and (b) the scoring systems […]. Also, the APS-P instructions are more engaging for the child and provide several examples of what the child could do with the toys" (p. 737). Children are given a bag with plastic animal toys (dog, elephant, bear, shark, bunny, camel, cheetah, hippopotamus, and giraffe), three plastic cups, a car, and a "hairy" rubber ball. "Some modifications of the APS scoring were made to take into consideration young children's developing language abilities. Six primary scores were used based on the APS scoring system […]: total frequency of affect, variety of affect categories, imagination, organization, elaboration, and comfort. Scoring criteria for categorizing the type of play children exhibited (i.e., no play, functional play, or pretend play) were adapted from play coding used in previous research […] (Kaugars& Russ, 2009, p. 741). For children with developmental disabilities this tool could be particularly important because usual assessment might ignore the abilities of these children, "whereas play-based assessment assesses functional abilities or impairment, provides a direct link between the results and intervention needed, and is more cost- and time-effective" (Fehr & Russ, 2014, p. 350).
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Kaugars & Russ, 2009
Validity	Some indications of validity are retrievable here: Fehr & Russ, 2013
Training required	Yes. It requires videotaping and extensive training to score
Time/Sessions	5 minutes
Setting	Familiar; clinical; indoor

Toy materials	No
References	Delvecchio, E., Di Riso, D., Li, J. B., Lis, A., & Mazzeschi, C. (2016). Affect in Play Scale-Preschool Version: Validation on a Sample of School Age Italian Children. *Journal of Child and Family Studies*, *25*(12), 3523-3536. Delvecchio, E., Mabilia, D., Li, J. B., & Di Riso, D. (2016). Pretend play in Italian children: Validation of the affect in play scale-preschool version. *Journal of Child and Family Studies*, *25*(1), 86-95. Fehr, K. K., & Russ, S. W. (2014). Assessment of Pretend Play in Preschool-Aged Children: Validation and Factor Analysis of the Affect in Play Scale–Preschool Version. *Journal of Personality Assessment*, *96*(3), 350-357. Kaugars, A. S., & Russ, S. W. (2009). Assessing preschool children's pretend play: Preliminary validation of the Affect in Play Scale-Preschool version. *Early Education and Development*, *20*(5), 733-755.

Children's Developmental Play Instrument (CDPI)

Author	Saralea E. Chazan
Year	2009
Origin	United States of America
Translations	---
Context	Psychoanalysis
Target population	20-months to 8- year-old typically developing children
Objectives	Play assessment
Short description	Play activity is segmented in four categories: Pre-Play; Play Activity; Non-Play; Interruption. Then, play activity of the child is analysed at three levels: 1. Descriptive analysis: a. Classification of play activity (for instance, fine or gross motor, sorting and arranging; imitation and fantasy). b. Script Description (who initiates play, how it is sustained, how play ends, etc.). c. Sphere of play activity (autosphere; microsphere; macrosphere). 2. Dimensional analysis: a. Affective components: overall affect; modulation/regulation; feelings expressed; relationship feelings. b. Cognitive components: role representation; transformation of persons and objects; object use. c. Narrative components: play theme and topics; use of language. d. Developmental components: estimated developmental level of play activity; social level of play activity. 3. Functional analysis: a. Play engagement. b. Symbolic functioning. c. Adaptive play style. d. Inhibited/Conflicted play style. e. Impulsive/Aggressive play style. f. Disorganized play style
Normative sample	No
Reliability	Some indications of reliability are retrievable here: Chazan & Kuchirko, 2017
Validity	Some indications of validity are retrievable here: Chazan & Kuchirko, 2017
Training required	Yes. It requires videotaping and training to score
Time/Sessions	10 minutes
Setting	Familiar; naturalistic; indoor and outdoor
Toy materials	No
References	Chazan, S. E. (2009). Observing play activity: The Children's Developmental Play Instrument (CDPI) with reliability studies. *Child Indicators Research*, *2*, 417–436 Chazan, S. E., & Kuchirko, Y. A. (2017). The children's developmental play instrument (CDPI): An extended validity study. *Journal of Infant, Child, and Adolescent Psychotherapy*, *16*(3), 234-244.

Children's Assessment of Participation and Enjoyment (CAPE)

Authors	Gillian A. King et al.
Year	2004
Origin	Canada
Translations	Arabic (Almasri et al., 2017); Dutch (Bult et al., 2010); German (Fink et al., 2016); Spanish (Longo et al. 2014); Swedish (Ullenhag et al. 2012)
Context	Occupational therapy
Target population	6- to 21-year-old children and adolescents with and without disabilities. The CAPE was used with 6- to 15 year-old children with physical impairment (cerebral palsy - musculoskeletal disorder; Law et al., 2006)
Objectives	Play assessment
Short description	The CAPE is a self-report questionnaire and includes an interview version. It is designed to be used together with the PAC (Preference for Activities) but can be used independently. The CAPE should be used first when the tools are used together. It serves to identify the five dimensions of participation (diversity – intensity – with whom – where – extent of enjoyment) for each leisure and play activity the child performed in the last 4 months. The child looks at drawings of children performing 55 different activities. There are five types of activities: recreational, active physical, social, skill-based and self-improvement, belonging to two domains: formal and informal. A manual describes the tool and gives administration and scoring guidelines. Information can be used for the design and implementation of interventions to increase children's participation.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: King et al., 2004; Imms, 2008
Validity	Some indications of validity are retrievable here: King et al., 2006; Imms, 2008
Training required	No
Time/Sessions	30 to 45 minutes
Setting	Not applicable
Toy materials	Yes. The kit includes activity cards.
References	Almasri, N. A., Palisano, R. J., & Kang, L. J. (2017). Cultural adaptation and construct validation of the Arabic version of children's assessment of participation and enjoyment and preferences for activities of children measures. *Disability and rehabilitation*, 1-8. Bult, M. K., Verschuren, O., Gorter, J. W., Jongmans, M. J., Piškur, B., & Ketelaar, M. (2010). Cross-cultural validation and psychometric evaluation of the Dutch language version of the Children's Assessment of Participation and Enjoyment (CAPE) in children with and without physical disabilities. *Clinical Rehabilitation*, *24*(9), 843–853.

Fink, A., Gebhard, B., Erdwiens, S., Haddenhorst, L., & Nowak, S. (2016). Reliability of the German version of the Children's Assessment of Participation and Enjoyment (CAPE) and Preferences for Activities of Children (PAC). *Child: care, health and development*, *42*(5), 683–691.

Imms, C. (2008) Review of the children's assessment of participation and enjoyment and the preferences for activity of children. *Physical and Occupational Therapy in Pediatrics*, *28*(4), 389-404.

King, G., Law, M., King, S., Hurley, P., Hanna, S., Kertoy, M., Rosenbaum, P., & Young, N. (2004). *Children's Assessment of Participation and Enjoyment (CAPE) & Preferences for Activities of Children (PAC)*. San Antonio: Harcourt Assessment Inc.

King, G. A., Law, M., King, S., Hurley, P., Hanna, S., Kertoy, M., & Rosenbaum, P. (2006). Measuring children's participation in recreation and leisure activities: construct validation of the CAPE and PAC. *Child: care, health and development*, *33*(1), 28-39.

Law, M., King, G., King, S., Kertoy, M. K., Hurley, P., Rosenbaum, P., et al. (2006). Patterns of participation in recreational and leisure activities among children with complex physical disabilities. *Developmental Medicine & Child Neurology*, *48*(5), 337–342.

Longo, E., Badia, M., Orgaz, B., & Verdugo, M. A. (2014). Cross-cultural validation of the Children's Assessment of Participation and Enjoyment (CAPE) in Spain. *Child: Care, Health and Development*, *40*(2), 231-241.

Ullenhag, A., Almqvist, L., Granlund, M., & Krumlinde-Sundholm, L. (2012). Cultural validity of the Children's Assessment of Participation and Enjoyment/Preferences for Activities of Children (CAPE/PAC). *Scandinavian Journal of Occupational Therapy*, *19*(5), 428-438.

Notes

The CAPE/PAC tools are purchased as a package. The original versions of the tool can be purchased at this address: https://www.pearsonclinical.ca/en/products/product-master/item-510.html

Child Behaviors Inventory of Playfulness (CBI)

Authors	Cosby S. Rogers et al.
Year	1998
Origin	United States of America
Translations	Greek (Trevlas et al., 2003); Japanese (Taylor & Rogers, 2001)
Context	Psychology
Target population	3- to 10-year-old children
Objectives	Play assessment
Short description	The CBI is an other-report questionnaire, for parents or teachers. It measures playfulness according to the six dispositions to play as described by Rubin, Fein & Vendenberg (1983): 1. intrinsically motivated behaviour; 2. focus on the process rather than the product; 3. different than exploratory behaviours; 4. non-literality; 5. free from external rules; 6. active engagement. The CBI consists of two sub-scales: playfulness and externality, both of which are independent of age and gender. Items are rated on a scale from 1 (very uncharacteristic) to 5 (very characteristic). Playfulness is a 21-item subscale; sample items include: "Always has ideas of things to do", "Plays eagerly", "Creates own way to do things" and "Starts activities for own enjoyment". Higher scores indicate greater playfulness. Externality is a 7-item subscale that measure behaviours likely to reduce a child's ability to play; sample items include: "Needs reinforcement to continue activities" and "Once goal is reached, stops". Higher scores indicate reduction of ability to play. The scale score is obtained by taking the sum across the items, giving a range of scores from 21 to 105 on the playfulness subscale and 7 to 35 on the externality subscale.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Rogers et al., 1998.
Validity	Some indications of validity are retrievable here: Rogers et al., 1998.
Training required	No
Time/Sessions	15 minutes
Setting	Not specified
Toy materials	Not specified

References

Christian, K. M. (2011). *The construct of playfulness: Relationships with adaptive behaviors, humor, and early play ability* (Doctoral dissertation, Case Western Reserve University).

Rogers, C. S., Impara, J. C., Frary, R. B., Harris, T., Meeks, A., Semanic-Lauth, S., & Reynolds, M. (1998). Measuring playfulness: Development of the Child Behavior Inventory of Playfulness. In M. Duncan, G. Chick, & A. Aycock (Eds.), *Play and Cultural Studies*. Vol. 4 (pp. 121-135). Greenwhich, CT: Ablex Publishing Corp.

Rubin, K. H., Fein, G., & Vandenberg, B. (1983). Play. In P. H. Mussen (Series Ed.) and E. M. Hetherington, (Vol. Ed), *Handbook of child psychology: Vol. 4: Socialization, personality and social development* (pp. 693-774). New York, US: Wiley.

Taylor, S. I., & Rogers, C. S. (2001). The relationship between playfulness and creativity of Japanese preschool children. *International Journal of Early Childhood*, *33*(1), 43-49.

Trevlas, E., Grammatikopoulos, V., Tsigilis, N., & Zachopoulou, E. (2003). Evaluating playfulness: Construct validity of the children's playfulness scale. *Early Childhood Education Journal*, *31*(1), 33-39.

Child Initiated Pretend Play Assessment (ChIPPA)

Author	Karen Stagnitti
Year	2007
Origin	Australia
Translations	Brazilian Portuguese (Pfeifer et al., 2011); Persian (Golchin et al., 2017). Adaptation for the Australian Aboriginal children who live remotely (Dender & Stagnitti, 2013).
Context	Occupational Therapy
Target population	3- to 7.11-year-old typically developing children (Stagnitti et al., 2000) 4- to 5.8-year-old Australian children with suspected pre-academic problems (Stagnitti et al., 2000)
Objectives	Play assessment
Short description	The ChIPPA is an observational tool. The ChIPPA assesses the child's level of complexity and self-organisation in pretend play. Pretend play incorporates both symbolic and imaginative play. Children are observed playing with toys and unstructured play materials through items investigating: the percentage of elaborated pretend play actions, the number of object substitutions, and the number of imitated actions. It is administered one-on-one in a location free from distraction by excessive noise or other children. The ChIPPA is a norm referenced standardized instrument accompanied by a manual on CD. Through the ChIPPA assessment, it is possible to identify play themes and play styles emerging in the observation of child's play behaviours, highlighting the presence of possible play deficits. ChIPPA scores provide therapists with guidance regarding further assessment of social skills and involvement in play. This information can be used when developing intervention plans within the home or school environments.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Golchin et al., 2017; Stagnitti & Unsworth, 2004; Swindells & Stagnitti, 2006
Validity	Some indications of validity are retrievable here: Golchin et al., 2017; Stagnitti et al., 2000; Uren & Stagnitti, 2009
Training required	Yes. The ChIPPA is accompanied by an Instructional DVD (74 minutes). ChIPPA workshops are carried out over 2 to 3 days.
Time/Sessions	18 to 30 minutes
Setting	Familiar; clinical; indoor.
Toy materials	No

