Examining play behaviors of children with internalized emotional disturbances in preschool context

A systematic literature review

Alice Meropi Batsopoulou

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Supervisor
Madeleine Sjöman

Examinator
Mats Granlund
ABSTRACT

Author: Alice Meropi Batsopoulou

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Child initiated play appears as a means for children to express their inner world and personality and works as a milestone promoting their overall development. Internalized emotional disturbances constrain children’s functioning and have an impact on their general behavior, hindering their development. Most of the times, it appears challenging for teachers to identify a child with internalizing problems in the preschool classroom and most interventions are targeting children with externalized problems. Since play is a way for children to express, observations of children’s behavior while playing, provide information about their inner thoughts and concerns. The aim of the present study was to identify play behaviors and tendencies in types of play that children with typical and atypical internalized emotional disturbances show in free play situations in preschool. A systematic literature review was conducted in order to reach this goal. Six articles were included in which five internalized emotional disturbances were mentioned –one typical and four atypical. Findings revealed eight overt play behaviors, with prevalent these of non-play, solitary-passive behavior, unconscious play activity and desire for peer play but no attempt for it. Regarding engagement in play types, children exhibiting internalized problems were more prone to constructive and creative play and less engaged in symbolic play, which can be possible indicator of developmental delays. This study works as a tool for professionals in order to identify play behaviors of children with internalized emotional disturbances in preschool child initiated play. Subsequently, the findings assist interventionists on providing adequate support and clinicians on shedding light on the dubious field of emotional and behavioral disorders in early childhood.

Keywords: child initiated play, play behaviors, play types, internalized emotional disturbances, kindergarten, free play, preschool

Postal address
Högskolan för lärande och kommunikation (HLK)
Box 1026
551 11 JÖNKÖPING

Street address
Gjuterigatan 5

Telephone
036–101000

Fax
036162585
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Abbreviations

CIP  Child Initiated Play
EBD  Emotional Behavioral Disorders
GAD  Generalized Anxiety Disorder
IED  Internalized Emotional Disturbances
MDD  Major Depressive Disorder
PTSD Post Traumatic Stress Disorder
SAD  Separation Anxiety Disorder
SP   Social Phobia
1 Introduction

Play in children’s life constitutes a developmental mediator, promoting their social and emotional skills; thus appearing as a way through which children unravel their inclinations and personal characteristics. Contrariwise, preschoolers with Internalized Emotional Disturbances (IED), diagnosed or not, exhibit persistent dysphoric behavioral patterns that hamper their daily functioning and social involvement within preschool. Manifestation of IED can be a corollary of more severe disorders (including mental disorders) later in a child’s life and, especially in preschoolers, etiology can derive from diagnostical, contextual or both factors. Therefore, observation of children’s play behaviors along with the types of play in which they show tendencies are crucial.

Hence, the research will help professionals obtain an essential insight of the etiological mechanisms underlying the social and emotional functioning of children with internalized emotional problems. Subsequently, the upcoming results may operate as a foundation for educators and interventionists to identify those children within the classroom and develop special support practices. This is justified due to the fact that most of the interventions being developed in preschool aim at children with externalized emotional disturbances (Cohen & Mendez, 2009; Gosar, Holnthaner & Praper, 2015; Gresham & Kern, 2004). Especially for children in early childhood education, understanding their behavior through several routine situations, as it is free play, provides assistance to interventions and play therapies targeting children with manifestation of IED. In addition, with the present research, clinicians will gain a better knowledge of the ambiguous area of preschool children’s psychopathology.

2 Background

2.1 Child Initiated Play (CIP)

In order for a well-rounded definition to be provided, firstly the term ”child initiated” shall be defined within preschool context. The term 'child initiated’ is based on children’s own interest and choices in activities whereby they can earn social skills and learn. Children are the actual 'leaders’ in the procedure and explore external stimuli depending on their own reasoning and senses (Lindon & Rouse, 2013). As a consequence, teachers have a minor involvement in child-initiated activities, leaving space for children to decide in what ways they wish to act and engage with people and objects in the learning process (Uren & Stagnitti, 2009).

Play in children’s life is a crucial component for their generic optimal development and hence it has also been declared as a fundamental right by the United Nations Convention on the Rights of the Child (UNCRC, 1989, Art.31). Subsequently CIP, also known as ‘free play’, corresponds to types of play which the child takes the initiative to start and to be involved in, according to curiosity, personal inclinations and preferences (Frost
et al. 2008; Lindon & Rouse, 2013). The procedure of play is done spontaneously, following the child’s needs for amusement and occupation. It takes place both indoors and outdoors in the preschool environment with the use of both outdoor and indoor materials, such as natural resources, playgrounds and toys (Burdette & Whitaker, 2005). This procedure is deemed as educational as it is recreational for preschoolers, since it assists them on exploring the environment, receiving constant stimuli and improving their critical thinking (Roussou, 2004).

As it is defined ’child-initiated’ play, teachers have minor involvement in it. This involvement is restricted to allowing time and space, providing appropriate material, dissolving disagreements when needed as well as eliciting further possibilities for play (Craft et al. 2012; Frost et al. 2008). Namely, it is a child-led but adult-supported play, meaning that it enables children to learn by following their instincts and unfurling their imagination, however with proper adult superintendence (Rubin et al. 1976). As Lindon & Rouse (2013, p.6) stated ”through their personal choice, young children are busy directing their own learning”.

However, the cultural aspect of CIP is to be noted, since it does not carry the same meaning and significance in all nations. For instance, in Sweden CIP covers an essential part of early childhood education and highly contributes to the procedure of learning. Contrariwise in other nations as USA and Japan, CIP is mainly considered a way for children to enjoy their free time as a recess from the actual educational procedure (Izumi-Taylor et al. 2010). Of interest for the present study is also the educational aspect, thus to examine CIP as a holistic contributor in children’s learning and development.

2.1.1 Piaget’s constructivist theory about play

Within the wide spectrum of CIP, several play types are encompassed in early childhood settings and development. Regarding the latter, Piaget (1951/57) has established a breakthrough theory about play and its types as befitting the developmental stages a child goes through. Piaget stated that as children proceed along with their normal biological maturation, the play types, that they prefer, are being adapted to their cognitive and overall development. As the child moves from infancy to early childhood, the internalization of the different schemas that he/she gains through experiences –or as Piaget named it ‘assimilation’- is overt through several play types.

More specifically, until the child reaches the age of two and while going through the sensorimotor developmental stage, the mental representation of objects as well as child’s fantasy and imagination prevail on the play types. Thus, exploratory play is most common in this age. Subsequently, between the age span of two to seven years, namely in the preoperational stage, children are able to make symbolic representation of objects and pretend that the object can be something else, reaching the peak of their imagination skills. Speaking of imagination, in this age children are also prone to discover and unfurl their creativity skills and create stories and games. As named, symbolic and creative play types are prominent in this stage. Other types of CIP
pertaining to preschool age and contributing to the overall development of the child are also creative and constructive play. Talking from a societal perspective, children tend to be involved in more social and interactive types of play as they move from one developmental stage to another. For instance in the preoperational stage the play becomes more cooperative than it is in the sensorimotor stage (Pellegrini, 2011; Piaget, 2007). Thus, taking Piaget’s play theory into consideration, the different play types are adapted and appertain to the child’s age, cognitive functioning and developmental stage (Frost et al. 2008; Piaget 1951/57).

2.1.2 Types of CIP

From a societal perspective, CIP can be solitary, cooperative or parallel (Craft et al. 2012). In solitary play, the child plays alone without mingling with peers. Cooperative play is when children are involved together into play situations, sharing and interchanging materials and ideas. Cooperative play is also known as associative, interactive or social play, since assisting on a child’s social development and competence. Consequently, in parallel play children play side-by-side, however without cooperating and interacting. (Anderson-McNamee & Bailey, 2010; Cornelli Sanderson, 2010; Craft et al. 2012).

Taking into consideration the above and according to preschoolers’ language skills and developmental stages, the most eminent CIP types pertain to children’s bias, experiences gained by their environment, imagination and creativity (Jamison et al. 2012; Piaget 1951).

Most common play which preschool children are involved in—and depending on the preoperational stage—is symbolic play. This type of play not only helps development but also indicates normal cognitive, social and emotional development in preschool children (Stagnitti & Unsworth, 2000; Uren & Stagnitti, 2009). As Uren and Stagnitti state (2009), it is the most social play and assists preschoolers to build social competence. Psychologists have attributed a number of synonyms for this play type regarding its characteristics. Thus it is also known as pretend or fantasy play. Namely, children use objects and materials (‘symbols’) in order to represent other objects as well as scenes from their everyday life experiences. They also attribute properties and characteristics to the objects. This type of play can additionally be a way for children to pretend to be another person and/or to have a specific property and characteristics, utilizing their imagination and creativity skills to a great extent (Hughes, 2012; Maxwell et al. 2008; Stagnitti & Unsworth, 2000; Uren & Stagnitti, 2009). Symbolic play also exists in the literature as role play, since preschoolers explore adults and their functions by engaging in them, hence imitating them on an imaginary level. Symbolic play is usually cooperative in the preschool context, where a group of children takes different roles (Hughes, 2012).

An eminent play type in preoperational developmental stage is also creative play. In this type of play children’s creativity and critical thinking are stimulated by a variety of simple materials, with and through which they discover new things such as combining different colors for a painting or using different materials for the same construction. As being mentioned on the definition of CIP, in creative play teachers’ involvement
is constrained on providing time and space along with all the available and appropriate tools for children, giving them the freedom to select among and express their fantasy in their own way (Hughes, 2012; Maxwell et al. 2008; Lindon & Rouse, 2013). Creative play is also known as expressive play and it can be cooperative, however it is mostly solitary or parallel, since children tend to be “lost in their own imaginary world” (Maxwell et al. 2008). This type takes part both indoors and outdoors where children explore nature or play in playgrounds. (DeVries et al. 2002).

Additionally, exploratory play is also a type of creative play where children utilize their senses of smell, taste and touch with a view to experiencing the function and/or texture of the things around them. However, it is more common in younger ages and connected with the sensorimotor stage (DeVries et al. 2002; Watterson, 2012).

Another common play type in the preschool context which children take the initiative to involve in is the constructive play. Namely, children use different tools and objects in order to make and construct things manually, utilizing their creativity and fine motor skills to the fullest (Wood & Attfield, 2005). Constructive play can also take place both outdoors and indoors, giving children the opportunity to ‘build’ their knowledge as they build things emerging from their imagination. This type can be solitary, interactive or parallel; however research has shown that it is the most common type in solitary or parallel play (Piaget, 2007; Rubin et al. 1976; Rubin & Coplan, 2010). Constructive and creative/expressive types of play are also known as manipulative play, since children have the ability to ‘manipulate’ objects by coordinating their fine motor skills (Child Development Laboratory, 2017; Drew et al. 2008; Wood & Attfield, 2005).

It is essential to point out that all types of CIP enhance children’s gross and fine motor skills depending on the normative development and their developmental stage. However, this is only one aspect of the profits that CIP has to offer to early childhood development (Drew et al. 2008; Milteer et al. 2012; Piaget, 2007).