References	Dender, A., & Stagnitti, K. (2011). Development of the Indigenous Child-Initiated Pretend Play Assessment: Selection of play materials and administration. *Australian occupational therapy journal*, *58*(1), 34-42. Golchin, M. D., Mirzakhani, N., Stagnitti, K., & Rezaei, M. (2017). Psychometric properties of Persian version of "child-initiated pretend play assessment" for Iranian children. *Iranian Journal of Pediatrics*, *27*(1), e7053. O'Connor, C., & Stagnitti, K. (2011). Play, behaviour, language and social skills: The comparison of a play and a non-play intervention within a specialist school setting. *Research in Developmental Disabilities*, *32*(3), 1205-1211. Pfeifer, L. I., Queiroz, M. A., Santos, J. L., & Stagnitti, K. E. (2011). Cross-cultural adaptation and reliability of child-initiated pretend play assessment (ChIPPA). *Canadian Journal of Occupational Therapy*, *78*(3), 187-195. Stagnitti, K. (2007). *Child-Initiated Pretend Play Assessment (ChIPPA)*. West Brunswick, Victoria, AUS: Co-ordinates Publications. Stagnitti, K., & Unsworth, C. (2004). The Test–Retest Reliability of the Child-Initiated Pretend Play Assessment. *American Journal of Occupational Therapy*, *58*(1), 93-99. Stagnitti, K., Unsworth, C., & Rodger, S. (2000). Development of an assessment to identify play behaviours that discriminate between the play of typical preschoolers and preschoolers with pre-academic problems. *Canadian Journal of Occupational Therapy*, *67*(5), 291-303. Swindells, D., & Stagnitti, K. (2006). Pretend play and parents' view of social competence: The construct validity of the Child- Initiated Pretend Play Assessment. *Australian Occupational Therapy Journal*, *53*, 314-324. Uren, N., & Stagnitti, K. (2009). Pretend play, social competence and involvement in children aged 5–7 years: The concurrent validity of the Child-Initiated Pretend Play Assessment. *Australian Occupational Therapy Journal*, *56*(1), 33-40.
Notes	The CHIPPA can be purchased at: http://www.thetherapystore.com.au/product/chippa-child-initiated-pretend-play-assessment-kit/ Some information on Child Initiated Pretend play assessment can be found at this address: https://www.learntoplayevents.com/for-therapists/

Children's Leisure Assessment Scale (CLASS)

Authors	Sara Rosenblum, Dalia Sachs & Naomi Schreuer
Year	2010
Origin	Israel (Hebrew)
Translations	Chinese (Huang et al., 2009); English (Rosenblumet al., 2010)
Context	Occupational therapy
Target population	10- to 18-year-old children. The CLASS is currently being used in a range of studies supervised by the CLASS developers, among populations such as children and adolescents with learning disabilities, attention deficit disorder, developmental coordination disorder and chronic health conditions (Schreueret al., 2014).
Objectives	Play assessment
Short description	The CLASS is a self-report questionnaire about participation in children' and adolescents' leisure and play activities. The preliminary CLASS contains 50 items or activities belonging to six dimensions of leisure participation: variety (which activities), frequency (how often), sociability (with whom), preference (how much he or she likes the activity), time consumption (how much time invested), and desired activities (which activities are desired but not currently undertaken). The leisure activity domains measured by the CLASS (variety, frequency, sociability, and preference) serve to thoroughly examine the richness of leisure phenomena. A manual describes the tool and gives administration and scoring guidelines. The information provided about the quantity and quality of children's leisure participation can enrich the clinician's understanding of the children's leisure characteristics. The revealed understandings of the child's leisure characteristics and needs can assist in determining client centred intervention goals.
Normative sample	Yes
Reliability	Some indications of reliability are retrievable here: Rosenblum et al., 2010
Validity	Some indications of validity are retrievable here: Rosenblum et al., 2010
Training required	No
Time/Sessions	30 minutes
Setting	Not applicable
Toy materials	No
References	Huang, Y. J., Wong, S. H., & Salmon, J. (2009). Reliability and validity of the modified Chinese version of the Children's Leisure Activities Study Survey (CLASS) questionnaire in assessing physical activity among Hong Kong children. *Pediatric exercise science*, *21*(3), 339-353. Rosenblum, S., Sachs, D., & Schreuer, N. (2010). Reliability and validity of the Children's Leisure Assessment Scale. *American Journal of Occupational Therapy*, *64*, 633–641. Schreuer, N., Sachs, D., & Rosenblum, S. (2014). Participation in leisure activities: Differences between children with and without physical disabilities. *Research in developmental disabilities*, *35*(1), 223-233.
Notes	It can be purchased from The Lab for Complex Human Activity and Participation – (CHAP) The Department of Occupational Therapy, Faculty of Social Welfare and Health Sciences, University of Haifa, Israel.

Children Playfulness Scale (CPS)

Author	Lynn A. Barnett
Year	1991
Origin	United States of America
Translations	Chinese (Li et al., 1995); Greek (Trevlaset al., 2003); Turkish (Keleş & Yurt, 2017)
Context	Educators in preschool education units
Target population	2- to 5-year-old children 3- to 7-year-old children with autism spectrum disorder (Muys et al., 2006)
Objectives	Play assessment
Short description	The Children's Playfulness Scale is an other-report questionnaire. It encompasses 5 playfulness dimensions derived from an instrument previously created by Lieberman: physical spontaneity, social spontaneity, cognitive spontaneity, manifest joy, and sense of humour. The questionnaire focuses on the qualities that the child, as a player, brings to the environment. Twenty-three items compose the questionnaire; sample items include: "The child is physically active during play" (physical spontaneity); "The child plays cooperatively with other children" (social spontaneity); "The child uses unconventional objects in play" (cognitive spontaneity); "The child is restrained in expressing emotion during play" (manifest joy); "The child tells funny stories" (sense of humour). The CPS is build-up on 5-point Likert scale, from "sounds exactly like the child" to "doesn't sound at all like the child". The CPS helps the educators to orientate their work with children based on better understanding of the role of child's play and disposition to play.
Normative sample	Yes
Reliability	Some indications of reliability are retrievable here: Barnett, 1990
Validity	Some indications of validity are retrievable here: Barnett, 1990; Bundy & Clifton, 1998
Training required	No
Time/Sessions	10 minutes
Setting	Not specified
Toy materials	Not specified
References	Barnett, L. A. (1990). Playfulness. Definition, design and measurement. *Play and Culture*, *3*, 319-336. Bundy, A. C., & Clifton, J. L. (1998). Construct validity of the Children's Playfulness Scale. *Play and culture studies*, *1*, 137-147. Keleş, S., & Yurt, Ö. (2017). An investigation of playfulness of pre-school children in Turkey. *Early child development and care*, *187*(8), 1372-1387. Li, W., Bundy, A. C., & Beer, D. (1995). Taiwanese parental values toward an American evaluation of playfulness. *OTJR: Occupation, Participation and Health*, *15*(4), 237-258. Muys, V., Rodger, S., & Bundy, A. C. (2006). Assessment of playfulness in children with autistic disorder: A comparison of the children's playfulness scale and the test of playfulness. *OTJR: Occupation, Participation and Health*, *26*(4), 159-170. Trevlas, E., Grammatikopoulos, V., Tsigilis, N., & Zachopoulou, E. (2003). Evaluating Playfulness: Construct Validity of the Children's Playfulness Scale. *Early Childhood Education Journal*, *31*(1), 33-39.

Infant-preschool Play Assessment Scale (I-PAS)

Author	Sally Flagler
Year	1996
Origin	United States of America
Translations	Data not available
Context	Psychology
Target population	0- to 5-year-old children
Objectives	Play-based assessment
Short description	The I-PAS is an observational tool allowing the evaluation of specific skill domains, such as communication; cognition; sensorimotor; fine motor; gross motor; social-emotional. I-PAS results may not be used as standardized or norm-referenced data in determining exact developmental levels: the purpose of the scale is to provide the observer with a frame of reference and general guidelines of the "normal" child development (i.e. criterion referenced).The I-PAS is an assessment instrument that enables teachers, clinicians and other caregivers to systematically observe children at play and in other routine or natural environments for the purpose of: a) determining a child's developmental level of functioning; b) identifying developmental gaps, skill deficits and emerging skills; c) evaluating child progress; d) evaluating program effectiveness. Because it requires few, if any, formal arrangements and specific tools, the I-PAS also may be used to monitor child progress on an on-going basis in the child's natural environments at home or in a centre or play group.
Normative sample	Data not available
Reliability	Data not available
Validity	Data not available
Training required	No
Time/Sessions	Data not available
Setting	Familiar; Naturalistic; Indoor
Toy materials	No
References	Flagler, S. L. (1996). *I-PAS: Infant-preschool Play Assessment Scale*. Chapel-Hill, US: Chapel-Hill Training-Outreach Project.
Notes	Some information on Infant-preschool Play Assessment Scale can be found at this address: http://chtop.org/Products/I-PAS.html

My Child's Play Questionnaire (MCP)

Authors	Eleanor Schneider & Sara Rosenblum
Year	2014
Origin	Israel (Hebrew)
Translations	English (Schneider & Rosenblum, 2014)
Context	Occupational therapy
Target population	3- to 9-years-old children MCP has been used with children with special needs (Rosenblum et al., 2017) and with children aged 4-to 6- years with Developmental Coordination Disorder (Rosenblum et al., 2017).
Objectives	Play assessment
Short description	The MCP is a parent report questionnaire about parental perceptions of the child's play skills and interests, attitudes towards play and the environmental context. It includes 43 items yielding a total score and scores for each of the MCP's four categories: Interpersonal Relationships & Social Participation, Executive Functions, Play Characteristics & Behaviour and Environmental Context. Higher scores reflect better play characteristics. There are instructions for coding the scores. Reading articles describing the development of the tool and research results will contribute to a better understanding of the tool and its use. The tool gives valuable information regarding parental perceptions of their child's play characteristics. The total score and scores in the 4 categories can provide a profile of the child's strengths and weaknesses. This information can be used in defining goals for treatment intervention. It can also be used to provide guidance to parents and other caregivers on how to nurture and facilitate the child's play.
Normative sample	Yes
Reliability	Some indications of reliability are retrievable here: Schneider & Rosenblum, 2014
Validity	Some indications of validity are retrievable here: Schneider & Rosenblum, 2014
Training required	No
Time/Sessions	20 to 30 minutes
Setting	Not applicable
Toy materials	No
References	Rosenblum, S., Waissman, P., & Diamond, G. W. (2017). Identifying play characteristics of pre-school children with developmental coordination disorder via parental questionnaires. *Human movement science*, *53*, 5-15. Schneider, E. & Rosenblum, S (2014). Development, reliability and validity of My Child's Play questionnaire. *American Journal of Occupational Therapy*, 68 (3), 277-285. Schneider, E. & Rosenblum, S. (2015, March). *Mothers' Perceptions of Preschool and School-Aged Children's Play Characteristics – are There Age and Gender Differences?* Poster at the Society for Research in Child Development Biennial Meeting, Philadelphia, USA.
Notes	It can be purchased from The Lab for Complex Human Activity and Participation – (CHAP) The Department of Occupational Therapy, Faculty of Social Welfare and Health Sciences, University of Haifa, Israel. It can also be obtained by writing to the first author Eleanor@research.haifa.ac.il

McDonald Play Inventory (MPI)

Author	Ann E. McDonald
Year	1987; 1992; 2012
Origin	United States of America
Translations	Data not available
Context	Occupational therapy
Target population	7- to 11-year-old children with or without disabilities
Objectives	Play assessment
Short description	MPI is a self-report tool, structured into two parts: The McDonald Play Activity Inventory (MPAI) focuses on the child's perceived frequency of engagement in four categories with 10 activities each: 1) Fine Motor (e.g., colour pictures, make models, play with Lego bricks, make clay or dough projects); 2) Gross Motor (e.g., practice shooting basketballs, play catch with a ball, play four square, play kickball); 3) Social Group (e.g., play board games with friends, hang out with friends, go to the park with a friend, play pretend games with a friend or family member); 4) Solitary (e.g., play a game alone, sing by yourself, play with dolls or action figures alone, daydream). The child rates how frequently he or she participates in the activity using a 5-point Likertscale (from never to almost every day). The McDonald Play Style Inventory (MPSI) measures the types and frequencies of play behaviours in four domains: physical coordination, cooperation, peer acceptance, and social participation. It consists of 24 play behaviour items (6 items in each category), 12 neutral play activity items, and 4 "lie" or social desirability items. A 5-point Likert scale is used for the report (from never to always). The MPSI is meant to report about the frequency of participation in an activity; the MPSI is meant to report how the child feels, or the affective component. The MPI allows to assess the perceived behaviour of play in middle childhood and can support building-up intervention programs based on the understanding of the child's sense of mastery or difficulties during play.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: McDonald & Vigen, 2012
Validity	Some indications of validity are retrievable here: McDonald & Vigen, 2012
Training required	No
Time/Sessions	15 minutes without support; 20-30 minutes when support is needed
Setting	Not applicable
Toy materials	No
References	McDonald, A. E., & Vigen, C. (2012). Reliability and validity of the McDonald Play Inventory. *American Journal of Occupational Therapy*, *66*(4), e52–e60. McDonald, A. E. (1987). *The construction of a self-report instrument to measure play activities and play styles in 7 to 11year old children*. Unpublished master's thesis, University of Southern California, Los Angeles (US).

Observed Peer Play in Unfamiliar Settings (OPPUS)

Author	Laurie Miller Brotman
Year	2005
Origin	United States of America
Translation	Data not available
Context	Psychology
Target population	2- to 5-year-old children at risk for psychopathology
Objectives	Play-based assessment
Short description	The OPPUS is an observational tool for assessing peer-group entry and play behaviours in preschoolers. The assessed child is observed during free play interactions with unfamiliar peers in a play room. No specific instruction is provided to the peers, while the assessed child is told to play with anyone or anything he/she wants. Observers do not encourage or reinforce child's behaviours. The observer rates the child behaviour on four global items: a) How socially skilled was this child during the interaction?; b) How disruptive was this child?; c) How disconnected or withdrawn was this child?; d) Overall, how well did the child fit into the play situation? A 5-point Likert scale is used to rate the child, from 0 (not at all), 1 (minimally), 2 (somewhat), 3 (very), to 4 (extremely). "Socially Skilled", "Disconnected" (reversed item) and "Fit In" combine to create an OPPUS Engaged scale. The "Disruptive" item is retained as a single-item measure of disruptive behaviour.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Brotman et al., 2005
Validity	Some indications of validity are retrievable here: Brotmanet al., 2005
Training required	Yes: observers with minimal training are able to reliably use the OPPUS procedure
Time/Sessions	30 minutes
Setting	Unfamiliar
Toy materials	No
References	Brotman, L. M., Gouley, K. K., & Chesir-Teran, D. (2006). Assessing Peer Entry and Play in Preschoolers at Risk for Maladjustment. *Journal of Clinical Child and Adolescent Psychology*, *34*(4), 671-680. Brotman, L. M., Gouley, K. K., Chesir-Teran, D., Dennis, T., Klein, R. G., & Shrout, P. (2005). Prevention for preschoolers at high risk for conduct problems: Immediate outcomes on parenting practices and child social competence. *Journal of Clinical Child and Adolescent Psychology*, *34*(4), 724-734.

Preferences for Activities of Children (PAC)

Authors	Gillian A. King et al.
Year	2004
Origin	Canada
Translations	Arabic (Almasri et al., 2017); Swedish (Ullenhag et al. 2012)
Context	Occupational therapy
Target population	6- to 21-year-old children and adolescents with and without disabilities
Objectives	Play assessment
Short description	The PAC is a self-report questionnaire about activity preference and includes an interview version. It is designed to be used together with the CAPE (Children's Assessment of Participation and Enjoyment) but can be used independently. The PAC should be used after the CAPE when the tools are used together. The child looks at drawings of children performing 55 different activities. There are five types of activities: recreational, active physical, social, skill-based and self-improvement, belonging to two domains: formal and informal. The child records his preference by circling one of three facial expressions. A card containing enlarged facial expressions with corresponding written descriptions can assist in their sorting (interview-assisted version). A manual describes the tool and gives administration and scoring guidelines. Information can be used for the design and implementation of interventions to increase children's participation.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: King et al. 2004; Imms, 2008
Validity	Some indications of validity are retrievable here: King et al. 2006; Imms, 2008
Training required	No
Time/Sessions	15 to 20 minutes
Setting	Not applicable
Toy materials	Yes. The kit includes activity cards
References	Almasri, N. A., Palisano, R. J., & Kang, L. J. (2017). Cultural adaptation and construct validation of the Arabic version of children's assessment of participation and enjoyment and preferences for activities of children measures. *Disability and rehabilitation*, 1-8. Imms, C. (2008) Review of the children's assessment of participation and enjoyment and the preferences for activity of children. *Physical and Occupational Therapy in Pediatrics*, *28*(4), 389-404. King, G., Law, M., King, S., Hurley, P., Hanna, S., Kertoy, M., Rosenbaum, P., & Young, N. (2004). *Children's Assessment of Participation and Enjoyment (CAPE) & Preferences for Activities of Children (PAC)*. San Antonio: Harcourt Assessment Inc.

	King, G. A., Law, M., King, S., Hurley, P., Hanna, S., Kertoy, M., & Rosenbaum, P. (2006). Measuring children's participation in recreation and leisure activities: construct validation of the CAPE and PAC. *Child: care, health and development*, *33*(1), 28-39. Ullenhag, A., Almqvist, L., Granlund, M., & Krumlinde-Sundholm, L. (2012). Cultural validity of the Children's Assessment of Participation and Enjoyment/ Preferences for Activities of Children (CAPE/PAC). *Scandinavian Journal of Occupational Therapy*, *19*(5), 428-438.
Notes	The CAPE/PAC tools are purchased as a package The original versions of the tool can be purchased at this address: https://www.pearsonclinical.ca/en/products/product-master/item-510.html

Play Assessment Scale (PAS)

Author	Rebecca R. Fewell
Year	1984
Origin	United States of America
Translations	Data not available
Context	Psychology
Target population	2- to 36- month-old children with and without disabilities
Objectives	Play Assessment
Short description	The Play Assessment Scale (PAS) is an observational tool. The scale is made of 45-items that are developmentally sequenced; it is organized into eight age ranges and toy sets, so that only a portion of the items are proposed and rated for each child. Children are first observed in spontaneous play followed by a facilitated play session. The child's play behaviours are coded according to the scale: a play age can then be determined. The play age is composed only of those behaviours observed in spontaneous play. A basal/ceiling approach is used and a conversion chart allows the rater to convert the raw score to the child's play age. The clinical utility of the PAS consisted in inferring the child's developmental level in cognition, communication and social behaviour through play assessment, which is less stressful and supports the child's cooperation.
Normative sample	Data not available
Reliability	Data not available
Validity	Data not available
Training required	No
Time/Sessions	Not specified
Setting	Not specified
Toy materials	No
References	Athanasiou, M. S. (2000). Play-based approaches to preschool assessment. In: Bracken, B. A. (Ed.), *The Psychoeducational Assessment of Preschool Children* (pp. 412-427). Boston, US: Allyn and Bacon. Fewell, R. R., & Rich, J. S. (1987) Play Assessment as a Procedure for Examining Cognitive, Communication, and Social Skills in Multihandicapped Children. *Journal of Psychoeducational Assessment*, *2*, 107-18. Pizzo, L., & Bruce, S. M. (2010). Language and play in students with multiple disabilities and visual impairments or deaf-blindness. *Journal of visual impairment & blindness*, *104*(5), 287-297. Toth, K., Dawson, G., Meltzoff, A. N., Greenson, J., & Fein, D. (2007). Early social, imitation, play, and language abilities of young non-autistic siblings of children with autism. *Journal of autism and developmental disorders*, *37*(1), 145-157.

Play History (PH)

Authors	Nancy Takata, modified by Kimberly C. Bryze
Year	1969, 1974, 2008
Origin	Data not available
Translations	Data not available
Context	Occupational therapy
Target population	0- to 16-year-old children
Objectives	Play assessment
Short description	The Play history is an interview designed to identify a child's play experiences, interactions, environments and opportunities across the time progression of his or her life. The interview format helps describe a child's play skills. As it was originally designed, the Play History is semi-structured, qualitative and open ended in format; it includes a basic set of questions proposed to the child's parents or primary caregivers. It is based on developmental stages put forward by Piaget (1962) and Erikson (1950), then influenced by occupational therapy with Reilly and Florey. The contribution of Takata (1974) has been the description of play epochs or play developmental levels. The Play History is designed to relate information across past and present play experiences (epochs) in terms of: 1) sensorimotor, 2) symbolic and simple constructive, 3) dramatic and complex constructive and pre-game, 4) games and 5) recreational. Bryze (2008) has used this categorisation as a means of analysing the play activities children engage, so elements of each epoch are analysed following 4 categories: materials (what), action (how), people (with whom), setting (where and when). The information obtained from the Play History Interview yields a total play description of a child that gives valuable information for detecting children with play dysfunctions and to design intervention plans.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Behnke & Fetkovich, 1984.
Validity	Some indications of validity are retrievable here: Behnke & Fetkovich, 1984.
Training required	Data not available
Time/Sessions	Data not available
Setting	Familiar; naturalistic
Toy materials	No

References

Behnke, C. J., & Fetkovich, M. M. (1984). Examining the Reliability and Validity of the Play History. *The American Journal of Occupational Therapy*, *38*(2), 94-100.

Bryze, K.C. (2008). Narrative contributions to the Play History. In L. D. Parham & L. S. Fazio (Eds.), *Play in Occupational Therapy for Children*. *Second Edition* (pp. 43-54). St-Louis, US: Mosby/Elsevier.

Erikson, E. H. (1950). *Childhood and society*. New York, US: Norton.

Piaget, J. (1962). *Play, dreams, and imitation in childhood*. New York, US: Norton.

Reilly, M. (1974). *Play as exploratory. Learning: Studies of Curiosity Behavior*. Beverly Hills, US: Sage.

Takata, N. (1969). The play history. *American Journal of Occupational Therapy*, *23*(4), 314-318.

Takata, N. (1974). Play as a prescription. In M. Reilly (Ed.), *Play as exploratory. Learning: Studies of Curiosity Behavior* (pp. 209-246). Beverly Hills, US: Sage.

Play in Early Childhood Evaluation System (PIECES)

Authors	Lisa Kelly-Vance & Brigitte O. Ryalls
Year	1999; 2005
Origin	United States of America
Translations	Data not available
Context	Psychology
Target population	0- to 5-year-old children, typically developing and with disability (motor impairments, autism spectrum disorder, speech/language impairments: Ryalls et al., 2016)
Objectives	Play assessment
Short description	The PIECES is an observational tool, allowing to evaluate three main types of play: exploratory play, simple pretend play and complex pretend play. The child is asked to play with traditional toys (e.g., kitchen sets, plastic foods, plastic animals, baby dolls) and non-toy items that require a little bit of imagination (e.g., toilet paper rolls, cardboard boxes, egg cartons, foam balls). An observer (facilitator) of the play is available near the child and she can interact with the child to solicit play with all the available toys. The PIECES is an assessment tool that can be used to identify strengths and weaknesses in the area of play skills, and to plan intervention with the Child Learning in Play System (CLIPS), providing different intervention strategies for play skills.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Kelly-Vance & Ryalls, 2005.
Validity	Some indications of validity are retrievable here: Kelly-Vance et al., 1999.
Training required	Yes
Time/Sessions	30-45 minutes
Setting	Unfamiliar; Clinical; Indoor
Toy materials	No
References	Kelly-Vance, L., Needelman, H., Troia, K., & Ryalls, B. O. (1999). Early childhood assessment: A comparison of the Bayley Scales of Infant Development and a Play-Based Technique. *Developmental Disabilities Bulletin*, *27*, 1-15. Kelly-Vance, L., Ryalls, B. O., & Gill-Glover, K. (2002). The use of play assessment to evaluate the cognitive skills of two- and three-year old children. *School Psychology International*, *23*, 169-185. Kelly-Vance, L., & Ryalls, B. O. (2005). A systematic, reliable approach to play assessment in preschoolers. *School Psychology International*, *26*(4), 398-412. Ryalls, B. O., Harbourne, R., Kelly-Vance, L., Wickstrom, J., Stergiou, N., & Kyvelidou, A. (2016). A perceptual motor intervention improves play behavior in children with moderate to severe cerebral palsy. *Frontiers in psychology*, *7*.
Notes	Tools and training materials available at: http://www.plaisuno.com/page2

Paediatric Interest Profiles (PIP)

Author	Alexis Henry
Year	2000; 2008
Origin	United States of America
Translations	French and German (for further information, see http://www.cade.uic.edu/moho/resources/translations.aspx)
Context	Occupational therapy
Target population	6- to 9-year-olds (Kid play profile), 9- to 12-year-olds (Preteen Play Profile) and 12- to 21-year-olds (Adolescent Leisure Interest Profile) with and without disabilities 6- to 21 year-old US children and adolescents with psychiatric, physical and learning disabilities (Henry, 1998)
Objectives	Play assessment
Short description	The PIP are self-report questionnaires about play interests and participation in a variety of play and leisure activities. The child is asked questions on how often, why, how well, how much and with whom specific activities are performed and enjoyed via lists or pictures of play and leisure activities and replies by marking/circling/ticking a response. Each group of questions is followed up by an interview (Kid and Preteen play profiles). Activities are grouped into 8 categories. In the case of Kid and Preteen play profile: sports, outside, summer, winter, indoor and creative activities; lessons/ classes and socializing. In the case of Adolescent leisure interest profile: sports, outside, exercise, relaxation, intellectual, creative, socializing, club/community organisations. A manual describes the tool and gives administration and scoring guidelines. The conceptual influence of the PIP is the Model of Human Occupation (Moho). The PIP self-reports can be used to identify children or adolescents at risk for play-related problems. They are a quick way for practitioners to gather information about a child's perceptions in order to set goals and plan play-related interventions.
Normative sample	Data not available
Reliability	Some indications of reliability of the Adolescent leisure Interest Profile are retrievable here: Henry, 1998
Validity	Some indications of validity of the Adolescent leisure Interest Profile are retrievable here: Trottier et al., 2002
Training required	No
Time/Sessions	15, 20 and 30 minutes respectively for the different profiles
Setting	Not applicable
Toy materials	No

References	Henry, A. (1998). Development of a Measure of Adolescent Leisure Interests. *The American Journal of Occupational Therapy*, *52*(7), 531-539. Henry, A. (2000). *Pediatric interest profiles: Surveys of play for children and adolescents*. San Antonio, US: Therapy Skill Builders. Henry, A. (2008). Assessment of play and leisure in children and adolescents. In L. S. Fazio and L. D. Parham (Eds). *Play in occupational therapy for children* (pp. 95-193). St-Louis, US: Elsevier Mosby. Trottier, A. N., Brown, G. T., Hobson, S. J. G., & Miller, W. (2002). Reliability and validity of the Leisure Satisfaction Scale (LSS-short form) and the Adolescent Interest Leisure Profile (ALIP). *Occupational Therapy*, *9*(2), 131-144.
Notes	Free forms of the PIP are accessible at this address: http://www.cade.uic.edu/moho/productDetails.aspx?aid=43 PIP's manual can be retrieved here: www.cade.uic.edu/moho/resources/files/assessments/PIPs%20Manual.pdf

Penn Interactive Peer Play Scale (PIPPS)

Author	John Fantuzzo
Year	1995, 2000
Origin	United States of America
Translations	Chinese (Leung, 2014); Korean (Choi & Shin, 2008); Portuguese (Coelho et al., 2017); Spanish (Castro et al., 2002); Turkish (Ahmetoğlu et al., 2016)
Context	Psychology
Target population	36- to 63-month-old low-income minority children 9- to 13-year old children with autism
Objectives	Play-based assessment
Short description	The PIPPS is an evaluation tool designed to assess the social competence of preschool children by observing their play interaction with peers. This instrument is aimed at identifying the children's behavioural strengths and needs within the context of peer play in the classrooms or home environments. Three different behaviours can be observed and scored through this rating scale: - Play disruption: it describes the lack of peer interaction abilities characterized by aggressive behaviours - Play disconnection: it describes the inability to engage in play with peers and to maintain interaction behaving in a quit passive way - Play interaction: it describes the child's play skills in social play and the degree of leadership in the group A teacher and a parent version of the test are provided. A 5-point Likert scale is used to score the observed play behaviour. The parent report version of the PIPPS can support the involvement of parents in the assessment process; the tool can be useful to deepen the continuity and discontinuity between home and school environments. The PIPPS has been developed for research purposes and it is not an appropriate diagnostic or testing tool.
Normative sample	Yes
Reliability	Some indications of reliability are retrievable here: Ahmetoğlu et al., 2016
Validity	Some indications of validity are retrievable here: Fantuzzo et al., 1998; Hampton & Fantuzzo, 2003; Lenung, 2014
Training required	Data not available
Time/Sessions	Data not available
Setting	Familiar
Toy materials	No

References

Ahmetoğlu, A., Acar, İ. H., & Aral, N. (2016). Reliability and Validity Study of Penn Interactive Peer Play Scale-Parent Form (PIPPS-P). *International Periodical for the Languages, Literature and History of Turkish or Turkic*, *11*(9), 31-52.