2.1.3 The benefits of CIP

Plenty of studies and conventions have highlighted the importance of play in children’s development (Frost et al. 2008; Piaget, 2007; UNR, 1989, Art.31; Uren & Stagnitti, 2009). Especially in preschool age, CIP is not only essential for learning outcomes but for a healthy mental, physical and social development as well. It stimulates the nervous system and assists the development of language, fine and gross motor skills (Anderson-McNamee & Bailey, 2010; Goldstein, 2012). Referring to children in preschool age and more specifically in ages 2 until 7 years old, the offer of CIP in their development is salient. Preschoolers are being involved unconsciously in an effective learning procedure; one that indirectly boosts them to develop their finesses and critical thinking in several situations, while at the same time they are utilizing their imagination to the hilt (Ginsburg, 2007; Lindon & Rouse, 2013).

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1 It is usually seen in children until two years old.
Research has shown that during CIP, children optimize their brain functions and ameliorate their problem-solving ability to a great extent (Burdette & Whitaker, 2005). All these outcomes contribute on enhancing the preschoolers’ cognitive development and assist them on constructing their intellectual skills (Piaget, 1957; Roussou, 2004). Children also learn to share, sympathize and interchange ideas with others, improving their social skills and reinforcing their emotional development (Ginsburg, 2007).

Since teachers have a minor involvement in CIP, preschoolers are able to build up leadership skills and be familiarized with risk-taking and decision-making procedures; competences that are essential to adulthood (Ginsburg, 2007; Lindon & Rouse, 2013). Children become active helpers in their own general development being provided with the opportunity to explore their surroundings and evolve their creativity (Roussou, 2004).

Nevertheless, preschoolers with manifestation or diagnosis of IED face serious difficulties expressing themselves in general, a fact that has an impact on their general development and socialization into preschool settings (Fantuzzo et al. 2003). Many professionals identify and define the severity of preschool children’s emotional disturbance by how much they are playing, along with the level of their concentration during play activities (Millar & Almon, 2009). Therefore, it is of high importance to observe and measure the way that these children act and behave through play activity in preschool settings.

2.2 Internalized Emotional Disturbances (IED)

IED appertain to the wide spectrum of Emotional and Behavioral Disorders (EBD). Children manifesting EBD are characterized by behaviors inconsistent with their age group that affect their academic performance and social competence as well as hampering their functioning in everyday life situations (Achenbach & Ruffle, 2000; Heward, 2009). Some of these behaviors are apparent and frequent among children as it is anti-social behavior, aggressiveness and/or conduct disorder. However, not all of them are externalized and hence not being overt, especially if no proper diagnosis have been provided (Achenbach & Edelbrock, 1978; Cullinan et al. 2004). As Algozzine (1980, p. 113) mentions, externalized behaviors are “disturbing to others in the social environment” and internilizing behaviors are “disturbing to the individual”.

IED are under the 'umbrella' term of mental disorders-excluding mental retardations- and present inward, deviant from normal behavior patterns. These patterns are commonly difficult to be interpreted by professionals, because symptoms such as inappropriate cry, withdrawal and inhibition, are considered normal in young children (Quinn et al. 2000). Additionally most children with IED tend to somatize their emotional problems, complaining about constant pain or sickness, without any obvious medical reason. The diagnostical issues occur because, as it was stated above, most of these symptoms are normal reactions of children under certain circumstance (Achenbach & Ruffle, 2000; Cullinan & Sabornie, 2004; Luby, 2009).
The Individuals with Disabilities Education Act (IDEA) provides a well-rounded definition on Gresham and Kern’s chapter (2004) about IED characterizing them as “a condition exhibiting one or more of the following characteristics over a long period of time and to a marked degree which adversely affects school performance” (pp. 263). As follows, the characteristics appertain to (i) difficulties in learning which are not attributed to intellectual, sensory or health reasons, (ii) an incapability to form and maintain teacher and peer relations, (iii) improper behavioral patterns and feelings under normal situations, (iv) generalized prevalent feelings of dysphoria and/or melancholia (v) a tendency of somatizing personal or school problems and connecting them with general fears (Gresham & Kern, 2004). It is also stated that IED expand in more areas than the social-emotional development, since they additionally effectuate disturbances on a child’s physical and cognitive development, thus they can easily lead to more severe delays (Lecavalier, 2006). Thus, critical attention has to be drawn on the common types of IED and their symptoms.

2.2.1 Common IED
The Diagnostic and Statistical Manual of Mental Disorders (DSM IV-5, APA, 2013) is the most common diagnostic classification of IED and of psychopathology in general. According to the manual, several symptoms and/or mental disorders are attributed to the spectrum of IED. It is of high importance to be noted that, even if the person only shows manifestation of IED, it is essential to address the different types of these disturbances, since the symptoms being occurred may eventually lead to a diagnosed clinical disorder (APA, 2013; Gresham & Kern, 2004). Among the most prevalent IED are Generalized Anxiety Disorder (GAD), Separation Anxiety Disorder (SAD), Post-Traumatic Stress Disorder (PTSD), Social Phobia (SP) and Major Depressive Disorder (MDD) or mostly known as depression. All the above, except for the latter, appertain to anxiety disorders. Research has shown that anxiety disorders are among the most common psychopathological disorders in children and adolescents affecting 7 to 15% of the population. It is also common that two or more IED can occur together; a phenomenon known as comorbidity (Beesdo, 2009; Ollendick et al. 1994). Each of the above IED has several characteristics in order to be properly identified.

2.2.1.1 Generalized Anxiety Disorder (GAD)
The most well-known IED, with prevalence of almost 3% of the population, is Generalized Anxiety Disorder or GAD (ADAA, 2016). Namely, when anxiety is more than a normal reaction to a stressful event and lasts over a period of at least 6 months, the stress becomes a pathological and -in most cases- everyday condition. This intense stress is overt in multiple activities and situations. A person with GAD suffers from dysphoric thoughts and feels anxious even when no tangible stressors exist (Hintze, 2002; Kendall & Chansky, 1992). Most common symptoms of GAD include persistent and obsessive worrying even for minor daily problems, crying (especially to young children), inability to feel relaxed and concentrate to tasks and activities (regarding preschool), distress on decision making and difficulty in handling uncertain situations (Costello et al. 2005; Heimberg et al. 2004). GAD includes the somatization of the above symptoms. That is to say, the
person often exhibits fatigue, trembling and muscle tension, insomnia, sweating and/or headaches (Dugas et al. 1998; Heimberg et al. 2004; Spitzer et al. 2006). In short, GAD is overt and severe when the person has “pervasive worry about worrying” (Borkovec et al. 2004, pp.19).

### 2.2.1.2 Separation Anxiety Disorder (SAD)

Separation Anxiety Disorder (SAD) is a type of anxiety disorder, mostly frequent in young children, normally aged from 8 months to 7 years old (Shear et al. 2006). SAD is the most common anxiety disorder in children under 11 years of age, with prevalence of 4% of the population worldwide (Masi et al. 2001). It is characterized by unreasonable and excessive anxiety after child’s separation from home and parents or other people that the child is attached with (Tonge, 1994). In the preschool context, the child appears extremely shy, usually manifests excessive crying and refusal to participate in activities. From a physical perspective, a child with SAD often complains about stomach aches, dizziness, headaches and general pains in the body (Francis et al. 1987; Tonge, 1994). Due to the fact that distress and worry after separation from parents is a usual and common phenomenon for young children, the situation is rendered pathological only if it occurs for more than 4 weeks and has an impact on the child’s academic and social competence (Gresham & Kern, 2004). In addition, SAD can be manifested in adolescents and adults too, however it is deemed considerably rare (Lipsitz, 1994)

### 2.2.1.3 Post-Traumatic Stress Disorder (PTSD)

Post-Traumatic Stress Disorder (PTSD) commonly occurs after a person’s exposure to an extreme, shocking and usually threatening stressor, bringing about continuous worry and fear in the life of the person. Most people display symptoms of PTSD after a traumatic incident (Gresham & Kern, 2004). However it must be pointed out that PTSD is only considered a pathological condition when it lasts more than one month and hampers the person’s concentration and functioning in daily life (Costello et al. 2005; Kendall & Chansky, 1992). With prevalence of 3.5% worldwide, PTSD causes three types of symptoms, named re-experiencing, avoidance and arousal symptoms (PTSD: National Center for PTSD, 2015). Re-experiencing symptoms come with flashbacks (reliving the trauma, causing physical symptoms such as sweating and/or fast heartbeat). Other symptoms are daunting thoughts and inhibition of the normative focus and attention of the person. Avoidance -as named- entails abstaining places, people and events that evoke the traumatic experience, while arousal symptoms are related to irritability, insomnia, outbursts and being constantly alert (Gresham & Kern, 2004; Horowitz, 1997; PTSD: National Center for PTSD, 2015).

In young children, the most prominent symptoms are acute nightmares and crying. However, in many cases aggressiveness is prevalent too, depending on the severity of the traumatic event (Gresham & Kern, 2004). Children at school usually complain about aches, experience acute stress and do not easily trust other
people. Symptoms begin, within 3 months of the traumatic event; yet sometimes can ensue years afterwards. Most common reason of PTSD in children is sexual abuse and exposure to the death of a parent (PTSD: National Center for PTSD, 2015).

2.2.1.4 Social Phobia (SP)

Social Phobia (SP) is currently considered the most common anxiety disorder, with 7% rating of the population universally (ADAA, 2016). A person with SP is characterized by excessive fear and stress regarding the interaction with the surroundings as well as speaking in public places. The reason above this is that the person is concerned about being judged and evaluated critically and negatively by other people (ADAA, 2016; APA, 2013; Black et al. 2005). More specifically, the symptoms include intense and pervasive distress in situations where the person encounters people. The distress also occurs when the person has to introduce oneself to unfamiliar people, is being watched while acting as well as being criticized (Black et al. 2004). The somatization of the symptoms in SP is of the most overt. The symptoms encompass physical manifestation such as trembling, fast heartbeat, dry throat, muscle twitch, excessive sweating and blushing (Costello et al. 2005). In extreme cases people with SP could faint, especially when they are in front of many people or an audience (Black et al. 2004).

In preschool context, children with SP face difficulties in peer interaction and in participating in the majority of the activities. Preschoolers with SP have the fear of being degraded, while it is extremely common to also exhibit low self-esteem and introversion (Albano et al. 2003; Reynolds, 1978). When referring to preschool children, nightmares of being humiliated in front of peers, is the most frequent symptom (Albano et al. 2003).

2.2.1.5 Depression (MDD)

Depression is considered the most severe psychiatric disorder along with schizophrenia (APA, 2013). Clinically, is mostly known as Major Depressive Disorder (MDD). It is also the most prevalent of the IED, being rated with more than 8% of the total population (APA, 2013; Kessler et al. 2003). MDD is considered a clinical condition when one or more major depressive episodes ensue for more than two weeks on a daily basis (Pietrangelo, 2015). These episodes include symptoms such as loss of interest for the majority of activities and daily tasks, insomnia or excessive sleep, loss of appetite and severe decline in energy (Kessler et al. 2003). On an advanced stage of MDD, the person feels unworthy, hopeless and helpless as well as having suicidal tendencies (Gresham & Kern, 2004).

Few incidents of diagnosed MDD have occurred in early childhood (Gresham & Kern, 2004). However, several researches have presented its manifestation (Egger & Angold, 2006; Kashani et al. 1997). Consequently, children with MDD are more likely to exhibit irritability in mood, rather than sad feelings (Egger & Angold, 2006). Other symptoms include poor self-esteem, withdrawal from the majority of activities
in school, lack of concentration, a decision-making inability along with somatic complains (Ponzanski, 1979; Wagner et al. 2004). Depression commonly co-occurs along with one or more anxiety disorders as it happens with the anxiety disorders themselves. This co-occurrence is scientifically known as comorbidity (Beesdo, 2009).

2.2.1.6 Comorbidity

Comorbidity is the phenomenon when two clinical disorders occur together in the same person and normally interact; meaning the symptoms of both disorders can happen at the same time. This concomitant has an impact on the prognosis of both disorders later in life (Egger & Angold, 2006; Maj, 2005). Normally, some symptoms of several anxiety disorders overlap as it happens with GAD and SP (Maj, 2005). However, most commonly comorbidity happens with depression and a type of anxiety, as it is GAD or SAD (Gorman, 1996; Grensham & Kern, 2004). Considering this overlapping manifestation, most of the times it may be challenging to distinct the symptoms in the two different disorders on a person and especially on preschool children (APA, 2013; Egger & Angold, 2006).

2.2.2 Preschool children with IED

Despite the fact that proper diagnosis of IED in preschoolers has rather scarce evidence, several recent researches suggested that professionals should start scanning and examining possible symptoms of IED. This scanning has to start no later than preschool age with a view to preventing and averting the onset of more severe mental and psychiatric disorders (Cohen & Mendez, 2009; Egger & Angold, 2006; Kashani et al. 1997). Regarding the latter, research has proved that preschool children with manifestation of IED who do not receive early support, are more likely to develop mental illnesses, poor academic performance and serious dearth of social skills. This also brings about alienation and marginalization of the child in the upcoming school years (Egger & Angold, 2006; Feil et al. 2000). Additionally, unrecognizable manifestation of IED in preschool age could be associated with drug abuse and even delinquency in adulthood (Gosar et al. 2015).

In the last decade, the prevalence of preschoolers with multiple symptoms of IED has increased significantly up to 7%, especially in the age span of 2 to 5 years old (Brown et al. 2012). This means that one in five young children is at risk of developing a severe type of IED later in life, due to lack of identification in early years (Brown et al. 2012; Egger & Angold, 2006). The most common IED types that children are likely to develop later, are depression and anxiety disorders (Tick et al. 2007).

The appearance in preschoolers usually includes symptoms such as behavioral inhibition; meaning that the child shows self-restraint and is unable to express oneself. Other symptoms are withdrawal from social activities, alienation and automanipulative behavior (such as biting one’s nails, pulling his/her hairs etc.). Akin to these symptoms are excessive fear and anxiety for social interaction and difficulty to control emotions. Thus children appear to cry often (Bræt et al. 2011; Brown et al. 2012; Egger & Angold, 2006). However, early
educators can only assume a possible onset of IED from such symptomatology, in view of the fact that multiple reasons can lurk behind such behaviors (Gresham & Kern, 2004; Quinn et al. 2000; Tick et al. 2007). Thus, observation on play behaviors within this category of preschoolers may shed light on the nosology of IED in early years as well as on possible treatment and interventions that can be implemented.

### 2.3 Play behaviors in preschool context

Behavior, in a broader sense, are deemed the internalized coordinated responses of an individual to internal and/or external stimuli. These responses can be actions or inactions (Purcell, 2008). A behavior is a mannerism of reaction, by which a person’s temperament is governed, towards environmental stimulus. That is to say, when a person is behaving, he/she is in total reciprocal action (or inaction) with his/her surroundings. Thus, the expression of a behavior requires an actor, a context and the interaction in between (Purcell, 2008; Skinner, 1976; Zuriff, 1985).

Speaking of preschool, children’s behavior while playing can take multiple shapes. From a societal perspective, play behaviors within preschool context can be prosocial, anti-social or asocial (Porter, 2007). Prosocial is the kind of behavior where children are governed by empathy, altruism and caring, aiming at helping their peers while playing (Porter, 2007; Santrock, 2015). In prosocial behavior the child voluntarily and positively cooperates with other children and plays harmonically with them. Contrariwise, anti-social behavior is characterized by aggressiveness, reaction to authorities (e.g. towards the teachers), anger and temper tantrums for no severe reason. Anti-social play behavior is also known as solitary-active play due to its characteristics (Porter, 2007). Namely, the child ends up playing actively alone as his/her behavior effectuates peer exclusion and rebuff. Solitary-active behavior violates the normal flow of social interaction during play (Pellegrini, 2011; Porter, 2007; Santrock, 2015). Regarding asocial behavior, children tend to withdraw from social play and reciprocal actions with peers. Instead, they prefer to alienate and play quietly alone. Thus this type of behavior is also referred as solitary-passive (Jamison et al. 2012). Solitary passive-play includes silent engagement in play activities, in which the child does not communicate or collaborate with other children to play (Jamison et al. 2012; Porter, 2007; Rubin & Coplan, 2010).

Besides the above mentioned behaviors, another type exists which is not in response to any kind of societal behavior. This is known as non-play behavior, where the children do not articulate any alacrity on involving in play activities (Rubin & Coplan, 2010). On the contrary, they seem fearful and hesitate to engage in any kind of play, either solitary or communal. They also appear to be unoccupied, looking other children play and just standing inside or outside the classroom. For the above reasons, this play behavior also exists in the literature as reticence and/or onlooking and appears with frequency of 20% in preschoolers (Piaget, 2007; Porter, 2007; Rubin & Coplan, 2010).
Apart from these salient play behaviors, several other behavioral patterns can be identified during preschooler’s engagement in play, which are in accordance with their temperament, mood induction and possible problems and disorders.

2.4 Engagement

Engagement can be widely defined as a person’s commitment into the environment (Fredricks et al. 2004). Moreover, the ICF-CY closely connects engagement with the concept of participation, delineating both as ”a person’s involvement into life situations” (WHO, 2007, pp.9). Thus, engagement and consequently participation are examined separately from the concept of Activity which appertains to the execution of a task. Engagement, such as participation, is a multifaceted concept which evolves over time (Almqvist & Granlund, 2005; WHO, 2007). Moving into preschool context, engagement is related to the time a child spends while being involved in a task, accompanied by adults and/or peers. This involvement assists the child’s development and well-being in the long-run (Sjöman, 2015). The same happens in child-initiated play. When children engage in play, they are involved in several activities, according to their preferences and spend time interacting with the environment and the people within it (Cielinski et al. 1995). Thus, it is the actual engagement in play –and not just the play itself- that promotes preschoolers’ social, emotional and cognitive development (Piaget, 2007).

As mentioned that engagement is a multidimensional concept, three types of it are determined in young children: behavioral, emotional and cognitive engagement. Behavioral engagement includes the idea of involvement in school and extracurricular activities and it is essential for academic achievement. Emotional engagement encompass the interaction with teachers and peers, whereas cognitive engagement appertains to the effort that a child does to comprehend complex issues and master difficult skills (Fredricks et al. 2004).
2.5 Aim
The goal of the present systematic literature review is to identify and appraise previous studies that focus on play behaviors and tendencies in types of play that children with typical and atypical internalized emotional disturbances show in free play situations within preschool context.

2.6 Research questions
- What play behaviors of children with internalized emotional disturbances are found in child initiated play?
- In what types of child initiated play do preschool children with internalized emotional disturbances mainly tend to engage in?
3 Method

For the present study a systematic literature review was conducted. Several databases were used as a research tool, including key words. Namely, this method appertains to identifying, critically appraising and reporting with clarity the research having already been conducted within a specific topic. The appropriate research studies were selected after a number of inclusion and exclusion criteria has been applied. The method additionally incorporates the scrupulous analysis and the quality assessment of the collected data (Moher et al. 2009).

3.1 Search procedure

The search for this study was conducted in total three databases, more specifically in PsycINFO, ERIC and ScienceDirect. All the above databases carry researches from the field of education, psychology, occupational therapy, health care and clinical psychology, thus carrying relevant for the present topic information. A hand search procedure was also conducted in order to reach the maximum possible amount of relevant articles. The search was performed in March 2017.

The search words were selected according to relevance with the aim and research questions and also in accordance with the inclusion and exclusion criteria (see Table 3.1). A flowchart is exhibited in Appendix A, describing the overall search procedure. A combination of thesauri and free text key words was used in the two out of three databases, namely in PsycINFO and ERIC, while only free text was used in ScienceDirect. In all databases search words were used for the clusters 'play behaviors', 'play' and 'internalized emotional disturbances'. Applied filters (e.g. for Age group) and some truncations (*) of words were additionally implemented in the databases. In PsycINFO and ERIC, the search procedure was conducted in "Advanced Search mode" whereas in ScienceDirect the search was done in "Expert mode". The total list with all the search words used in the three databases is appeared in Appendix G.

Some filters were also applied. In PsycINFO those filters appertained to the Age group ("Childhood (birth-12 yrs)" OR "Preschool Age (2-5 yrs)" OR "Infancy (2-23 mo)"), the Type of publication ("Scholarly Journals") and the Date Range (2000 to 2017). Accordingly, in ERIC the filters concerned again the Publication type ("Scholarly Journals"), the Education level ("Early Childhood Education" OR "Preschool Education" OR "Kindergarten" OR "Grade 1") and the Date range (2000 to 2017). Finally, in ScienceDirect only the date range was limited to 2000 until 2017 along with the publication type which was restrained to scholarly journals.

3.2 Selection criteria

The inclusion and exclusion criteria, as they appear in Table 3.1, were applied in order to facilitate the research and limit the number of the -appropriate for the topic- articles. Thus, the present study included only
articles that were peer reviewed, empirical studies and published from year 2000 until 2017. The purpose of the date restriction was to identify more current researches in order for the topic to be up to date. Regarding the sample, both clinical and nonclinical cases of Internalized Emotional Disturbances (IED) were taken into consideration in the search procedure. The reason of the selection lies in the fact that preschooler’s nosology of IED is a field yet being examined, due to the fact that early childhood is an age that children still go under rapid social and emotional alterations (Egger & Angold, 2006).

Therefore, both children who were diagnosed and children with symptoms of IED were incorporated in the study, whereas children with typical development were excluded. The original plan was to limit the age span of the children to 3 to 6 years old, however due to the fact that only four studies were identified, the age span was expanded from 2 until 7 years old, hence including the first year of compulsory school.