Castro, M., Mendez, J. L., & Fantuzzo, J. (2002). Validation study of the Penn Interactive Peer Play Scale with urban Hispanic and African American preschool children. *School Psychology Quarterly*, *17*(2), 109-127.

Choi, H. Y., & Shin, H. Y. (2008). Validation of the Penn interactive peer play scale for Korean children. *Korean Journal of Child Studies*, *29*(3), 303-318.

Coelho, L., Torres, N., Fernandes, C., & Santos, A. J. (2017). Quality of play, social acceptance and reciprocal friendship in preschool children. *European Early Childhood Education Research Journal*, *25*(6), 812-823.

Hampton, V. R., & Fantuzzo, J. W. (2003). The validity of the Penn Interactive Peer Play Scale with urban, low-income kindergarten children. *School Psychology Review*, *32*(1), 77-92.

Fantuzzo, J., Sutton-Smith, B., Coolahan, K. C., Manz, P. H., Canning, S., & Debnam, D. (1995). Assessment of preschool play interaction behaviors in young low-income children: Penn Interactive Peer Play Scale. *Early Childhood Research Quarterly*, *10*(1), 105-120.

Fantuzzo, J. W., Coolahan, K., Mendez, J., McDermott, P., & Sutton-Smith, B. (1998). Contextually-relevant validation of peer play constructs with African American Head Start children: Penn Interactive Peer Play Scale. *Early Childhood Research Quarterly*, *13*(3), 411-431.

Fantuzzo, J. W., & Hampton, V. R. (2000). Penn Interactive Peer Play Scale: A parent and teacher rating system for young children. In K. Gitlin-Weiner, A. Sandgrund, & C. Schaefer (Eds). *Play diagnosis and assessment. Second edition* (pp. 599-620). Hoboken, US: John Wiley & Sons Inc.

Jones, R. M., Pickles, A., & Lord, C. (2017). Evaluating the quality of peer interactions in children and adolescents with autism with the Penn Interactive Peer Play Scale (PIPPS). *Molecular autism*, *8*(1), 28.

Leung, C. H. (2014). Validation of the Penn Interactive Peer Play Scale with preschool children in low-income families in Hong Kong. *Early Child Development and Care*, *184*(1), 118-137.

Play Observation Scale (POS)

Author	Kenneth H. Rubin
Year	1989, 2001
Origin	United States of America
Translations	Data not available
Context	Psychology
Target population	Early to middle childhood The POS has been used with children with different motor abilities (Bar-Haim & Bart, 2006)
Objectives	Play assessment
Short description	The Play Observation Scale (POS), related to the play hierarchies developed by Parten (1932) and Piaget (1962), is an observational taxonomy designed to assess the structural components of children's play nested within social participatory categories to record and categorise a child's free play behaviour. When coding a child's behaviour the first decision the observer must make is whether the behaviour is play or non-play. Non-play categories concern unoccupied behaviour, onlooker behaviour, active conversations with teacher and/or peers, transitional, aggressive, rough-and-tumble, hovering, and/or anxious behaviours. In order to code the cognitive play level (functional, constructive and dramatic play and games-with-rules) of a given activity the observer must first decide upon the child's intent or purpose as s/he engages in that activity. When coding the social play (solitary, parallel and group activity) of the focal child it is important to note the proximity of the focal child to any other children in the area, and the attentiveness of the focal child to his/her playmates. The cognitive play categories are nested within the social play: 15 possible nested behaviours (solitary-functional, solitary-constructive, etc.). The POS has been used to capture descriptive data on the type, frequency and social context of young children's play (Barnett 1991, Coplan and Rubin 1998). The scale has proven useful also in determining age and sex differences in children's play, socio-economic status differences in play, effects of ecological setting of play, individual differences in play and the social contexts within which the various forms of cognitive play are distributed over time. The scale has also been used to identify both children extremely withdrawn and with aggressive behaviours, who are "at risk" for later psychological difficulties. Researchers have used the POS to study behavioural associations with temperament, attachment relationships, parenting, and children's peer relationships. Investigators have also used the POS in studies of disabled and learning disabled children.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Rubin, 2001
Validity	Data not available
Training required	Data not available

Time/Sessions	15 minutes a minimum (time-sampling methodology within each 10 seconds segments)
Setting	Familiar; naturalistic; Indoors or outdoors
Toy materials	No
References	Bar-Haim, Y., & Bart, O. (2006). Motor function and social participation in kindergarten children. *Social Development*, *15*(2), 296-310. Barnett, L. A. (1991). The playful child: measurement of a disposition to play. *Play and Culture*, *4*(1), 51-74. Coplan, R. J., & Rubin, K. H. (1998). Exploring and assessing nonsocial play in the preschool: the development and validation of the Preschool Play Behavior Scale. *Social Development*, *7*(1), 72-91. Parten, M. B. (1932). Social participation among preschool children. *Journal of Abnormal Psychology*, *27*, 243-269. Piaget, J. (1962). *Play, dreams, and imitation in childhood*. New York, US: Norton. Rubin, K. H., Maioni, T. L., & Hornung, M. (1976). Free play behaviors in middle- and lower-class preschoolers: Parten and Piaget revisisted. *Child Development*, *47*, 414-419. Rubin, K. H. (1982). Non-social play in preschoolers: Necessary evil? *Child development*, *53*, 651-657. Rubin, K. H., Fein, C. G., & Vandenberg, B. (1983). Play. In E. M. Hetherington (Ed.), *Handbook of child psychology (Vol. 4), Socialization, personality, and Social development* (pp. 693-774). New York, US: Wiley. Rubin, K. H. (1989). *The play observation scale (POS)*. University of Waterloo. Rubin, K. H. (2001). *The play observation scale (POS)*. College Park, US: University of Maryland.
Notes	The tool can be downloaded at this address: http://www.rubin-lab.umd.edu/CodingSchemes/POS%20Coding%20Scheme%202001.pdf

Parten Scale Adapted (PSA)

Author	Keith D. Ballard
Year	1981
Origin	New Zealand
Translations	Data not available
Context	Psychology
Target population	3- to 6-year-old typically developing children 3- to 7-year-old children with autism
Objectives	Play assessment
Short description	The Parten Scale categorizes children's free play in accordance with Piaget's developmental theory, and defines six categories of play: - Unoccupied - Solitary independent play - Onlooker - Parallel play - Associative play - Cooperative play
	The child's play behaviours are observed and scored through a six point scale (1 point if he/she is unoccupied, 6 points if is showing cooperative play abilities). The final Play Score is calculated by multiplying the number of occurrences in each category by its weighting, summing these scores, and dividing by the total number of occurrences. In Ballard's system social interaction is conceptualized as a dyadic interchange between two individuals. The adapted system captures reciprocal interactions and sharing behaviour, distinguishes between interactions with adults and interactions with peers, and also codes negative versus positive responses of the target child to others' initiations.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Ballard, 1981
Validity	Some indications of validity are retrievable here: Ballard, 1981
Training required	Data not available
Time/Sessions	5-12 sessions
Setting	Familiar
Toy materials	Data not available

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Revised Knox Preschool Play scale (RKPPS)

Author	Susan Knox
Year	1968; 1974; 1997; 2008
Origin	United States of America
Translations	Brazilian Portuguese (Pacciulioet al., 2010); Hebrew (Waldman-Levi & Weintraub, 2015)
Context	Occupational therapy
Target population	0- to 6-year-old children with and without disabilities
Objectives	Play assessment
Short description	The RKPPS is an observational assessment tool addressed to give a developmental description of typical play behaviour. The items are grouped into four dimensions and 12 categories of play behaviour: space management (gross motor and interest); material management (manipulation, construction, purpose, and attention); pretense-symbolic (imitation, and dramatisation); participation (type, co-operation, humour, and language). Play is described in 6-months increments from 0 to 3 years, and in yearly increments for ages 4 through 6 years. The score sheet allows to obtain an overall play age and a play profile, with useful information to plan and implement intervention. Children are observed in their natural setting, with peers, both indoors and outdoors.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Bledsoe & Shepherd, 1982; Jankovich et al., 2008
Validity	Some indications of validity are retrievable here: Bledsoe & Shepherd, 1982; Harrison & Kielhofner, 1986
Training required	No
Time/Sessions	Two 30-minute sessions (indoors and outdoors)
Setting	Familiar; Naturalistic; Indoors and Outdoors
Toy materials	No
References	Jankovich, M., Mullen, J., Rinear, E., Tanta, K., & Deitz, J. (2008). Revised Knox Preschool Play Scale: Interrater agreement and construct validity. *American Journal of Occupational Therapy*, *62*, 221–227. Knox, S. (2008). Development and current use of the Revised Knox Preschool Play Scale. In D. L. Parham & L. S. Fazio (Eds.), *Play in Occupational Therapy for Children* (pp. 55-70). Amsterdam, NL: Elsevier. Pacciulio, A. M., Pfeifer, L. I., & Santos, L. F. (2010). Preliminary Reliability and Repeatability of the Brazilian Version of the Revised Knox Preschool Play Scale. *Occupational Therapy International*, *17*, 74–80. Waldman-Levi, A., & Weintraub, N. (2015). Efficacy of a crisis intervention in improving mother–child interaction and children's play functioning. *American Journal of Occupational Therapy*, *69*, 1-11.
Notes	The Scale is retrievable here: http://www.susanlroberts.com/uploads/6/7/4/9/6749414/15_knox_preschool_play_scale.pdf

Social Play Continuum (SPC)

Author	Pat Broadhead
Year	1997; 2004
Origin	United Kingdom
Translations	Data not available
Context	Education
Target population	3- to 6-year-old typically developing children
Objectives	Play-based assessment
Short description	The Social Play Continuum is an observational tool based on the socio-cultural theories, with an alignment with Zones of Proximal Development (ZPD; Vygotskij, 1962), for interpreting children's contextually situated meanings and actions and their agency as social actors and as co-constructors of learning. It has been designed to observe and assess children's social play. The emphasis in the observations is on the children's activity and use of language, with a stress on continuity and progress as play moves across four domains. The 40 items, describing the degree of reciprocity in verbal exchanges and in play actions, are subdivided into 4 domains representing a continuum (Broadhead, 1997): associative play (similar to parallel play), social play, highly social, cooperative play. Conventional toys are used: large and small construction materials, small worlds (miniatures), water, sand. Play actions, degree of reciprocity in the interaction and language are observed in order to determine the child's progress in the play continuum. This tool also provides information on the social and cognitive development as well as on language skills.
Normative sample	Data not available
Reliability	Data not available
Validity	Data not available
Training required	Data not available
Time/Sessions	Observation length and session number may vary; the authors recommend to have extended observations
Setting	Familiar; naturalistic
Toy materials	No

References	Broadhead, P. (1997). Promoting sociability and cooperation in nursery settings. *British Educational Research Journal*, *23*(4), 513-531. Broadhead, P. (2004). *Early years play and learning: developing social skills and cooperation. Developing social skills and cooperation*. London, UK: Routledge Farmer. Broadhead, P. (2006). Developing an Understanding of Young Children's Learning through Play: The Place of Observation, Interaction and Reflection. *British Educational Research Journal*, *32*(2), 191-207. Broadhead, P. (2009). Conflict resolution and children's behaviour: observing and understanding social and cooperative play in early years educational settings. *Early years*, *29*(2), 105-118. Broadhead, P., Howard, J., & Wood, E. (2010). *Play and learning in the early years: From research to practice*. London, UK: Sage.
Notes	The tool can be downloaded at these addresses: http://cw.routledge.com/textbooks/0415303397/resources/pdf/side1and2.pdf http://cw.routledge.com/textbooks/0415303397/resources/pdf/4domains.pdf