Systematic reviews were also excluded since they encompass their own inclusion criteria. In this point it must be highlighted that two experimental studies were also incorporated. Thus, an experimenter and/or researches were initiating the play and provided the appropriate material. Consequently they just observed the targeted children playing. The reason above this is that the adults did not lead the play and remained on observations. As it is mentioned in the one experimental study “these postgame waiting periods, each of which lasted 4 minutes, constituted the SolFP situation. It was the children’s behavior during these situations in which the authors were actually interested” (Mol Lous et al. 2000, pp.251). Additionally, as it is stated in the other included experimental study ”the adult player conducted the session in a nondirective manner, showing interest, reflecting feelings or the content of the play, and gently facilitating play when necessary” (Cohen et al. 2010, p.166). Moreover, since the main focus of this study is observational studies in child initiated play, any kind of articles containing adult-led activities and interventions were excluded.
Table 3.1 Inclusion and Exclusion criteria (for title/abstract/full text screening)

<table>
<thead>
<tr>
<th>Inclusion criteria</th>
<th>Exclusion criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Population</strong></td>
<td></td>
</tr>
<tr>
<td>-Preschool children 2-7 y. with internalized emotional disturbances (clinical and nonclinical samples)</td>
<td>-Adults</td>
</tr>
<tr>
<td>-Children &lt;2y and children &gt;7y</td>
<td>-Adolescents</td>
</tr>
<tr>
<td>-Children with typical development</td>
<td>-Children with other disabilities</td>
</tr>
<tr>
<td><strong>Focus</strong></td>
<td></td>
</tr>
<tr>
<td>-Internalized emotional disturbances</td>
<td>-Externalized emotional disturbances</td>
</tr>
<tr>
<td>-Child initiated play</td>
<td>-Autism Spectrum Disorder (ASD)</td>
</tr>
<tr>
<td>-Play behaviors</td>
<td>-Interventions</td>
</tr>
<tr>
<td>-Play therapy</td>
<td>-Systematic Literature Reviews</td>
</tr>
<tr>
<td><strong>Publication type</strong></td>
<td></td>
</tr>
<tr>
<td>-Article</td>
<td>-Book chapters</td>
</tr>
<tr>
<td>-Peer reviewed</td>
<td>-Study protocols</td>
</tr>
<tr>
<td>-Full text available for free</td>
<td>-Reports, working papers and other grey literature</td>
</tr>
<tr>
<td>-In English</td>
<td>-Full text to pay</td>
</tr>
<tr>
<td>Published from 2000 until 2017</td>
<td>-Other language than English</td>
</tr>
<tr>
<td></td>
<td>-Published earlier than 2000</td>
</tr>
<tr>
<td><strong>Design</strong></td>
<td></td>
</tr>
<tr>
<td>-Qualitative</td>
<td>-Systematic Literature Reviews</td>
</tr>
<tr>
<td>-Quantitative</td>
<td></td>
</tr>
<tr>
<td>-Mixed</td>
<td></td>
</tr>
</tbody>
</table>

3.3 Selection process

The results from the three databases used in the present study were transferred in and checked via Covidence, a web-based data extraction protocol used for the process of screening, extraction and analysis of the articles (Babineau, 2014). The total number of articles being identified was 854. A manual search was also applied, thus 7 more articles were identified. Therefore, the articles reached the number of 861 in total, of which 2 were duplicates hence automatically being excluded from Covidence. The procedure on Covidence included the reduction of articles using the choices “Yes”, “No” and “Maybe” on title and abstract level and “Include”, “Exclude” on full text level. The manual search articles were not included on Covidence and they were examined separately. After title and abstract along with full text screening, the final selection included 6
articles that were totally adapted to the inclusion and exclusion criteria, as they appear on Table 3.1. A flowchart displaying the total process of selection can be found in Appendix A.

### 3.3.1 Title and abstract screening

From the remaining 859 articles, 792 were reviewed on title and abstract level. The biggest number of excluded articles referred to measurements which focused on externalized behaviors and children above the age of seven years old (n=582). Another reason of exclusion was the adult-led play activities and the fact that the study focus was on children’s social competence and emotional regulation (n=147). From the remaining 147 articles of title and abstract screening, 56 articles were not available for free and 11 articles referred to wrong outcomes such as play therapies and interventional processes and 49 articles assigned children with Autism Spectrum Disorder (ASD). Finally, 18 articles referred to the effect of a specific kind of play on children with emotional problems and teachers attitudes. Information about the number of articles and the reasons of exclusion can be obtained from the flowchart in Appendix A as well.

### 3.3.2 Full text screening

After the title and abstract appraisal of 792 articles, 67 articles were addressed for full text review. From the above total number (n=67), 23 articles were immediately excluded, due to the fact that they were not available for free. The remaining 44 articles were carefully examined first for meeting the inclusion and exclusion criteria and then proceeding on methods and results part. Subsequently, 28 more articles were excluded from the research, since they concentrated on wrong study focus, which was mainly the academic performance, emotional dysregulation and social competence of the targeted group.

Another reason for exclusion was that many studies measured different behavioral outcomes and included children with externalized behaviors and specifically with focus on Attention Deficit Hyperactivity Disorder (ADHD) syndrome (n=19). This fact left the full text screening with nine articles. Three more articles were then excluded due to the fact that the results appeared disordered and confusing to interpret. Thus the outcome of the study was unclear. The above procedure left the present study with 6 articles in total for analysis, which were adjusted on an extraction protocol (see Appendix E).

### 3.4 Quality assessment

Regarding the quality assessment, two quality assessment tools were used in the present study; one for the quantitative studies being included and one for the case study. As for the former, the Quantitative Research Assessment Tool (CCEERC, 2013) was utilized. Regarding CCEERC, the quality assessment tool is a means to evaluate the selected studies and facilitate the procedure of reviewing and analyzing the desirable results, depending on the quality of each included study. Thus, normally, articles with low quality are either
excluded from the research, or are viewed cautiously (especially when the number of included articles is below five, thus critically limited).

In the present study, the above tool was adjusted in order to justify the aim and research questions, hence containing additional sections about peer review, aim and research questions, study design, control group as well as information about play behaviors and types of play. The rating of the tool was also altered to 2 for the highest, 1 for the medium and 0 for the lowest, since the official tool contained a scale of 1, 0 and -1. The official tool also included a ‘Not Applicable’ (NA) option which was erased for the present study. Thus, the articles were assessed whether they presented a High, Medium High, Medium Low or Low quality (see Appendix C for final results). The final edition of the quality assessment tool included 17 items in total, being incorporated into 4 broad sections. Namely, the Article publication & Background section (i) included questions about peer review, aim and research questions, while the Method section (ii) incorporated questions about play behaviors types of play, study design, control group, population, randomized selection fo participants, sample size, response and attrition rate. The Measurement section (iii) contained questions about main variables or concepts and operationalization of concepts, whereas in the Analysis section (iv) information about numeric tables, missing data, appropriateness of statistical techniques, omitted variable bias and analysis of main effect variables can be found (see Appendix B for adapted version of the tool).

As for the case study being included, the Quality Assessment tool for Case Series Studies (NIH, 2014) was adapted. The above mentioned is an assessment tool provided by the National Institutes of Health, tailor-made for Systematic Evidence Reviews and Clinical Practice Guidelines in order to gauge and examine the quality of a case study. Therefore, the article was assessed on a rating scale of High, Medium and Low quality. The official tool contained three possible answers of “Yes”, “No” and ”Other (CD, NA, NR)” without rating points. However, in the present study, the “Yes”, “No” and NR answers were used and were rated with 2, 1 and 0 points respectively, due to measurement convenience. The tool initially consisted of nine questions, where one more was added (regarding types of play) and one of the existed nine was adjusted for the purpose of the study (regarding play behaviors). Therefore ten questions in total were answered for the quality of the case study (see Appendix D).

After the assessment, regarding the quantitative studies, three were found of Medium High quality and two of Medium Low quality. Regarding the case study, it was rated as High quality (see Appendixes C and D for scores). Therefore all six studies remained for review and analysis.

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2 The adaptation of the quality assessment tool followed Camille Richert’s (2016) structure, who used the same tool for her personal systematic literature review (see reference).
3 CD, cannot determine; NA, not applicable; NR, not reported
3.5 Data extraction

All data from the selected articles were transferred into an extraction protocol on an Excel sheet (see Appendix E for information that the extraction protocol contained). The procedure assisted the researcher on accumulating all the –relevant for the study- information into a tailor-made form, in order to facilitate the upcoming analysis of the studies. Therefore, the protocol contained five categories, along with their subcategories, fitting into columns on an axial system. The final form of the protocol consisted of 32 columns and seven lines. The categories and subcategories were formed in a manner which was compatible with and justified the research questions of the present study.

The first category appertained to General information. This category incorporated all the initiate information that a reader should know about an article. For instance, information about the name of the study, author, year along with some basic information about the study design and participants can be found in this category. In the second category, the Play behaviors were further analyzed into four subcategories: Non-play, Solitary-active, Solitary-passive and Reticence/Onlooking. The third category contained information about the Internalized emotional disturbances (IED), namely the type of IED, either typical or atypical (symptomatology) and possible cause of its appearance. Regarding the fourth category, the Free play formed a category with three subcategories: Types of play, Interactive/With peers, Indoors/Outdoors. It is essential to be mentioned that in all three above categories (Play behaviors, Internalized emotional disturbances, Free play), ways of measurement were included as a subcategory. The scales, with which the play behaviors and engagement in play types were measured, are also mentioned in the protocol (see Appendix F). The fourth and final category was the Summary. In this category the findings and the limitations of each study are presented in a way that both the researcher and the reader can comprehend them. All the information on the protocol helped the procedure of analysis of the results. Further and more analytical information about the categories and subcategories can be found on Appendix E. The overall extraction protocol can be provided by the researches upon request.
4 Results

After the screening of 861 articles in total, six studies were found eligible for the present systematic literature review (see Table 3.2). Out of the six, two were experimental studies (Cohen, Chazan, Lerner & Maimon, 2010; Mol Lous, De Wit, De Bruyn, Riksen-Walraven & Rost, 2000), three were longitudinal (Coplan, DeBow, Schneider & Graham, 2009; Coplan, Prakash, O'Neil & Armer, 2004; Nelson, Hart, Young, Yang, Wu & Jin, 2012) and one was a case study (Cath, 2009). Those studies were in accordance with the aim and the (2) research questions. All six articles were published between the date range of 2000 and 2016, as the inclusion criteria required. Additionally, four of the six selected studies (Cohen et al. 2010; Coplan et al. 2009; Coplan et al. 2004; Mol Lous, 2000) included a control group (children with typical development) in order to compare it with the target group. Due to convenience, the articles will be referred with the Study Identification Number while reporting the results (see Table 3.2).

Table 3.2 Information about the total articles being included, along with SIN*.

<table>
<thead>
<tr>
<th>SIN</th>
<th>Country</th>
<th>Author</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>UK</td>
<td>Cath (2009)</td>
</tr>
<tr>
<td>II</td>
<td>Israel</td>
<td>Cohen et al. (2010)</td>
</tr>
<tr>
<td>III</td>
<td>Canada</td>
<td>Coplan et al. (2009)</td>
</tr>
<tr>
<td>IV</td>
<td>Canada</td>
<td>Coplan et al. (2004)</td>
</tr>
<tr>
<td>V</td>
<td>The Netherlands</td>
<td>Mol Lous et al. (2000)</td>
</tr>
<tr>
<td>VI</td>
<td>China</td>
<td>Nelson et al. (2012)</td>
</tr>
</tbody>
</table>

Note. SIN* = Study Identification Number

4.1 Information about the selected articles

Regarding the case study conducted in UK (I), a child (two years and nine months old) was observed over a period of 18 months during his staying at the preschool. The study was part of a larger (four-year) research project examining young children’s resilience and well-being. Some observations were also conducted at his home, in accordance with his parents. These observations were basically about separation and reunion moments with the parents. The study did not provide any further information about the scales and/or measurements being used for the observations and for assessing the child’s symptoms.