The Smilansky Scale for Evaluation of Dramatic and Sociodramatic Play (SSEDSP)

Author	Sara Smilansky
Year	1990
Origin	Israel
Translations	English (Smilansky & Shefatya, 1990)
Context	Psychology, education
Target population	3- to 8-year-old children
Objectives	Play assessment
Short description	Smilansky Scale for Evaluation of Dramatic and Sociodramatic Play has been first developed to assess play skills in children at risk coming from low-income Israeli families. It is a criterion referenced assessment tool designed to assess the dramatic and sociodramatic play of young children both quantitatively and qualitatively. This assessment tool is based on play classification encoded by the authors: functional play, constructive play, symbolic play and games with rules. The Smilansky Scale assesses the stage and the maturity of a child's dramatic and sociodramatic (Parker-Rees & Willian, 2006) through six elements of dramatic play, four are specific to solitary play and two are only for sociodramatic play (Poidevant & Spruill, 1993). This instrument measures the presence or absence of utilization of these six elements, reported as subscales. Imitative role play: the child undertakes a make-believe role and expresses it in imitative action and/or verbalization (IRP). Make-believe with regard to objects: movements or verbal declarations are substituted for real objects (MBO). Make-believe with regard to actions and situations: verbal descriptions or declarations are substituted for actions and situations (MBS). Persistence in role-play: the child continues within a role or play theme for a period of time at least 10 minutes long (P). Interaction: at least two players interact within the context of the play episode (IN). Verbal communication: there is some verbal interaction related to the play episode (VC). The level of a child's play was evaluated with regard to the presence, or absence of each elements, where each element has from 0 to 3 points (0 the element is absent, 1 present in the play for a limited period of time, 2 moderately present and 3 consistently present in numerous situations during the time of play). Equipment available during observation should include play materials relating to housekeeping, dress-up clothes, tool kit, unstructured equipment, grocery store, doctor-nurse utensils.
Normative sample	Data not available
Reliability	Some indications of reliability are retrievable here: Poidevant & Spruill, 1993; Smilansky & Shefatya, 1990
Validity	Some indications of reliability are retrievable here: Poidevant & Spruill, 1993; Smilansky & Shefatya, 1990

Training required	Data not available
Time/Sessions	20-minute period divided into four intervals, or 30-minute period divided into six intervals.
Setting	Familiar; Naturalistic; Indoor
Toy materials	No
References	Parker-Rees, R. & Willian, J. (2006). *Early Years education. Major themes in education*. London, UK & New York, US: Routledge. Pecjak, S., & Kranjic, S. (1999). Symbolic play as a way of development and learning of preschool children in preschool institutions. *European Early Childhood Education Research Journal*, *7*(1), 35-44. Poidevant, J. M. & Spruill, D. A. (1993). Play activities of at-risk and non-at-risk elementary students: Is there a difference? *Child Study Journal*, *23*(3), 173-186. Smilansky, S. (1968). *The Effects of Sociodramatic Play on Disadvantaged Preschool Children*. New York, US: Wiley & Sons. Smilansky, S. & Shefatya, L. (1990). The Smilansky Scale for Evaluation of Dramatic and Sociodramatic Play. In S. Smilansky (Ed.), *Facilitating play. A Medium for Promoting Cognitive, Socio-Emotional and Academic Development in Young Children*. Silver Spring, US: Psychosocial and Educational Publications. Umek, L. M., Musek, P. L., & Smilansky, S. (1990). Sociodramatic play: Its relevance to behavior and achievement in school. In E. Klugman & S. Smilansky (Eds.), *Children's play and learning. Perspectives and Policy Implications* (pp. 18-42). New York, US: Teachers College Press.

Test of Environmental Supportiveness (ToES)

Author	Anita Bundy
Year	1999; 2008
Origin	United States of America
Translations	Data not available
Context	Occupational therapy
Target population	6-month-old to 18-year-old children with and without disabilities
Objectives	Play assessment
Short description	The ToES is an observational tool developed to assess the extent of environmental support to the child's motivation to play. It measures both the influence of human factors (e.g. behaviours displayed by parents, teachers, caregivers, playmates) and non-human factors related to the play context (e.g. objects used for play, play spaces, safety, sensory stimulation provided by the environment) by evaluating the presence and the extent of environmental barriers or facilitators, through the use of 17 items. This tool is designed to be administered in conjunction with the Test of Playfulness (ToP) and it allows to plan interventions aimed at improving the quality of the child's play experience.
Normative Sample	Data not available
Reliability	Some indications of reliability are retrievable here: Bronson & Bundy, 2001; Hamm, 2006
Validity	Some indications of validity are retrievable here: Bronson & Bundy, 2001; Hamm, 2006
Training required	No
Time/Sessions	15 minutes at least for each setting (the number of sessions depends on the number of settings)
Setting	Naturalistic
Toy materials	No
References	Bronson, M., & Bundy, A. C. (2001). A Correlational Study of a Test of Playfulness and a Test of Environmental Supportiveness for Play. *OTJR: Occupation, Participation and Health*, *21*(4), 241-250. Bundy, A. C. (1999). *Test of Environmental Supportiveness*. Ft Collins, US: Colorado State University. Skard, G., & Bundy, A. (2008). Test of playfulness. In L. D. Parham & L. S. Fazio (Eds.), *Play in Occupational Therapy for Children* (pp. 71-94). St-Louis, US: Mosby Elsevier. Hamm, E. M. (2006). Playfulness and the Environmental Support of Play in Children With and Without Developmental Disabilities. *OTJR: Occupation, Participation and Health*, *26*(3), 88-96.

Test of Playfulness (ToP)

Author	Anita Bundy
Year	1997; 2008
Origin	United States of America
Translations	Hebrew (Waldman-Levi & Weintraub, 2015)
Context	Occupational therapy
Target population	6-month-old to 18-year-old children with and without disabilities (i.e.: motor disabilities, autism, sensory processing dysfunction, ADHD)
Objectives	Play assessment
Short description	The ToP is an observational tool of a child's play and playfulness (the disposition to play), defined by four different elements: intrinsic motivation; internal control; suspension of reality; framing (ability to read and give cues in play interactions). These four elements, once combined, define the degree of playfulness of a play behaviour. The ToP is suitable for the assessment of play in children from 6 months to 18 years in outdoor and indoor play settings. In its latest version (4.0), this test comprises a set of 29 items that can be scored by direct observation of free play, without videotaping, which was first used. Each item is scored by evaluating its intensity, its time extension or the skill demonstrated by the child on a 4-point scale (0 to 3). This test has to be administered in at least two different familiar settings. It can be used to measure the outcames of play based programs.
Normative Sample	Yes
Reliability	Some indications of reliability are retrievable here: Bundy et al., 2001
Validity	Some indications of validity are retrievable here: Bundy et al., 2001
Training required	No
Time/Sessions	15 minutes at least for each setting (the number of sessions depends on the number of settings).
Setting	Familiar; indoor and outdoor
Toy materials	No
References	Brentnall, J., Bundy, A. C., Catherine, F., & Kay, S. (2008). The effect of the length of observation on test of playfulness scores. *OTJR: Occupation, Participation and Health*, *28*(3), 133-140. Bundy, A. C., Nelson, L., Metzger, M., & Bingaman, K. (2001). Validity and reliability of a test of playfulness. *The Occupational Therapy Journal of Research*, *21*(4), 276-292. Bundy, A. C., Shia, S., Long, Q., & Miller, L. J. (2007). How does sensory processing dysfunction affect play?. *The American Journal of Occupational Therapy*, *61*(2), 201-208.

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Muys, V. (2006). Assessment of playfulness in children with autistic disorder: A comparison of the Children's Playfulness Scale and the Test of Playfulness. *Occupational Therapy Journal*, *26*(4), 159-170.
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Waldman-Levi, A., & Weintraub, N. (2015). Efficacy of a crisis intervention in improving mother–child interaction and children's play functioning. *American Journal of Occupational Therapy*, *69*, 1-11.

Test of Pretend Play (ToPP)

Authors	Vicky Lewis & Jill Boucher
Year	1997, 1998
Origin	United Kingdom
Translations	French (Vandenplas-Holper et al., 2004); Turkish (Aydin, 2012)
Context	Psychology
Target population	1- to 6-year-old typically developing children and up to 8-year-old children with communication difficulties
Objectives	Play assessment
Short description	The ToPP is the standardized version of the Warwick Symbolic Play test (Doswell et al., 1994). It is an evaluation tool developed to assess symbolic play by observing the occurrence of those play behaviours in four sections: Self with everyday objects: the child refers to an absent object when supported by everyday objects (e.g. eat food when provided with a bowl and spoon). Toy and nonrepresentational materials: the child uses a doll and one or more nonrepresentational materials for pretend objects (e.g. box, stick, cotton wool…). Toy alone: the child uses a teddy bear with no other materials and has to make the teddy bear do something Self alone: the child is not provided with any materials and is asked to be something else or do something with an imaginary object. Structured (bowl and spoon, doll, teddy bear) and unstructured standardized play materials (bottle top, cotton wool, wooden box, cotton reel) are used. This test has a non-verbal and a verbal version. The non-verbal version is intended to be administered to typically developing children up to 3 years of age and with older children with language impairments. In this version, symbolic play is elicited by modelling techniques. In the verbal version, symbolic play is also modelled and simple language is used to instruct the child to demonstrate symbolic play actions and to elicit it. ToPP raw scores can be converted to age equivalents using the test manual. The ToPPcan be used for screening and diagnostic purposes as well as a tool to measure play based interventions' outcomes.
Normative Sample	Yes
Reliability	Some indications of reliability are retrievable here: Clift et al., 1998
Validity	Some indications of reliability are retrievable here: Clift et al., 1998
Training required	No
Time/Sessions	One single session
Setting	Familiar
Toy materials	No

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Clift, S., Stagnitti, K., & DeMello, L. (1998). A validational study of the test of pretend play using correlational and classificational analyses. *Child Language Teaching and Therapy*, *14*(2), 199-209.

Doswell, G., Lewis, V., Sylva, K., & Boucher, J. (1994). Validational data on the Warwick symbolic play test. *International Journal of Language & Communication Disorders*, *29*(3), 289-298.

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Transdisciplinary Play-Based Assessment (TPBA)

Author	Tony Linder
Year	1990; 1993; 2008
Origin	United States of America
Translations	Data not available
Context	Education
Target population	0- to 6-year-old typically developing children, children at risk and children with disabilities
Objectives	Play-based assessment
Short description	Transdisciplinary Play-Based Assessment (TPBA) involves observing the child in play situations with structured and unstructured facilitation of developmental domains such as: sensorimotor, social-emotional, language and communication, cognition. It has been designed to assess children's developmental and cognitive, social, emotional and communication stages. The assessment is meant to be carried out by a multidisciplinary team (this methodology has been defined as "arena format") through the observation of free and facilitated play sessions. Videotaped play sessions are then scored by the team through specific guidelines, identifying the child's strengths and his/her areas in need of intervention. Preliminary information on the child's global functioning are gathered through interviews to parents and caregivers. TPBA-2 differs from the original TPBA in the details of the content area rather than in the administration. The subcagatories have been updated to reflect current research, theory, and practice on each of the developmental domains (sensorimotor, emotional and social, communication, and cognitive), which have not been changed. The tool brings together parents and professionals and gives clinicians the opportunity to evaluate young children in a natural environment of structured and unstructured play. TPBA-2 provides developmental guidelines to analyze the developmental level, learning style, interaction style, adaptive behaviours, and other relevant developmental behaviours.
Normative Sample	Yes
Validity	Some indications of validity are retrievable here: DeBruin, 2005; Kelly-Vance & Ryalls, 2005; Linder & Linas, 2009; Linder, 2008; Linder et al., 2007; Myers et al, 1996
Reliability	Some indications of reliability are retrievable here: Linder, 1993; Friedli, 1994; Linder, 2008
Training required	Yes
Time/Sessions	60-90 minutes, one single session
Setting	Familiar; clinical; indoor and outdoor
Toy materials	Yes

References	Athanasiou, M. S. (2000). Play-based approaches to preschool assessment. In: B. A. Bracken (Ed.), *The Psychoeducational Assessment of Preschool Children* (pp. 412-427). Boston, US: Allyn and Bacon. Kelly-Vance, L., Ryalls, B. O., & Glover, K. G. (2002). The use of play assessment to evaluate the cognitive skills of two- and three-year-old children. *School Psychology International*, *23*(2), 169-185. Kelly-Vance, L., & Ryalls, B. O. (2005). A systematic, reliable approach to play assessment in preschoolers. *School Psychology International*, *26*, 398-412. Kelly-Vance, L., & Ryalls, B. O. (2008). Best practice in play assessment and intervention. In: J. Grimes & A. Thomas (Eds.), *Best practices in school psychology* (pp. 549-560). Silver Springs, US: National Association of School Psychologists. Linder, T. W. (1990). *Transdisciplinary play-based assessment: A functional approach to working with young children*. Baltimore, US: Brookes. Linder, T. W. (1993). *Transdisciplinary play-based assessment: A functional approach to working with young children (2nd ed)*. Baltimore (USA): Brookes. Linder, T., & Linas, K. (2009). A functional, holistic approach to developmental assessment through play: The transdisciplinary play-based assessment, second edition. *Zero to Three*, *30*(1), 28-33. Lowenthal, B. (1997). Useful early childhood assessment: Play-based, interview and multiple intelligences. *Early Child Development and Care*, *129*, 43-49. Myers, C. L., McBride, S. L., & Peterson, C. A. (1996). Transdisciplinary, play-based assessment in early childhood special education: An examination of social validity. *Topics in Early Childhood Special Education*, *16*(1), 102-126. Rutheford, M. D., Young, G. S., Hepburn, S., & Rogers, S. J. (2007). A longitudinal study of pretend play in autism. *Journal of Autism and Developmental Disorders*, *37*(6), 1024-1039. Thomas, N., & Smith, C. (2004). Developing play skills in children with autistic spectrum disorders. *Educational Psychology in Practice*, *20*(3), 195-206.
Notes	A description of the tool is available here: https://prezi.com/co38wmds1-vy/transdisciplinary-play-based-assessment-tpba/ The tool can be purchased at this address: http://products.brookespublishing.com/Transdisciplinary-Play-Based-Assessment-Second-Edition-TPBA2-P215.aspx

3.5 Categorization of the tools

In what follows, a series of tables is reported: the reasoned categorization of the tools is meant to facilitate the readersselecting the instrument to best suit their needs, according to the target population (Table 3.2), the type of assessment (Table 3.3), the main facets of play taken into account (Table 3.4) and the necessity to pass a training to use the instrument (Table 3.5). For the tools age range, please refer to Table 3.1.