In the study conducted in Israel (II) the target group was compared with a control group. The target group constituted of 29 children three years and five months old to seven years old whereas the control group constituted of 25 children between four and seven years old. The target group was exposed to direct terror attacks, while the control group was indirectly exposed to terrorism, since they were all living in outlying areas previously exposed to high levels of terrorism. Care was taken to match both groups of children in terms of

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4 Direct exposure was defined as having firsthand experience with a terror attack themselves and/or an attachment figure.
age and the socioeconomic and educational level of their caregivers. The recruitment was made by school psychologist with the formal consent of all parents. The observations took place on the children’s preschool in Israel over a time period of 45 minutes for the target and the control group respectively. To rate and measure the videotaped play sessions the *Children’s Play Therapy Instrument—Adaptation for Terror Research* (CPTI-ATR; Chazan & Cohen, 2003) was used. Questionnaires were also filled by caregivers and preschool teachers; however no further information is provided upon this.

In one of the two studies conducted in Canada (III), 12 targeted children were compared with a control group of another 12 children both between the ages of three years and five months old to five years and five months old. After preschool teachers’ permission and parents’ formal consent the children were recruited from local child care centers, nurseries and preschools in a mid-sized city. The childrens’ symptoms were assessed by parents’ and teachers’ ratings who filled the *Behavioral Inhibition Questionnaire* (BIQ; Bishop et al. 2003). BIQ is a 30-item scale designed to assess behavioral inhibition in peer situations and in response to behavioral challenges and novel situations in general. The observations lasted for three days and were assessed by researchers using the *Play Observation Scale* (POS; Rubin, 2001). The other study being conducted in Canada (IV) consisted of 119 children between three and five years old who were recruited from local preschools and child care centers in accordance with parents’ formal consent. To assess childrens’ symptoms of IED parents filled the *Child Social Preference Scale* (CSPS) which measures childrens’ conflicted shyness, social withdrawal and social motivations in play. CSPS is a 14-item scale. For each scale the parents answered the question “How much is your child like that”. For the observations researchers used the *Play Observation Scale* (POS; Rubin, 1989) and the procedure lasted for six months. Within these six months each child was observed every now and then for three to four minutes during CIP until the researcher completed 20-minute behavioral observations.

Considering the study from the Netherlands (V) eight children with diagnosed MDD were compared with eight non-depressed children, both aged between three and five years, 11 months old. The depressed children were diagnosed according to their clinical files which were in correspondence with DSM-IV and ICD-10 criteria. These children were recruited from two institutions for young children with somatic, psychiatric and psychosocial problems. The control group was recruited from an urban preschool. For both groups the formal consent of the parents was obtained; for the target group the psychiatrist of the institution also provided consent and the clinical files needed. The two groups were matching in age, group and socioeconomic status. It is to be noted that this was one of the two included experimental studies, thus the observation was conducted only once for each child in both groups in a tailor-made room reminding a preschool classroom. The observation lasted 20 minutes in total and the researcher was merely involved providing the tools and asking questions. However no further information about the questions asked and scales or measurements for behaviors are given in the study.
Finally in the study conducted in China (VI) 506 children took part, aged three years and five months old to six years old. The recruitment was done from four full-day Chinese preschools after parental consent. Both variables of children’s symptoms and behaviors were measured by teachers ratings who filled the Teacher Behavior Rating Scale (TBRS; C. H. Hart & Robinson, 1996). TBRS assesses various aspects of behavioral outcomes in early childhood including subtypes of sociable, aggressive/immature, depressive and anxious/withdrawn behaviors. Teachers were asked to rate each child on behaviors while “thinking about the child’s present behaviors relative to others in this age group that you know or have known” (Nelson et al. 2012, p.86). The study does not provide further information about duration of observations and their content.

In all six articles the purpose of the observations aimed at watching and appraising the spontaneous actions and behavioral patterns that children were exhibiting during free play situations. The above information can also be seen briefly in Appendix F.

4.2 IED being mentioned in the selected articles

For the present study, various Internalized Emotional Disturbances (IED) were probed — no IED was excluded during selection process. Thus, symptoms of five IED are addressed in the selected articles (see Table 3.3). From the five, only Major Depressive Disorder (MDD) was clinically diagnosed (article V), according to DSM IV-5. While in regards to the other four, the preschool children only showed manifestation. More specifically, one article (I) referred to manifestation of Separation Anxiety Disorder (SAD), one (II) to preschoolers with symptoms of Post Traumatic Stress Disorder (PTSD), whereas manifestation of Generalized Anxiety Disorder (GAD) was the most prevalent (III, IV and VI). It is to be noted that in two articles, manifestation of GAD was comorbid with Social Phobia (SP) (IV) and MDD symptoms respectively (VI). Reports and questionnaires were filled by parents, teachers, caregivers and researchers in order to gather information about symptomatology of the IED along with the manifestation of play behaviors. On Appendix F more information for the above can be obtained along with the scales being used as measurements for the play behaviors and play types.
Table 3.3 Types of Internalized Emotional Disturbances (IED), in relation to each article. Comorbidity was also taken into consideration.

<table>
<thead>
<tr>
<th>SIN</th>
<th>GAD</th>
<th>SAD</th>
<th>SP</th>
<th>PTSD</th>
<th>MDD [diagnosed]</th>
<th>MDD [symptoms]</th>
<th>Comorbidity</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>II</td>
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<td>X</td>
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<tr>
<td>III</td>
<td>X</td>
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</tr>
<tr>
<td>IV</td>
<td>X</td>
<td></td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>V</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>VI</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

Note 1. SIN = Study Identification Number. See Table 3.2

Note 2. GAD= Generalized Anxiety Disorder; SAD= Separation Anxiety Disorder; SP= Social Phobia; PTSD= Post-Traumatic Stress Disorder; MDD= Major Depressive Disorder

4.3 Play behaviors being identified

In total, eight behavioral patterns were highly overt during free play observations. These were: Reticence/Onlooking (Non-play behavior), Solitary-passive (asocial behavior), Behavioral changes ('moody' behavior), Interruptions during play, Unconscious play activity, Anti-social behavior/Morbid themes in play, Desire to initiate peer play, however fear of trying it and Repetitive actions during play. All the above play behaviors are presented in Table 3.4 in relation to the selected articles (SIN) and IED. Further analysis of each play behavior will follow, in correspondence with symptomatology of IED being found in each article.
Table 3.4 Play behaviors being identified, in relation to the IED and the selected studies.

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Reticence/Onlooking (Non-play behavior)</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Solitary-passive (asocial behavior)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Behavioral changes ('moody' behavior)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Interruptions during play</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Unconscious play activity</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Anti-social behavior/Morbid themes in play</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Desire to initiate peer play, however fear of trying</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Repetitive actions during play</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note 1.* SIN= Study Identification Number. See Table 3.2

*Note 2.* PB= Play Behavior

As it appears in Table 3.4 the Reticence/Onlooking (Non-play behavior) appeared the most prevalent among preschoolers with IED. Four studies (III, IV, V, VI) had this behavioral pattern as a finding. Among the four was also the only study where MDD was officially diagnosed. Hence, in this category preschoolers appeared to wander aimlessly, looking at peers playing ('onlooking') with an indifferent and non-exploratory manner. They seemed reluctant ('reticent') on free play activities and/or they did not show any purpose on playing.
Solitary-passive (asocial behavior) was the second most ubiquitous, since being identified in three out of the six studies (IV, V, VI). More specifically, preschool children who manifested symptoms of GAD comorbid with SP and GAD comorbid with MDD symptoms exhibited such behavior. Namely, they tended to alienate from the preschool surroundings, playing alone ("solitary") and not interacting with other children ("passive").

The third category named Behavioral changes ('moody' behavior) was identified in only one article (V) as it is overt in Table 3.4 Only children with diagnosed MDD were found to alter their behaviors essentially fast during play. Thus, as it appears, they presented a more disorganized and disrupted play behavior, experiencing changes in their mood while being involved in free play.

Moving on, indicator of Interruptions during play was again only one study (II). It is evident that preschoolers with manifestation of PTSD tend to interrupt their play, showing less coherence and more disorganization during free play activities.

Subsequently, the behavioral pattern of Unconscious play activity was observable in two studies (II, V). Particularly, preschoolers with indices of PTSD and preschoolers with typical MDD showed that they did not had the insight of acting during play. This means that, despite the fact that they engaged in free play situations, they were not aware of playing. Thus, they could not experience the feeling of playing actively.

Regarding the sixth category of Anti-social behavior/Morbid themes in play, children with indicators of PTSD were identified (II). Preschoolers showed reactive behavior and negative feelings such as sadness. They also seemed to represent morbid and macabre themes during free play activities.

In one study (IV) the children showed the seventh play behavior, named Desire to initiate peer play, however fear of trying (see Table 3.4). This was the study in which comorbid symptoms of GAD with SP were presented. Namely, preschoolers manifested the desire of involving in free play with peers. However, they did not try to achieve it because of fear and reticence.

Considering the last behavior being identified as Repetitive actions during play (see Table 3.4) it was apparent only in one study (I). Specifically, as it is mentioned in the study the preschooler with symptoms of SAD enjoyed connecting and disconnecting, taking apart and fitting back together objects. He manifested considerable satisfaction when he managed connecting and fitting back objects, hence appearing to repeat such actions multiple times (see also Appendix F).

### 4.4 Types of CIP children manifesting IED tend to engage in

Regarding the second research question of types of play preschoolers with IED mainly tend to engage in, the foundings detected six types in prevalence. These play types were Symbolic (also known as pretend or
fantasy), Creative (also known as expressive), Constructive, Exploratory, Interactive (with peers) and Parallel (communal type of play). Creative and Constructive play appertain to the category of manipulative play. Thus, when the studies referred to manipulative play, it was considered that both above types were of importance. Table 3.5 shows more analytically the types of play in relevance to the selected studies (SIN) and the IED mentioned within.

Table 3.5 Types of play children with IED tend to engage in, being identified in the selected studies.

<table>
<thead>
<tr>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Constructive (manipulative)</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
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<tr>
<td></td>
<td>Creative/ Expressive (manipulative)</td>
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<td></td>
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<tr>
<td></td>
<td>Symbolic/Pretend/ Fantasy</td>
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<td>X</td>
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<td></td>
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<tr>
<td></td>
<td>Interactive/ With peers</td>
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<td></td>
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<td>X</td>
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<tr>
<td></td>
<td>Parallel</td>
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<td>X</td>
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</tr>
</tbody>
</table>

Note. SIN= Study Identification Number. See Table 3.2

As it appears in Table 3.5, preschoolers with IED were mostly inclined to engage in constructive play. More specifically, three studies (I, IV, V) found prevalence of constructive play. Those were the studies in which children with symptoms of SAD, comorbid GAD with SP and clinically diagnosed MDD took part. Subsequently, creative play was also found to be popular among preschoolers with IED. Children with PTSD and the clinical sample of children with MDD tended to involve in this type of play (II, V). Regarding symbolic play, only children with PTSD symptoms showed preference of engagement (II). As far as exploratory play is considered, again only one study (IV) found indices of inclination among preschoolers. This study pertains to children with manifestation of comorbid GAD and SP.