Table 3.2. Target population

	NORMATIVE SAMPLE	
CHILDREN	**Yes**	**Data not available**
Typically developing		CBI, p. 73 I-PAS, p. 79 PH, p. 86 SPC, p. 98
With disabilities or at risk	PIPPS, p. 91	ALB, p. 63 APS, p. 65 OPPUS, p. 82
With and without disabilities or at risk	APS, p. 66 CDPI, p. 70 CLASS, p. 77 CPS, p. 78 MCP, p. 80 ToP, p. 103 ToPP, p. 105 TPBA, p. 107	APS-P, p. 68 CAPE, p. 71 ChIPPA, p. 75 MPI, p. 81 PAC, p. 83 PAS, p. 85 PIECES, p. 88 PIP, p. 89 POS, p. 93 PSA, p. 95 RKPPS, p. 97 SSEDSP, p. 100 ToES, p. 102

Table 3.3. Type of assessment

ASSESSMENT	Play	Play-based
Observation	ALB, p. 63 CDPI, p. 70 ChIPPA, p. 75 PAS, p. 85 PIECES, p. 88 POS, p. 93 PSA, p. 95 RKPPS, p. 97 SSEDSP, p. 100 ToES, p. 102 ToP, p. 103 ToPP, p. 105	APS, p. 66 APS-P, p. 68 I-PAS, p. 79 OPPUS, p. 82 PIPPS, p. 91 SPC, p. 98 TPBA, p. 107
Self-report	CAPE, p. 71 CLASS, p. 77 MPI, p. 81 PAC, p. 83 PIP, p. 89	
Other-report	APS, p. 65 CBI, p. 73 CPS, p. 78 MCP, p. 80 PH, p. 86	

Table 3.4. Main facets of play (see Chapter 2, Ray-Kaeser et al., 2018)

FACETS OF PLAY	
Play skills	APS, p. 66 APS-P, p. 68 CDPI, p. 70 ChIPPA, p. 75 I-PAS, p. 79 MCP, p. 80 OPPUS, p. 82 PAC, p. 83 PAS, p. 85 PIECES, p. 88 PH, p. 86 POS, p. 93 PSA, p. 95 RKPPS, p. 97 SPC, p. 98 SSEDSP, p. 100 ToPP, p. 105 TPBA, p. 107
Play activities	CAPE, p. 71 ChIPPA, p. 75 CLASS, p. 77 MCP, p. 80 MPI, p. 81 PH, p. 86 PIP, p. 89
Play preferences	ALB, p. 63 CLASS, p. 77 MCP, p. 80 PAC, p. 83 PIP, p. 89 PIPPS, p. 91
Playfulness	ALB, p. 63 CBI, p. 73 CPS, p. 78 ToP, p. 103
Physical and social environment	APS, p. 65 CLASS, p. 77 MCP, p. 80 PH, p. 86 ToES, p. 102

Table 3.5. Training required

TRAINING REQUIRED	
Yes	APS, p. 66 APS-P, p. 68 CDPI, p. 70 ChIPPA, p. 75 OPPUS, p. 82 PIECES, p. 88 TPBA, p. 107
No	ALB, p. 63 APS, p. 65 CAPE, p. 71 CBI, p. 73 CLASS, p. 77 CPS, p. 78 I-PAS, p. 79 MCP, p. 80 MPI, p. 81 PAC, p. 83 PAS, p. 85 PIP, p. 89 RKPPS, p. 97 ToES, p. 102 ToP, p. 103 ToPP, p. 105
Data not available	PH, p. 86 PIPPS, p. 91 POS, p. 93 PSA, p. 95 SPC, p. 98 SSEDSP, p. 100

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Ray-Kaeser, S., Châtelain, S., Kindler, V. & Schneider, E. (2018). The Evaluation of Play from Occupational Therapy and Psychology Perspectives. In S. Besio, D. Bulgarelli & V. StanchevaPopkostadinova (Eds), Evaluation of Children's Play. Tools and Methods (pp.). pp. 19-57). Warsaw (P): De Gruyter Poland.

Daniela Bulgarelli & Vaska Stancheva-Popkostadinova

4 Play assessment tools and methodologies: the view of practitioners

4.1 Introduction

Garvey (1990) defined play as "a range of voluntary, intrinsically motivated activities normally associated with recreational pleasure and enjoyment". Thus, play includes all kinds of activities performed with ludic intention and characterized by pleasure, self-direction, and intrinsic drive. From this perspective, 'play-like' activities are those made in ludic contexts, with a ludic mood andinvolving ludic tools (as toys and games), but driven byeducational or rehabilitative goals (Besio, 2017; Bulgarelli & Bianquin, 2017; Visalberghi, 1958).

Professionals working in the field of "play and children with disabilities" may focus their activities on "play for the sake of play" (Besio, 2017): if this is the case, play is the core objective and the professional activity is meant to make play happen or improve. Alongside, play is very often used to convey interventions to improve children's abilities other than play, as cognitive abilities, social or emotional competence, language skills, etc.: if this is the case, then the professional activities and interventions are play-based. This framework is also mirrored in the tools and methodologies to evaluate play, leading to play or play-based assessment (for a wider discussion, see Ray-Kaeser, Châtelain, Kindler & Schneider, 2018). Play assessment is meant to evaluate play abilities, preferences, type of play, etc.; play-based assessment relies on play to measure children's cognitive, emotional, social, or affective competences.

Play or play-based assessment is a task of professionals in several fields: psychology, occupational therapy, mainstream and special education, speech and language therapy, rehabilitation, child psychiatry, research, etc. Many of the tools that are available have been developed in the occupational therapy, psychology and psychiatry fields and can be used by different practitioners (Bulgarelli, Bianquin, Caprino, Molina & Ray-Kaeser, 2018).

To our knowledge, the view of professionals on the evaluation of play and on the instruments and methodologies to evaluate play has not been investigated yet. This topic seems important: do professionals know and use the tools that are currently available? Do they trust them? Which features make a tool interesting for the practitioners working in the field of play and children with disabilities? A pilot study to start and addressing these questions has been developed.

4.2 Objective of the study

The study was framed in the COST Action TD1309 "LUDI – Play for Children with Disabilities", contributing to two main tasks of the Action: a) collecting and systematizing the existing competences and skills in the field of play for children with disabilities; and b) disseminating the best practices emerging from the joint effort of researchers, practitioners and users (Besio, Bulgarelli, Stancheva-Popkostadinova, 2017). The study has been coordinated by the LUDI Working Group 1 dedicated to the theme "Children's play in relation to the types of disabilities"[6].

The main goal of the study was to collect information from practitioners from different countries on their experiences of using existing methodologies and tools for the evaluation of play. To this end, a survey has been organized, to collect data from all those professional groups involved in play and children with disabilities.

4.3 Method

4.3.1 The questionnaire

The questionnaire "Evaluation of play in the professional practice" was developed in English by Serenella Besio, Daniela Bulgarelli and Vaska Stancheva-Popkostadinova for the purpose of the study.

It consists of two parts: the first one includes four questions addressing general information about the person who filled the questionnaire (profession, years of experience in the field of play, current occupation and place of working, location); the second part includes six specific questions concerning experience in play evaluation/assessment:

- purpose of play in the professional practice;
- experience on play evaluation;
- most useful methods for the evaluation of play, based on the practical experience;
- assessment instruments and methodologies and reasons for choosing them;
- recommendations for practice.

The questionnaire was translated into Albanian, Bulgarian, French, Italian, Macedonian, Romanian and Serbian languages by mother-tongue researchers and professionals who are part of the LUDI network.

6 For more details, see: http://www.cost.eu/COST_Actions/tdp/TD1309 and https://www.ludi-network.eu/

4.3.2 Data collection

The study was conducted between July 2016 and February 2017. The questionnaires were distributed among the LUDI members, who shared them with professionals in their country. The answers to the open questions were translated by the same LUDI members who took care of the questionnaire translation.

4.3.3 Participants

One-hundred-seven participants from 14 countries took part in the survey (see Table 4.1): Australia (AUS), Bulgaria (BG), Former Yugoslav Republic of Macedonia (MK), Germany (D), Greece (GR), Israel (IL), Italy (I), Malta (M), Netherlands (NL), Romania (RO), Serbia (SRB), Sweden (S), Switzerland (CH) and United Kingdom (GB).

Twelve different occupations were represented: coordinator of play space (Coo), counsellor (Cou), kinesiotherapist (K), occupational therapist (OT), psychologist (Psy), neuropsychiatrist and child psychiatrist (Psyc), researcher (R), special educators (SE), speech and language pathologist (SLP) and therapist (SLT), social pedagogue (SP) and teachers (T)(see Table 4.1).

Table 4.1. Participants: professional group by country

Profession	Country														
	AUS	BG	CH	D	GB	GR	I	IL	M	MK	NL	RO	S	SRB	Tot
Coordinator of play space							1								1
Counsellor					1										1
Kinesiotherapist												1			1
Occupational Therapist			6	1				16			4	6			33
Psychologist		8					2	1				7		2	20
Neuro/psychiatrist												1		1	2
Researcher	1					1							1		3
Special Educator		3								6				4	13
Speech Language Pathologist								1	1						2
Speech Language Therapist		4				4		1						1	10
Social Pedagogue												5			5
Teacher						6	4			1		5			16
Total	1	15	6	1	1	11	7	19	1	7	4	25	1	8	107

All participants had experience in working with children with disabilities and used play in their practice. Professional experience in the field of play of the participants ranged from 2 months up to 35 years (M = 11.52 years, SD = 8.18 years). The duration of professional experience in the field of play has been grouped as follow: < 5 years, 5-10 years, 10-15 years, 15-20 years, > 20 years (see Figure 4.1).

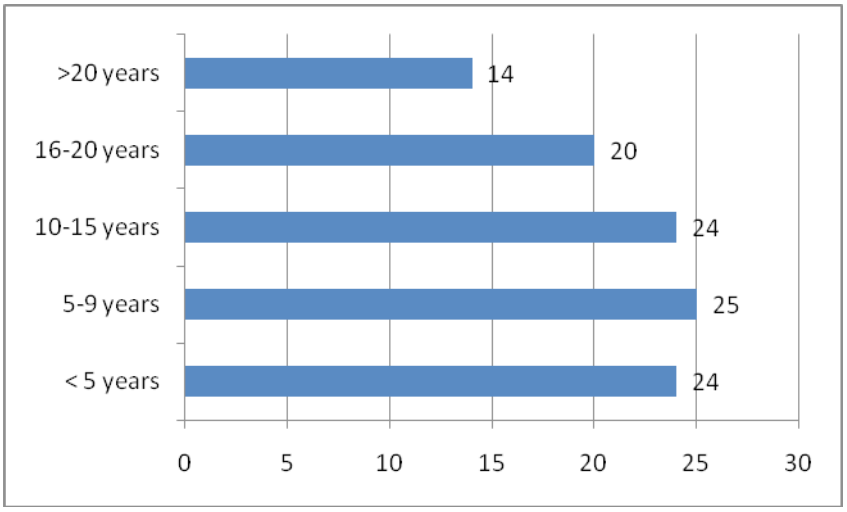

Figure 4.1. Respondents' professional experience in the field of play

4.4 Results and discussion

The multiple choice Question #5 was the first of six specific questions concerning experience in play evaluation and assessment: "When you use play in your professional activities with children, you use it:

a) As a background for making educational/rehabilitation activities (your main objectives are in education/rehabilitation, play is the mean to reach them);
b) Because it is the objective of your professional activity: you work to make play happen or improve;
c) As the best activity to assess the child's competence/ability and/or developmental stage;
d) As a therapeutic methodology."

One-hundred-four persons replied to this question (1 occupational therapist with 6 year of working experience, and 2 teachers with 13 and 21 years of working experience have not answered); each participant could choose more than one option. Table 4.2 reports the answers to Question #5 classified by professional group.