From a societal perspective, in two studies (I, III) the preschoolers were occupied in interactive/peer play. However, regarding children with GAD, the study revealed that interactive play evoked them anxiety. Specifically, it was stated in the study that they were observed to display “overt indices of anxiety during free
play with peers at preschool.” (Coplan et al. 2009, p.899). This finding is also addressed on Appendix F. Concerning parallel play, only preschoolers with comorbid symptomatology of GAD and SP (IV) were found to engage in. No evidence of parallel play has been found in the other studies. It is to be noted that in the study (VI) in which GAD and MDD were comorbid no play types were mentioned.

Summarizing, the results of the current study provided knowledge about the behavioral patterns that preschoolers with IED symptomatology show during CIP. The types of CIP that these children tend to involve in were also examined. Initially, an accumulation of the IED being studied in the included articles was done in order to provide the reader with a well-rounded image of the IED being included in this study. Results indicated that most prevalent behaviors among preschoolers with diagnosis or symptoms of IED were non-play behavior (remaining reticent and watching peers playing) and solitary-passive behavior (non-social play). Only children with diagnosed depression (MDD) showed moody behavior and changes in their attitudes, whereas less coherence and more interruptions during free play were overt in preschoolers with PTSD symptoms. Children with diagnosed MDD and children with symptoms of PTSD also manifested less consciousness of playing while the latter were the only ones that acted anti-socially while playing. Moreover, preschoolers showing manifestation of GAD along with SP had the desire to involve in peer play but remained inhibited. Concerning the child exhibiting SAD, he displayed repetitive behavioral patterns in free play. Only children with symptoms of GAD and SAD showed engagement in interactive/ peer play. Further engagement in play types revealed that constructive and creative play were among the most popular, whereas symbolic and exploratory were less played by preschoolers with IED along with interactive and parallel.
5 Discussion

This systematic literature review had a twofold aim. Namely, the study aimed at examining the play behaviors that preschoolers with IED mostly exhibit during CIP as well as the types of play that these children tend to engage in.

5.1 Reflections of findings related to other research

The findings revealed that preschoolers with some typical and atypical IED have tendency towards constructive play. Connecting this finding with Piaget's constructivist theory about play (1951/57), it appears that children are still able to engage in a play type which appertains to their age and to preoperational developmental stage, despite their internalizing problems. The same fact is applied to creative/expressive play. Children with PTSD and typical MDD showed some involvement in this play type which follows the development of the preschooler. However, the findings revealed engagement in exploratory play, for preschoolers exhibiting GAD with SP. This fact raises concern, since exploratory play is pertinent to younger ages and hence to the sensorimotor developmental stage, as Piaget mentions (1951/57). The same issue emerges with the lack of involvement in symbolic play. Only children with PTSD showed engagement in this type. Since symbolic play is the prevalent play type in preschool age, the lack of engagement to it is of consideration. In both above cases, the children are probably exposed or susceptible to some socio-emotional developmental delay.

Since play becomes more social as the child grows up and proceeds from one developmental stage to another (Pellegrini, 2011; Piaget, 2007), the lack of involvement in interactive play justifies the presence of some serious IED arising. That is because children in preschool years have tendency to socialize and involve in more social types of play than in the sensorimotor stage (Pellegrini, 2011). Even if no developmental delays arise later, the children will probably lack of social competence in the upcoming school years.

5.1.1 Play behaviors in connection with IED

In the present research, the preponderance of children with IED showed reticence/onlooking (non-play) behavior and solitary-passive (asocial) behavior. Specifically, children manifesting GAD and SP symptoms as well as MDD (both diagnosed and non-diagnosed) showed the above prominent play behaviors. The current findings are in line with previous research which addresses that GAD and SP appertain to the spectrum of anxiety disorders and comorbid symptoms of the latter with MDD are a common phenomenon (APA, 2013; Gresham & Kern, 2004). Thus, preschool children with such symptomatology usually remain inhibited and alienated from social interactions, either wandering aimlessly or being occupied in solitary play, due to internal fears and concerns that impede their social and generic functioning within the environment (Costello et al. 2005; Egger & Angold, 2006; Rubin & Coplan, 2010).
Nevertheless, it is of importance to stress that preschoolers with the above symptomatology (comorbid GAD with SP) also showed as a behavioral pattern the need to initiate peer play and involve in interactive play activities. However, their internalized symptoms restrained them from daring it. It is as Quinn et all (2000) states that children manifesting IED especially in early years, share the inner need to engage in communal activities, as a part of their social development. However, they tend to experience internal feelings which they are unable to control and therefore being occupied with worries instead of being occupied with social interactions. The fact that children showing SP symptoms also had the will to involve in social play raises interest. It can probably be explained by the fact that SP was comorbid with GAD, thus the latter could be more prevalent. Another explanation is that nosology of SP indicates cautious behavior, shyness and fear of interacting in case of humiliation or embarrassment; facts which are not opposed by a desire to socialize, yet dysphoric thoughts prevail (ADAA, 2016; Albano et al. 2003; Black et al. 2005).

On the contrary, the same fact does not appear, though, with children being diagnosed with MDD. Depressed preschoolers only showed non-play and asocial behavior regarding free play, without appearing in need to socialize. This finding is in line with some theoretical and clinical views about depression that entails a low level of activity and/or loss of interest for activities as well as easy irritation (APA, 2013; Kashani, et al. 1997; Kessler et al. 2003). That is the reason why typical sample of depressed children was also the only one that exhibited mood alterations during play. In addition, regarding peer initiation in play, children manifesting PTSD did not have the desire of it. This is rational due to the fact that children exposed in trauma face difficulties in trusting other people. (Brown et al. 2012; Tonge, 1994).

In general, most play behaviors and even negative towards the environment behaviors (as for instance non-play) were overt by the diagnosed depressed children. Apart from solitary-passive, reticent behavior and behavioral changes, this target group also seemed unconscious while playing. Namely, they seemed not to experience the play activity and hence being rather mentally absent. The above mentioned finding can easily be justified by the fact that typical depression, diagnosed according to DSM IV-5 (APA, 2013), is one of the most severe IED (Gresham & Kern, 2004). Especially in early childhood, typical MDD can cause emotional turbulence and lack of personality consciousness, because preschoolers still go through essential social and emotional alterations. Consequently, their personality and inclinations change dramatically from preschool to school age (Brown et al. 2012; Enger & Angold, 2006; Gosar et al. 2015).

Considering the behavior of ‘unconscious play activity’, atypical PTSD group of children were also reported to exhibit it along with anti-social behavior and morbid themes during play. The former finding is in consonance with the symptomatology of re-experiencing the trauma (Gresham & Kern, 2004). Therefore, preschoolers having regular flashbacks and reliving the traumatic scene while involving in any play activity, cannot essentially experience play (Gresham & Kern, 2004; Horowitz, 1997). Concerning the latter finding of anti-social behavior, children with PTSD symptomatology were the only ones exhibiting it. This is rational
considering that PTSD is the only IED that entails manifestation of aggressiveness and regular outbursts (PTSD, National Center for PTSD, 2015).

In the present study, only one article was identified with the behavior of ‘Interruptions during play’. This article included the atypical sample of children with PTSD. This finding can meet with the fact that children exposed to trauma often show re-experiencing symptoms and avoidance symptoms. That is, preschoolers can often relive the traumatic event while having flashbacks. As a consequence they tend to avoid ambiances and persons that remind them of the repugnant event (Gresham & Kern, 2004; Horowitz, 1997). Thus, while these symptoms occur, children can interrupt their play, either because it reminds them of the trauma or due to lack of focus and attention. The behavioral pattern of ‘repetitive actions during play’ also appeared in only one study and more specifically in the child having severe symptoms of SAD. As the results showed, the child enjoyed ‘separating’ and putting back objects together. Thus, the repetition of these actions may evoke him feelings regarding separation and reconnecting with his parents.

It is essential to be mentioned that results did not indicate any solitary-active play behavior connected with IED nosology. The vindication emerges from the fact that research has shown that solitary-active behaviors are most prominent among children with externalized emotional disturbances (Luby, 2009; Pellegrini, 2011; Porter, 2007).

5.1.2 Types of CIP preferred by children exhibiting IED

Results of the present research, regarding preference in play types, indicated that constructive play prevailed in both typical and atypical sample of IED. Connecting the findings with research, it has been studied that constructive is the most eminent type of solitary play among preschoolers (Piaget, 2007; Rubin et al. 1976; Rubin & Coplan, 2010) occupying themselves with various materials, building or taking apart objects (Drew et al. 2008; Wood & Attfield, 2005). In the present study, children manifesting the three out of six IED being studied were occupied with constructive play; namely children with atypical SAD, comorbidity of GAD and SP and typical MDD. This comes in accordance with the tendency of children with these disturbances to play alone and not involving in activities where interaction with peers is required. This tendency is mostly due to internalized fears, worries and other pervasive negative feelings being experienced by children (Braet et al. 2011; Egger & Angold, 2006). Thus, presumably this explanation shed light on the preference of constructive play by children with IED manifestation. However in the case study of the child with SAD symptomatology, it seems that constructive play was a reflection of how he perceives the separation from parents and experiences the symptoms of SAD, as he used to continuously separate and put back objects together (see Appendix F).

While examining the other play types, creative/expressive play was also among the preferable types by children with IED. Children experiencing trauma (PTSD) along with typical sample of children with MDD tend to engage in this type. Since the above play type is also most common as solitary or parallel and less
interactive, children showing emotional problems rationally prefer it. This can be justified by the fact that children in this category still have the need to play, however in a way that requires less interaction and more opportunity to unravel their creativity through their own internal means without external interactions (Maxwell et al. 2008; Miller & Almon, 2009).

The fact that symbolic play appeared in only one study, and thus in only one sample of children manifesting IED, raises concern. That is because, as being known from the literature, symbolic play is the prominent play type in which preschool aged children are normally prone to engage (Piaget, 1957/2007). It assists their general normal development holistically, meaning on a cognitive, social and emotional level. Additionally, the engagement in symbolic play is deemed an essential tool for preschoolers to develop social skills and build social competence (Hughes, 2012; Piaget, 1951/57; Stagnitti & Unsworth, 2000; Uren & Stagnitti, 2009). However, in this study only children with symptoms of PTSD showed tendency of engagement in symbolic play. Therefore, the lack of engagement in this type arises two issues: Firstly, as it emerged from previous findings, children manifesting IED do not show the penchant to involve in social play types. Secondly, the non-engagement in symbolic play can probably indicate a level of developmental delay, because research has shown that untreated IED can easily lead to more serious mental disorders and delays (Cohen & Mendez, 2009; Egger & Angold, 2006; Gresham & Kern, 2004; Kashani et al. 1997; Lecavalier, 2006).

This systematic literature review also found some evidence of engagement in exploratory play by preschoolers with IED. Specifically, preschoolers experiencing GAD along with comorbid SP showed the tendency to engage in this type of play. The present finding raises interest, since this play type normally appertains to younger ages (Piaget 1951/57). Taking into consideration play types according to the child’s developmental stages, the children are involved in exploratory play since 2 years of age, when they are still in the sensorimotor developmental stage (DeVries et al. 2002; Piaget, 1951/57; Watterson, 2012). As already mentioned above about symbolic play, this fact could also generate some evidence that children with symptomatology of GAD and SP may indicate some developmental delays, which if not diagnosed could end up in severe mental disorders (Cohen & Mendez, 2009; Egger & Angold, 2006; Gresham & Kern, 2004; Kashani et al. 1997; Lecavalier, 2006).

Finally, the results presented some indices, yet scarce, of involvement in interactive and parallel play. Considering the former, preschoolers manifesting SAD and GAD were involved in peer play. Considering the latter, children with comorbid GAD and SP played parallelly. The present finding holds its possible explanation. That is to say, the scarce evidence of interactive play has its roots on the fact that children showing IED symptoms and especially anxiety disorders and depression, feel anxious, worried and/or fearful of interacting with their surroundings (Albano et al. 2003; Gresham & Kern, 2004; Kendal & Chansky, 1992). Subsequently, this fact also explains the involvement of preschoolers with comorbid GAD and SP in parallel
play. Namely, despite the fact that this sample of children played parallelly to other children (when they showed the desire to play and did not manifest non-play behavior), still could not interact with peers and be involved in cooperative forms of play. Regarding children with GAD, engagement in peer play was reported, however they felt anxious while involving on it (see also Appendix F).

5.2 Limitations and implications of research

The current systematic literature review met some limitations worth mentioning. First of all, only a few articles were found eligible for the present study (n=6). The above issue may emerge from the fact that the study included the specific age spectrum of 2 to 7 years old; therefore, many articles were already excluded due to wrong targeted age group. This comes in accordance with the rationale that not much research has been done about preschoolers with internalizing symptoms. Thus, this should be taken under serious consideration for upcoming researches. Another essential issue being arised is that not all six included articles mentioned types of play that preschoolers with manifestation of IED tend to engage in. Only four out of six articles mentioned types of play according to developmental stage (I, II, IV, V). Thus, in future research more information is needed regarding preference in types of play within this target group. Additionally, some articles looked on social competence and academic achievement as an outcome along with play behaviors, thus in some cases it was difficult for the researcher to detect the mentioned play behavior. However, the fact that most articles included a comparison group for behavioral correlates along with valid scales for measuring observations (see Appendix F) facilitated the research and it would be effective for upcoming studies as well.

An essential drawback could be the fact that none of the included studies measured somatized symptoms as part of play behaviors of children manifesting IED. It would be both important and interesting for upcoming studies to include measurements of somatized manifestation, such as inappropriate crying, reported stomach-aches etc. This would add a more holistic view of behavioral patterns being overt in internalized emotional disturbances. Subsequently, only one study mentioned parallel play. It is known from literature that parallel play is a social form of play, thus it can occur along with most preschool types of play (such as constructive and/or creative). However, none of the other five studies reported evidence of parallel play, even when a preschool play type (as constructive play) was mentioned. Therefore more in-depth research has to be conducted about societal types of play along with the play types appertained to preschool age.

A finding about children showing Social Phobia (SP) comorbid with Generalized Anxiety Disorder (GAD) raises consideration. That is, as results showed, children showing the above disturbances also manifested the desire to involve in peer play however were fearful of trying. This finding should be considered for future researches, since the literature heretofore has shown that people with social phobia and anxieties tend to alienate from surroundings. However, the present research revealed that preschoolers in this category have the need to interact. Researchers have to put main emphasis on preschoolers’ need to socialize despite their internalized pervasive thoughts.
Lastly, two experimental studies were included in the present research, where the experimenter initiated the play and then gave space to the children to play in a free manner and observed them. The inclusion of these studies was helpful to identify essential behaviors of the target group. However, the type of play was determined in a way, since the experimenter initiated it. Thus, for future studies that aiming at types of play more emphasis on observational studies should be put.

5.3 Methodological issues

While conducting a systematic literature review, the researcher faces some strengths and challenges. Regarding the former, the scrutinized documentation and report of the findings, provides a clear image of the total procedure of the research. In this way it is doable for other researchers to replicate the study and its process. The use of an extended extraction protocol assisted the exemplification and further comprehension of all the included articles. All data fitted in the categories of the protocol. The author attempted to report and describe the findings in an objective manner which reduces the risk of bias being diffused in the research.

However, it is possible that the author’s preunderstanding could unintentionally emerge in some parts of the research, due to the subjectivity of such a method. A peer review and an evaluation of the research by another researcher would have decreased the infusion of bias and would have made the study more objective. Nevertheless, such procedure was not conducted in the present study, hence being considered an essential limitation.

In the current study only three databases were used and thus not all relevant databases being appertained to the field of education and psychology were examined. Therefore, this fact could possibly limit the research since some relevant articles may have been missed. This could possibly be the reason why only six studies were detected to meet all the inclusion criteria. Thus, even the articles with medium low quality were included in the final research. Considering the above mentioned fact, two quality assessment tools were used according to the design of the studies. This procedure assists the researcher to evaluate the quality of the included articles. However, as it was stated before, subjectivity could occur in the study when only one researcher conducts the quality assessment of the articles.
6 Conclusion

Preschool children with manifestation of Internalized Emotional Disturbances (IED) experience pervasive thoughts which inhibit their overall development and functioning in preschool context. IED are the most challenging to be identified, especially in early childhood; an age in which the child still undergoes rapid social and emotional changes. Thus, it is common that educators can miss identifying play behaviors which are overt for IED manifestation in preschool age. This happens due to a possible lack of knowledge and further research is needed. One of the critical consequences is that children with such disturbances may be left without proper support and hence exposed to more severe risks and stressors.

Since young children have limited ability to directly reflect and verbally report about their feelings and symptoms, there is a need to form a variety of expressive and projective techniques with a view to identifying behaviors that occur when a child manifests IED. Play—especially when it is child initiated—provides a context in which the child can express the realities of his/her subjective experience and internal world. It is also an indicator of children’s developmental stage, depending in which type they engage and how they behave. Thus, through children’s expressions, behaviors and tendencies towards play, educators can observe and examine essential behavioral patterns, indices of IED.

To conclude, this systematic review sheds light on the different behaviors that children with typical and atypical IED exhibit during free play along with the play types they are prone to engage in. Most prevalent were the non-play and solitary-passive behaviors along with other behavioral patterns depending on the concrete IED being manifested. For instance, moody behaviors were overt by typical sample of depressed children, whereas children showing anxiety and social phobia symptoms had the desire for peer interaction, but their internalized thoughts hampered them. The play types in which they tended to involve appertained mostly to constructive and creative play, while symbolic and interactive were the most scarce in tendencies. Evidence of future developmental delay can be reported according to these play type tendencies. Additionally, avoidance of social interaction is overt.

To summarize, the findings from the present study can be used as an essential tool and guidance for professionals that work in the field of education, interventions and clinical psychology. Namely, teachers could learn to properly observe and identify children’s play behaviors that appertain to IED symptomatology in preschool environment and provide special support for these children. Until now, externalized behaviors were on center of attention in most researches. Interventionists and special educators could develop inclusive practices, interventional plans and play therapies to assist children’s participation and emotional development into preschool classroom. In the case of clinicians, the current study adds essential knowledge in the—still developing—field of preschoolers’ psychopathology, helping them to provide proper treatment and possible diagnosis and thus prevent later mental disorders and developmental delays.
References


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CCEERC. (2013). Quantitative Research Assessment Tool. Retrieved 08/04/2017 from: [http://www.researchconnections.org/content/childcare/understand/research-quality.html](http://www.researchconnections.org/content/childcare/understand/research-quality.html)


Appendix

Appendix A. Flowchart showing the search procedure with the number of articles reviewed on title & abstract level and full text level. Reasons of the excluded articles are also mentioned.

![Flowchart showing the search procedure with the number of articles reviewed on title & abstract level and full text level. Reasons of the excluded articles are also mentioned.](image-url)

<table>
<thead>
<tr>
<th>Database</th>
<th>Number of Articles</th>
<th>Reason for Exclusion</th>
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<tbody>
<tr>
<td>ERIC</td>
<td>27</td>
<td>Duplicates: 2</td>
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<tr>
<td>PsycINFO</td>
<td>536</td>
<td>Title &amp; Abstract: 859</td>
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<td></td>
<td></td>
<td>Excluded: 792 Due to wrong study focus, externalized disorders and/or typical development, children above the age of 7, play interventions as focus or outcome.</td>
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<tr>
<td>ScienceDirect</td>
<td>291</td>
<td>Full Text: 67</td>
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<tr>
<td></td>
<td></td>
<td>Excluded: 61 Due to full text unavailable for free, wrong study focus (academic performance, social competence, emotional functioning), wrong target group (externalized behaviors), poor quality of study.</td>
</tr>
<tr>
<td>Manual search</td>
<td>7</td>
<td>Data Analysis: 6</td>
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Appendix B. *Adapted version of the Quality Assessment tool (CCEERC, 2013), used for evaluating the quality of the selected quantitative studies.*

### Article publication & Background

1. **Peer review.** Was the article published in a peer-reviewed journal?
   - [1] Yes
   - [0] No

2. **Aim and research question(s).** Where the aim and research question(s) stated in the study?
   - [2] Both the aim and research question(s) are stated clearly
   - [1] The aim is stated clearly but there are no research question(s) stated in the article
   - [0] There is no aim or research question(s) stated in the article

### Method

3. **Information about play behaviors.** Did the article contain sufficient information about play behaviors? If so, was that information stated clearly? Was it enough information to understand play behaviors?
   - [2] The information about play behaviors was sufficient and clear.
   - [1] The article contain some information about play behaviors; however not sufficient.
   - [0] The article did not contain any information about play behaviors.

4. **Information about types of play.** Did the article contain sufficient information about types of play? If so, was that information stated clearly? Was it enough information to understand the different play types?
   - [2] The information about types of play was sufficient and clear.
   - [1] The article contained some information about types of play; however not sufficient.
   - [0] The article did not contain any information about types of play.

5. **Study design.** Was the study a randomized controlled trial (RCT)? Or was it a quasi-experimental design?
   - [2] The study was a randomized controlled trial (RCT)
   - [1] The study was a quasi-experimental design
   - [0] No information was given about the design of the study

6. **Control group.** Did the study have a control group?
   - [1] Yes
   - [0] No
7. **Population.** Does the population that was eligible to be selected for the study include the entire population of interest? Or, is the eligible population a selective subgroup of the population of interest? For example, are all the children in the nation eligible to be selected for the study (the entire population of interest)? Or, were only children in New York City eligible to be selected for the study (a selective subgroup)? Or, were only children in one-day care center in New York City eligible to be selected (a very selective subgroup)?

[ 2 ] Eligible population includes entire population of interest or a substantial portion of it  
[ 1 ] Population represents a limited, atypical, or selective subgroup of the population of interest  
[ 0 ] No description of the population

8. **Randomized Selection of Participants.** Were study participants randomly selected for the study? Or, did study participants volunteer (nonrandom)? Or, were they located through specific organizations (nonrandom) or through acquaintances of the researchers (nonrandom)?

[ 1 ] Nonrandom selection  
[ 0 ] No description of the sample selection procedure

9. **Sample Size.** How many participants were selected for the study? Does the sample include enough participants from key subgroups to accurately assess subgroup differences? This is best used in comparison to other studies.