Table 4.2. Use of play by professional group

		Question 5: "In your professional activities, you use play"			
Profession	**N**	**a) as background for making activities**	**b) because it is the objective of my activity**	**c) to assess child's competences**	**d) as a therapeutic methodology**
Coordinator of play space	1		1		
Counsellor	1	1			
Kinesiotherapist	1	1			1
Occupational Therapist	33	21	14	14	15
Psychologist	20	14	4	6	10
Neuro/psychiatrist	2	1	0	1	1
Researcher	3	1	1	2	
Special Educator	13	11	7	9	11
Speech and Language Pathologist	2	2		2	1
Speech and Language Therapist	10	6	2	7	2
Social Pedagogue	5	5	4		3
Teacher	16	6	2	5	5
Total	107	69	35	46	49

According to the theoretical framework proposed in the Section 1, the answers a), c) and d) correspond to the use of play to pursue therapeutic, rehabilitative or evaluation objectives. Therefore, the great majority of the respondents had experience in play-like activities, and only 35 reported play as being the core of the professional activity.

Question #6 was: "Do you evaluate play in your current practice with children?". The evaluation of play was used in the practice of 99 respondents: these professionals had been working in the field of play for an average time of 11.83 years (SD = 8.23; min = 2 months, max = 35 years). Eight respondents (2 psychologists, 3 occupational therapists, 2 teachers and 1 special educator) did not evaluate play; they had been working in the field of play for an average time of 6.98 years (SD = 6.68, min = 4 months, max = 20 years).

Question #7 was: "In your practice, what do you find most useful for the evaluation of play?

a) Standardized tool
b) Observational tool
c) Direct observation
d) Questionnaire
e) Other"

One-hundred-seven persons replied to this question; each participant could choose more than one option (see Figure 4.2).

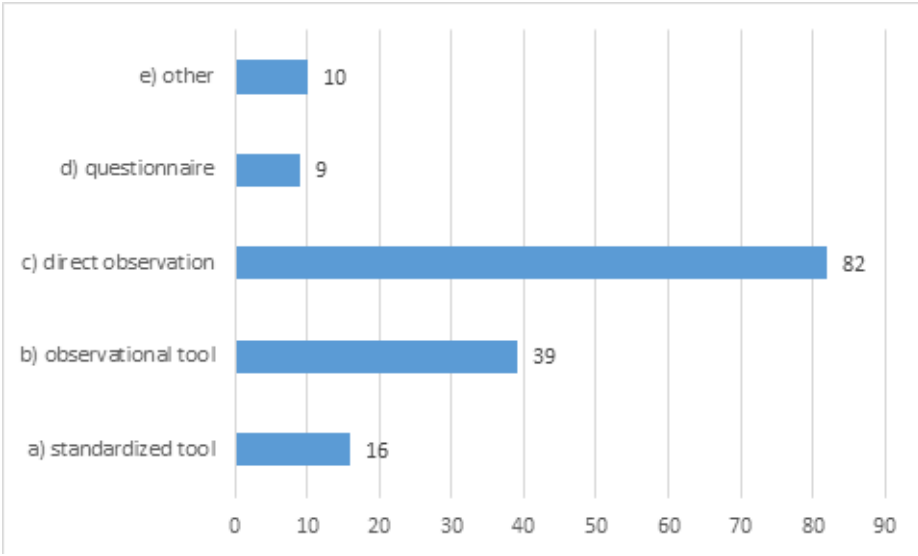

Figure 4.2. Most useful tools and methodologies for the evaluation of play (Question #7)

When selecting "other", respondents indicated a) some tools they usually used; b) the use of indirect observation or interviews with parents and teachers; c) some specific therapeutic tool such as the analysis of Transference and Countertransference; and d) the use of means to play as educational computer game or dolls for hands. Table 4.3 reports the answers to Question #7 by profession.

Among the participants, the methodology considered most useful for play evaluation was direct observation or observational tools. This was the case across all professional groups. Standardized tools and questionnaires were considered the less useful by this sample of professionals.

Question #8 was: "Which assessment instruments and/or methodology do you use for the evaluation of play (please, write the full name and authors of the tool – the tool can be standardized or not)?". Fifty-eight participants responded to this question

(see Table 4); their average time of work experience was 10.65 years (SD = 8.51; min = 2 months, max = 35 years). Fifty-one participants did not answer (average time of work experience = 12.56 years, SD = 7.74; min = 4 months, max = 33 years). The respondents could report up to a maximum of three tools/methodologies: 34 indicated one, 15 indicated two and 9 indicated three tools/methodologies.

Table 4.3. Most useful tools and methodologies for the evaluation of play by professional group

		Question 7: "What do you find most useful for the evaluation of play?"				
Profession	**N**	**a) standardized tool**	**b) observational tool**	**c) direct observation**	**d) questionnaire**	**e) other**
Coordinator of play space	1		1	1		
Counsellor	1			1		1
Kinesiotherapist	1			1		
Occupational Therapist	33	4	12	25	3	3
Psychologist	20	6	8	14	1	2
Neuro/psychiatrist	2		1	1		
Researcher	3	1	3	3	1	
Special Educator	13	2	7	9	1	1
Speech and Language Pathologist	2	1	1	2	1	
Speech and Language Therapist	10		2	9	1	1
Social Pedagogue	5			5		
Teacher	16		4	11	1	2
Total	107	14	39	82	9	10

Question #9 was: "Why do you choose and use this instrument/methodology? Which characteristics of this tool/methodology make you adopt and use it? Please, explain for each tool". All the given answers have been classified into 2 categories: tools, i.e. instruments listing a representative sample of directly observable behaviours that are related to the competence evaluated by the tool itself (Molina & Muntean, 2018); and methodologies, i.e. theoretical framework organizing the use of tools and activities to assess a competence or, more generally, activities that cannot be considered tools according to the previous definition.

Table 4.4. Respondents to Question #8 by professional group

Profession	Respondent	Non respondent	Total
Coordinator of play space	1		1
Counsellor	1		1
Kinesiotherapist		1	1
Occupational Therapist	19	14	33
Psychologist	9	11	20
Neuro/psychiatrist	1	1	2
Researcher	3		3
Special Educator	9	4	13
Speech and Language Pathologist	1	1	2
Speech and Language Therapist	5	5	10
Social Pedagogue		5	5
Teacher	9	7	16
Total	58	49	107

Table 4.5 summarizes the responses about tools, and Table 4.6 contains the responses about methodologies. The tables report excerpts of the literal responses.

As reported in Table 4.5, 53 respondents referred to 38 different tools to evaluate play; 31 of them reported about 17 different tools that are specifically meant to assess play or tools that are partly dedicated to the assessment of play. Several features make these tools interesting for the professionals: their reliability; presence of well-defined criteria of play; reference to developmental age, a valuable information to include in reports for health insurances or health systems, or to support the child's moving into mainstream education; the characteristics of the administration of the instrument (easy, fast, handy); the possibility to support the intervention planning; the fact that the tool is explicitly designed for children with disabilities. Each tool can be chosen for its specific contents (play preferences, play abilities, type of play, playfulness, etc.) or the specific population it is built for (children with Autism Spectrum Disorder, with visual impairment, with multiple disabilities, etc.).

Twenty-two participants referred to 21 tools that are not play assessment tools. Some of them are not even evaluation instruments (e.g., tablet software applications, educational software, Souding Board, Talking Photo Album). Some are not meant to evaluate play but other child competences (e.g., Raven's Progressive Matrix, the Wechsler's Scales, the Early Learning Accomplishment Profile). Some of these choices of tools depend on the specific professional group of the respondent (for instance, the CAT is a projective instrument useful in psychotherapy). Some other tools assess abilities or psychological dimensions that are involved in play (e.g., the Pediatric Volitional Questionnaire, the Motor-Free Visual Perception Test, the Peabody Developmental Motor Scales, the Symbolic Play Test that allows to evaluate early skills required for language development) or processes that support play (e.g., the Inclusive Classroom Profile).

Table 4.5. Tools used for the evaluation of play and reasons for choosing them reported by the respondents (Question #8 and Question #9)

N and professional group	Tool	Author/s or references	Play assessment	Developmental tool	Reasons for choosing the tool
2 OT	Assessment of Ludic Behaviour (ALB)	Ferland (1997)	Yes		Assesses play behaviour of children with disabilities. Deeper information. Useful to plan intervention.
1 SLT	Autism Diagnostic Interview Revised (ADI-R)	Lord et al. (1994)	Yes (partly)	Yes	Well-defined criteria for play. Norms.
1 T	Behaviour Assessment Battery (BAB)	Kiernan & Jones (1982)	Yes (partly)		Investigates spontaneous or elicited play.
1 OT	Children's Assessment of Participation and Enjoyment (CAPE)and Preferences for Activities of Children (PAC)	King et al. (2004)	Yes		Assesses preferences in play and gaols in play.
1 OT	Canadian occupational performance measure (COPM)	Law et al. (2014)	Yes (partly)		Handy. Encompasses importance, satisfaction and performance judged by the child him/herself.
1 R	Early Childhood Environment Rating Scale Revised (ECERS-R)	*Harms* et al. (2005)	Yes (partly)		Assesses the educational environment and the play opportunities that it offers.
1 Cou	Evaluation Questionnaire (EQ)	Ferrari et al. (2010)	Yes (partly)	Yes	Easily understood by parents and teaching assistants. Uses the language from the EYFS. Development stages. Provides opportunities to re-assess annually. Provides the information needed for assessment for support for children moving into mainstream education. Is valued by Educational Psychologists.

N and professional group	Tool	Author/s or references	Play assessment	Develop-mental tool	Reasons for choosing the tool
1 Psy	Early Start Denver Model Curriculum Checklist for Young Children with Autism (EDSM)	Rogers & Dawson (2009)	Yes (partly)	Yes	Is usually used in early intervention. Its efficacy is well documented.
11 OT	Knox Preschool Play Scale (KPPS)	Knox (2008)	Yes		Gives an idea of level of play. Includes many skills involved in play. Easy to use. Doesn't take a long time to complete. Norm reference. In my workplace it is the approved tool. I had a training for this tool. Reference to developmental age can be helpful in argumentation with health insurances and reports.
1 SE	Perkins Activity and Resource Guide. Check-list on Play (PARG)	Haydt et al. (2004).	Yes (partly)		Developed for children with visual and multiple disabilities. Informal, simple, fast to use.
1 T	Play History (PH)	Takata (1969)	Yes		It concerns team games, sports, collections and special interest groups.
1 SE 1 Psy	Play Therapy Session Note (PTSN)	Lamanna (2005)	Yes (partly)		Allows a clear picture of the child's emotional state. Provides guidelines for the further course of therapy with a detailed monitoring.
1 R	Play time/Social time (PTST). Observation tool form	Odom & McConnell (1997)	Yes (partly)		Guides an observation of play behaviours.
1 Psy	Psychoeducational Profile Revised (PEP-R) and Psychoeducational Profile (PEP-3)	Eric Schopler et al. (2005)	Yes (partly)	Yes	Assesses skills and behaviours of children with autism and communication disabilities. The games are very interesting and give to the child the opportunity to behave freely and autonomously.

N and professional group	Tool	Author/s or references	Play assessment	Developmental tool	Reasons for choosing the tool
1 Psy 1 R	Rosetti Infant Toddler Language Scales (RITLS)	Rossetti (1990)	Yes (partly)	Yes	Useful for very young children (0 – 3yrs). Norm references. Gives ideas for what to observe and what to ask the caregivers. Contributes for the decision of treatment goals.
1 Coo 1 OT	Test of Playfulness (ToP)	Skard & Bundy (2008)	Yes		Evaluates the principal elements that make play possible: I can then work on the missing aspects. Playfulness is very useful for clinical purposes, more than developmental age.
1 SLT	Verbal Behavior Milestones Assessment and Placement Program (VB MAPP)	Sundberg (2008)	Yes (partly)		Well defined child's social behaviour and social play.
1 T	GCompris ToolKid	Educational software	No		These games are very suited to see how the student works.
1 T	Breathe, Think, Do with Sesame	Application by Sesame	No		Teaches children to keep calm and carry on by introducing three possible strategies for working through problems.
1 Psy	Children's Apperception Test (CAT)	Bellak & Bellak (1949)	No		Helps the child share indirect experiences.
1 OT	Early Learning Accomplishment Profile (E-LAP)	Harding & Peisner-Feinberg (2001)	No	Yes	Organized and comfortable to use.
1 R	Inclusive Classroom Profile (ICP)	Soukakou (2016)	No		Assesses inclusive educational environments.

N and professional group	Tool	Author/s or references	Play assessment	Develop-mental tool	Reasons for choosing the tool
1 R	Interaction Analysis; frame analysis	Jordan & Henderson (1995)	No		Allows a great level analysis of microsociology and meaning construction between interacting participants.
1 SLT	Motor-Free Visual Perception Test-4 (MVPT)	Colarusso, & Hammill (2015)	No		
1 OT	Peabody Developmental Motor Scales (PDMS)	Folio & Fewell (2000)	No		Standardized and formal. Is a good complement when using clinical observation.
1 OT	Pediatric Volitional Questionnaire (PVQ)	Basu et al. (2008)	No		Useful to understand motivational aspects in play. Useful when working with children with severe developmental disabilities.
2 Psy	Progressive Matrix	Raven (1989)	No	Yes	Standardised tool. Easy to apply.
	Sounding Board	Application by AbleNet	No		Studentswith writing disabilities and communication disorders turn it into a story board communicator.
1 Psy 1 SLP	Symbolic Play Test (SPT)	Lowe, & Costello (1988)	No		Helps understanding what is the function of the child in symbolic play.
1 T	Talking Photo Album		No		It is an assistive technology communicator: I use it as an interactive storyteller, choice maker, or means of communication.
1 Psy	Wechsler Preschool and Primary Scale of Intelligence	Wechsler (2012)	No	Yes	Helps to assess the abilities.

N and professional group	Tool	Author/s or references	Play assessment	Develop-mental tool	Reasons for choosing the tool
1 SE	Six thinking Hats	De Bono (2016)	No		Facilitates the development of critical thinking, improves communication and teamwork, it develops the creativity. Is designed for group work.
1 SE	Creative interventions	Lowenstein (1999)	No		Comes up with self-awareness and self-confidence. Can be used at individual and group levels.
1 SLT	Non standardized test	Not specified	No		To evaluate cognitive development.
1 SLT	Non standardised test	Not specified	Not specified		
1 OT	Batterie d'Évaluation Talbot	Talbot (1993)	Not specified		Guides clinical observations and uses concrete play instruments (toys, beads...).
1 OT	Developmental scale (personal)	Not specified	Not specified		Useful to estimate the child's level of play.
1 OT	School AMP	Not specified	Not specified		It tells me a little about what goes wrong in play and tasks in school that affect play in all settings.

* Acronyms are defined in Par. 3.3

Table 4.6. Methodologies used for the evaluation of play and reason for choosing them reported by the respondents (Question #8 and Question #9)

N and professional group	Methodology	Dedicated to play	Reason for choosing the tool
4 OT 1 Psy 1 SLP	Observation	Yes	Allows assessing the child in natural, environments (classroom, playground, etc.). Gives an objective assessment about child'sability in play. Allows assessing type of play (cognitive and social). Allows seeing cognitive complexity in play depending on contexts. Allows to check the changes in child's play. Can assess play in every child, regardless of his/her abilities.
1 OT	Observation	Yes	Didn't find another tool that is useful for us.
1 SLP	Home Observation	Yes	Shows what toys children prefer, how they play, involve their relatives in play, and what language they use.
1 SLT	Not Specified	Yes	I use methods to integrate play and construct abilities for play, to develop communication and language skills, in children with autism spectrum disorder.
4 SE	Not Specified	Yes	We follow the impact of play through the assessment and evaluation of the achievements of our customers.
1 OT	Free play	Yes	Not Specified.
1 OT	Guided play	Yes	Not Specified.
1 OT	Photo interview	Yes	Tells me what the child wants to achieve and how she/he sees him/herself (competent or incompetent in play).
1 T	Portfolio of photos about the child playing	Yes	I use direct observation through portofolio. I can understand the developmental stage of the child, his/her abilities, interests, to organize my educational activities.
1 OT	I use own list of observations	Not specified	Don't know if there is a good standardized tool.
1 Psy 2 OT 1 SE 1 SLT	Observation	Not specified	Easy to use, easy to observe changes (also emotional changes). Can be used as part of the treatment and intervention. It shows child's abilities, helps identifying limitations and difficulties.

N and professional group	Methodology	Dedicated to play	Reason for choosing the tool
1 OT	Interview with parents and caregivers	Not specified	
1 Psy	Cards with emotions	No	Developmentof the emotions and naming.
1 Psy	Cube “Activities of daily life”	No	Trainingin daily life activities.
1 Psy	Drawing a person	No	Diagnosis of development.
1 SE	Special education diagnostic evaluation with standardized tests	No	General screening and rehabilitation. Assessment of knowledge of body parts. Imitation of movements, reproduction.
1 Psy	Family Scheme with animal figures	No	It helps me to understand better family’s picture through the eyes of the child.
1 T	Logical blocks	No	To check the logical capacity.
1 T	Methods taken from musictherapy	No	I use music as a tool to increase self-esteem and helping children overcome many behaviourally issues.
2 T	Observation	No	I watch the social ability of my students and their cognitive level.
1 T	Role playing	No	To help children overcome issues related to socialization and other issues resulting from limitation in socialization.
1 T	Schemes to dial (such as the human body)	No	
1 T	Puzzle	No	To test the ability of abstraction.

* Acronyms are defined in Par. 3.3

Seventeen respondents reported about observation as the best method for their activity. Eight of them specifically referred to the observation of play in different contexts, to assess children's ability in play, to assess types of play (cognitive and social), to check changes in child's play as the result of growth or intervention. One participant stated that no tools other than observation have been found to assess play. Seven respondents referred to observation but not enough information was given to clearly understand if it was really used to assess play and two participants explicitly reported about observation to assess social abilities, given out of topic answers. Eight other participants provided responses that seem to be out of topic: cards with emotions, cube "Activities of daily life", drawing a person, methods taken from music therapy are activities that are not strictly related to play; logical blocks and building puzzles are activities related to cognitive performance; finally, family scheme with animal figures is a projective tool used in psychotherapy that is not specifically linked to play.

To report which kind of tools and methodologies are used when play is the main objective of the professional activity, the answers to Question #5 "You use play in your professional activities with children" has been crossed with the type of tools and methodologies used to evaluate play reported in Questions #8 and #9 (see Table 4.7).

When play is the core goal of their activity, the professionals use tools that have been specifically developed for play more often than in the other three situations. In fact, sixty-nine respondents stated to use play as a background for making educational/rehabilitation activities (see Table 4.2): to evaluate play, 22 (31.88%) of them use tools or observation specifically dedicated to play (see Table 4.7). Forty-nine stated to use play as a therapeutic methodology: to evaluate play, 11 (22.45%) of them use tools or observation specifically dedicated to play (see Table 4.7). Forty-six respondents stated to use play to assess the child's competence/ability and/or developmental stage (see Table 4.2): to evaluate play, 14 (29.79%) of them use tools or observation specifically dedicated to play (see Table 4.7). Finally, 35 stated to use play as the objective of their activities, to enable or improve it (see Table 2): to evaluate play, 15 (42.86%) of them use tools or observation specifically dedicated to play (see Table 4.7).

Question #10 was: "Do you recommend this as a good instrument for the practice? Please, explain for each tool". Fifty respondents replied to this question; their answers are reported in Table 8 (containingonly the tools related to play).

Table 4.7. Type of tool/methodology reported by professionals who use play in their professional practice

Tool/ methodology specifically related to play (Questions #8 & #9)*	Question #5: "In your professional activities, you use play"			
	a) as background for making activities	b) because it is the objective of my activity	c) to assess child's competences	d) as a therapeutic methodology
ALB	2			
ADI-R		1	1	1
BAB				
CAPE and PAC	1	1	1	1
COPM				1
ECERS-R		1		
EDSM	1			
EQ	1			
KPPS	4	4	2	2
Observation	5	3	5	1
PARG	1	1	1	1
PEP-R	1	1	1	1
PH	1			
PTSN	1			1
PTST		1		
RITLS	2		1	
SPT	2		1	
ToP		1		1
VB MAPP		1	1	1
Total	22	15	14	11

* Acronyms are defined in Table 4.5

Table 4.8. Recommendations of instruments for the evaluation of play

N and professional group*	Tool/ Methodology**	Question #10: "Do you recommend this as a good instrument for the practice?"
1 SLT	ADI-R	Yes, to create a plan for play; it gives clear criteria about strengths and weaknesses of the child. It checks for the stereotypical behaviours.
1 OT	ALB	Yes, to elaborate with the parents the objectives of intervention.
1 T	BAB	Yes, it guides in the detection of even small capacity. Good for spontaneous play or through the creation of gambling opportunities.
1 OT	CAPE and PAC	Yes, but only with children who are 8/9 years old.
1 OT	COPM	Subjectived imension of the child.
1 R	ECERS	Assessmentof educational settings that can be used in interventions.
1 Psy	ESDM Rogers	Yes, it is effective in changing the developmental trajectories of children with autism. It has been used in several contexts. It can be used by different professionals (psychologists, motor development therapists, speech therapists, etc.)
1 SLT	The Greenspan floor time***	It is an integrated method that suggests both evaluation criteria and intervention approaches for developing play skills broadly defined.
11 OT	Knox	Yes but it must be taken into consideration it is not standardized. Yes, it is easy to use and fits various levels of play ability. It gives the age range of each function/ability. It doesn't improve the difficulties of the population of children with ASD. Yes, to communicate with parents when observing the child playing, to estimate his level of play. However, not exhaustive. Yes, good to interact with health insurances. Yes, it is detailed according to activities and age ranges.
1 Cou	LARG	Yes, it is easily understood and has proved to be useful to parents and to a variety of professionals involved in Early Years Education. It shows at a glance the ages and stages of development.

N and professional group*	Tool/ Methodology**	Question #10: "Do you recommend this as a good instrument for the practice?"
5 OT 1 SLP 2 Psy	Observation	Yes, it is not invasive, it can also be carried out at a distance, in safe and natural environment. Yes, we are doing well in our school about play and leisure although we are not using a standard tool. Yes, it let us see the child in his/her neutral environment. Yes, it gives an intervention basis. Yes, it makes children at ease and feel relaxed. Yes, it is simple. It helps recognize the improvements. Yes, it is available, it is possible to adapt and use in all situations.
1 T 1 Psy	PEP-R	Yes, it supports the behavioural observation of task performance.
1 T	PH	Yes, it reinforces children's inclusivity.
1 R	PTST	Yes, teachers find it acceptable and useful.
1 SE	PARG	Yes, I do recommend it as an informal tool for children with multiple disabilities.
1 R 1 Psy	RITLS	Yes, easy to use with direct observation and parents. Yes, it gives a general scale of what is expected in play in each age from 0 to 36 months. It gives ideas about what to observe and what to ask the caregivers to decide the treatment goals.
1 Psy 1 SLP	SPT	Yes, it helps understanding what is the function of the child in symbolic play. Yes, it's a standardized test.
1 Coo 1 OT	ToP	Yes, playfulness is clinically important.
1 SLT	VB MAPP	Yes, it defines the stages of play.

*Acronyms are defined in Par. 3.3. **Acronyms are defined in Table 5. **Not indicated as instrument used by the respondent.

Table 8 shows that recommended tools and methodologies share some characteristics:

- they give back a clear description of the child's strengths and weaknesses in play;
- the child's abilities can be compared with developmental stages;
- also thanks to this reason, they can support the intervention planning;
- they can help changing the child's developmental trajectories;
- they can be used by different professionals;
- they can support the communication between the professional and parents, teachers, and health insurances or health systems.

Specifically, observation allows assessing play in several natural and safe contexts, without being invasive and letting the child at ease. Finally, some respondents clearly reported that the standardization of the tool is a key feature, and some showed to be aware that non-standardized tools should be used with caution, given that reliability of their measures is not proved.

4.5 General discussion and conclusion

The study presented aimed at investigating the experiences and opinions of practitioners from different fields: special education, occupational therapy, paediatrics, psychology, education, etc., about the existing methodologies and tools for the evaluation of play. The 107 participants who filled out the questionnaire "Evaluation of play in professional practice" reported about 19 different tools and 7 methodologies to evaluate play.

Even if this is a pilot study investigating the professionals' opinions, the findings describe some first interesting features that characterise the recommended tools and methodologies for the evaluation of play in children with disabilities: the possibility to draw a clear description of the child strengths and weaknesses, the possibility to support the intervention planning, the perception that the tools are effective in practice. Respondents also highlighted that tools to evaluate play can better support the interaction with parents, with other professionals taking care of the child and with health systems or insurance, because they provide an objective evaluation of the child's abilities, preferences and improvements. Direct observation, when it is not performed through structured observational tools, can lack objectivity; nevertheless, very often professionals choose this methodology because it can be easily adapted to each child, and it allows evaluating children in natural and safe environments, making them feel comfortable.

Most of the respondents assessed play through non-standardized instruments, but rarely discussed the limitations of non-standardized tools and methodologies that are not evidence-based. This is a potential concern because, as few participants reported, non-standardized tools should be used with caution, given that reliability of the measures they provide is not proved. Another potential concern lies in the fact that some participants referred to use as assessment tools instruments that are not meant to be used for such goal (see Table 5): this is a limitation because, as aforementioned, the evaluation made through these tools is more likely to lack reliability and validity.

It is worth noticing that a large amount of "out of topic" responses have been given to the questions related to the tools and methodologies used to assess play. Half of the reported tools are not meant to assess play, but other children's competences, or abilities, psychological dimensions and processes that can support play. Importantly, some respondents explicitly stated that they are not informed about the existence of tools that can reliably assess play.

This calls to the need to better share the knowledge about the evaluation of play and the tools that have been developed in the past years. This also calls to the need of promoting the approach of "play for the sake of play" (Besio, 2017): this means to spread the awareness that play is not primarily a means to convey the rehabilitation or education of children's competences, but it is a need of the children *per se*, the engine for the children's development and the way to express their preferences, abilities, emotions, etc. Last but not least, play is a right of every child as the Convention on the Rights of the Child (United Nations, 1989) and the Convention on the Rights of Persons with Disabilities (United Nations, 2006) established. As such, play is a right to be supported above all in those children who cannot exercise it because of personal, social, and contextual factors, as it is very likely to happen to children with disabilities.

4.5.1 Limitations of the study

The current pilot study was developed to start investigating the view of professionals on the evaluation tools for play in several countries linked to the LUDI Network. The questionnaire has been shared through the Network without strict selection; the number of participants from different countries ended up to be not equal, as well as the number of participants from the professions dealing with play from their different perspectives. Nevertheless, the picture that emerged from the survey showing its complexity and heterogeneity, stressing the necessity to further investigate these issues.

4.5.2 Future directions

Further studies could take into account more detailed information about the work experience of the respondents (for instance, type of education, main tasks accomplished in everyday work, etc.) to inform a comparison about the professional groups and to highlight the cultural specificities of each professional group in different countries. A better balance between countries and and professional groups should also be sought.

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