[ 2 ] Sample size larger than similar studies  
[ 1 ] Sample size the same as similar studies  
[ 0 ] Sample size smaller than similar study or sample size not given

10. **Response and Attrition Rate.** What proportion of the selected sample completed the study?

[ 2 ] High response or participation rate (over 65% response rate, over 90% participated in follow-up studies)  
[ 1 ] Moderate to low response rate (response rates of less than 65%)  
[ 0 ] No information on response rate or participation rate

**Measurement**

11. **Main Variables or Concepts.** Are each of the main variables or concepts of interest described fully? Can the main variables or concepts be matched to the variables in the tables?

[ 2 ] Accurately described and can be matched  
[ 1 ] Vague definition or cannot be matched  
[ 0 ] No definition of main variables or concepts
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<td><strong>12. Operationalization of Concepts.</strong> Did the authors choose variables that make sense as good measures of the main concepts in the study? Have these variables been used in previous studies or are they an improvement over previous studies?</td>
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<tr>
<td>2</td>
<td>Key concepts are measured with variables that make sense. Or, variables have either been previously used in research or are improvements over previous measures.</td>
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<tr>
<td>1</td>
<td>Key concepts are measured with variables that do not make sense, and variables have not been used in previous research studies</td>
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<td>0</td>
<td>Variable operationalization is not discussed</td>
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**Analysis**

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<td><strong>13. Numeric Tables.</strong> Are the means and standard deviations/standard errors for all the numeric variables presented?</td>
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<td>0</td>
<td>Neither means nor standard deviations/standard errors presented</td>
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<td><strong>14. Missing Data.</strong> Is the number of cases with missing data specified? Is the statistical procedure(s) for handling missing data described?</td>
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<tr>
<td>2</td>
<td>Number of cases with missing data are specified and the strategy for handling missing data is described</td>
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<tr>
<td>1</td>
<td>Number of cases with missing data specified, but these cases are removed from the analysis</td>
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<td>0</td>
<td>Missing data issues not discussed</td>
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<td><strong>15. Appropriateness of Statistical Techniques.</strong> Does the study describe the statistical technique used? Does the study explain why the statistical technique was chosen? Does the study include caveats about the conclusions that are based on the statistical technique?</td>
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<tr>
<td>2</td>
<td>Statistical techniques, reasons for choosing technique, and caveats are fully explained</td>
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<tr>
<td>1</td>
<td>Statistical technique is explained, but the reasons for choosing technique or the caveats are not included.</td>
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<tr>
<td>0</td>
<td>Statistical technique, reasons for choosing technique, and caveats are not explained</td>
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<td><strong>16. Omitted Variable Bias.</strong> Could the results of the study be due to alternative explanations that are not addressed in the study?</td>
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<tr>
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<td>All important explanations are included in the analysis</td>
</tr>
<tr>
<td>1</td>
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<tr>
<td>0</td>
<td>Variables and concepts included in the analysis are not described in sufficient detail to determine whether key alternative explanations have been omitted</td>
</tr>
</tbody>
</table>
17. **Analysis of Main Effect Variables.** Are coefficients for the main effect variables in the statistical models presented? Are the standard errors of these coefficients presented? Are significance levels or the results of statistical tests presented?

- [2] Model coefficients and standard errors or hypothesis tests for the main effects variables are presented
- [1] Either model coefficients or hypothesis tests for the main effects variables are presented
- [0] Neither estimated coefficients or standard errors for the main effects variables are presented
Appendix C. Table displaying quality assessment scores of the reviewed quantitative studies according to the Quality Assessment Tool (CCEERC, 2013)

<table>
<thead>
<tr>
<th>Reviewed Study (SIN)</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assessment of quality</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

High
(24-31 points)

Medium High
(16-23 points)

Medium Low
(8-15 points)

Low
(0-7 points)

Reasons

Article publication & background
1. Peer reviewed
2. Aim & research questions

Method
3. Information about play behaviors
4. Information about types of play
5. Study design
6. Control group
7. Population
8. Randomized selection of participants
9. Sample size
10. Response & Attrition rate

Measurement
11. Main variables & concepts
12. Operationalization of concepts
## Analysis

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>13. Numeric tables</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>14. Missing data</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>15. Appropriateness of statistical techniques</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>16. Omitted variable bias</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>17. Analysis of main effect variables</td>
<td>0</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td><strong>Total points</strong></td>
<td><strong>11</strong></td>
<td><strong>15</strong></td>
<td><strong>18</strong></td>
<td><strong>21</strong></td>
</tr>
</tbody>
</table>

*Note. SIN = Study Identification Number. See Table 3.2*
Appendix D. *Adapted version of the Quality Assessment tool (NIH, 2014), used for evaluating the quality of the selected case study.*

<table>
<thead>
<tr>
<th>SIN Criteria</th>
<th>Yes</th>
<th>No</th>
<th>Not Reported</th>
</tr>
</thead>
<tbody>
<tr>
<td>Was the study question or objective clearly stated?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Was the study population clearly and fully described, including a case definition?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Was the case consecutive?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Were the subjects comparable?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Were the play behaviors clearly described?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Was/Were the type(s) of play clearly described?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Were the outcome measures clearly defined, valid, reliable, and implemented consistently across all study participants?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Was the length of follow-up adequate?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Were the statistical methods well-described?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Were the results well-described?</td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td><strong>Total Score</strong></td>
<td></td>
<td></td>
<td><strong>14 points</strong> [High]</td>
</tr>
</tbody>
</table>

**Quality Rating**

13-20 points: High
8-13 points: Medium
0-8 points: Low

*Note 1. SIN= Study Identification Number. See Table 3.2*

*Note 2. Due to convenience the “Yes”, “No” and “Not Reported” answers were rated with points 2, 1 and 0 respectively.*
### Appendix E. The extraction protocol used on Excel sheet for obtaining information about the (6) included studies.

<table>
<thead>
<tr>
<th>General information</th>
<th>Author(s):</th>
</tr>
</thead>
<tbody>
<tr>
<td>Year</td>
<td></td>
</tr>
<tr>
<td>Title</td>
<td></td>
</tr>
<tr>
<td>Country</td>
<td></td>
</tr>
<tr>
<td>Journal of publication</td>
<td></td>
</tr>
<tr>
<td>Aim</td>
<td></td>
</tr>
<tr>
<td>Method</td>
<td></td>
</tr>
<tr>
<td>Experimental study:</td>
<td>Answers: [Yes] ; [No]</td>
</tr>
<tr>
<td>Longitudinal study:</td>
<td>Answers: [Yes] ; [No]</td>
</tr>
<tr>
<td>Theoretical Framework(s) used in the study:</td>
<td></td>
</tr>
<tr>
<td>Target group (children):</td>
<td>*age was also mentioned in this section</td>
</tr>
<tr>
<td>Informants:</td>
<td></td>
</tr>
<tr>
<td>Background information of importance:</td>
<td></td>
</tr>
</tbody>
</table>

| Play behaviors | Non play: |
|               | Solitary-active: |
|               | Solitary-passive: |
|               | Reticence/Onlooker: |
| Measurements  |            |

| Internalized emotional disturbances | Diagnosed: |
|                                     | Non-diagnosed: |
|                                     | Type(s): |
|                                     | Symptoms (if non-diagnosed): |
|                                     | Possible cause: |
| Measurements                        |            |

| Free Play | Types of play mentioned: |
|          | Interactive/With peers: |
|          | Indoors/Outdoors: |
| Measurements |            |

<table>
<thead>
<tr>
<th>Summary</th>
<th>Conclusion:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Limitations:</td>
<td></td>
</tr>
</tbody>
</table>
Appendix F. Table displaying essential information obtained from the selected studies

<table>
<thead>
<tr>
<th>SIN</th>
<th>Articles</th>
<th>Year</th>
<th>Aim</th>
<th>Method</th>
<th>Participants</th>
<th>IED symptoms (typical/ atypical)</th>
<th>Scale used</th>
<th>Major findings</th>
<th>QR</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Cath, A.</td>
<td>2009</td>
<td>&quot;In this paper, the focus is the spontaneous actions of one little boy, Edward, studied by workers at the nursery over a period of two years.&quot;</td>
<td>Case study (video observations)</td>
<td>n=1 (boy 2.9 y.o.)</td>
<td>&quot;Looking anxious, frowning and staying very close to his mum, pressing his body against her legs. Very distressed, ran after his mum. When he realised she had gone, lay down on the floor near the exit and cried.&quot;</td>
<td>Unidentified</td>
<td>“Spent some of the time ‘disconnecting’ and ‘connecting’ parts of the Hoover. He showed satisfaction, in both his body language and spoken language, when he managed to ‘connect’ or fix bits of the Hoover back. He repeated the process of ‘taking apart’ and ‘fitting together’ several times. He continued spending a lot of his time ‘connecting’ or fixing objects. He spent some time with another boy, John.”</td>
<td>H</td>
</tr>
<tr>
<td>II</td>
<td>Cohen, E., Chazan S., Lerner, M., Maimon, E.</td>
<td>2010</td>
<td>“To study the play activity of young children exposed to terror events in an attempt to validate characteristics of PTP”</td>
<td>Quantitative (questionnaires)</td>
<td>n=29 (children 3.5-7 y.o.) Control group: 25 children (4-7)</td>
<td>Children exposed to terror attacks and lived in areas exposed to terrorism during the second</td>
<td>Children’s Play Therapy Instrument–Adaptation for Terror Research</td>
<td>“More traumatic play activity, more play interruptions, a higher frequency of acting-out/morbid themes. The injury of a parent was reflected in almost all aspects of the</td>
<td>ML</td>
</tr>
</tbody>
</table>
Interventions in Childhood

Alice Meropi Batsopoulou

One year Master Thesis

Spring 2017

(Post-Traumatic Play) associated with PTSD (Post-Traumatic Stress Disorder) and posttraumatic distress as well as with resilience."

CPTI-ATR; Chazan & Cohen, 2003 Duration of observations: 45 minutes for each group

"To explore the social behaviours of inhibited children in two familiar contexts: (1) during unstructured free play with peers at preschool and (2) during typically occurring structured and unstructured activities outside of the preschool environment (i.e. at home and in the community)."

Quantitative (questionnaires)

n=12 (children 3.5-5.5 y.o.)

Control group: 12 children (same age as target group)

Inhibition (anxiety, loneliness, crying)

Play Observation Scale (POS; Rubin, 2001) – adapted version

Duration of observations: 3 days

Behavioral Inhibition Questionnaire (BIQ, Bishop, Spence, & McDonald, 2003) to assess the symptoms of child’s play activity: negative affect, a lower awareness of the child of him- or herself as a player.

Materials and toys were selected that were appropriate for engaging children in fantasy and expressive play."

"Results from a series of t tests indicated that inhibited children displayed significantly more reticent behaviour problems. They are also observed to display more frequent reticent behaviour and overt indices of anxiety during free play with peers at preschool."

ML
IV  Coplan, R., Prakash, K., O’Neil, K., Armer, M. 2004  "To explore the differential concomitants of shyness and social disinterest among preschool-age children."  Quantitative (questionnaires)  n=119 (children 3-5 y.o.)  Conflicted shyness (inhibited by social fear and anxiety)  Play Observation Scale (Rubin, 1989)  Duration of observations: 6 months in total (20 minutes for each child)  "Conflicted shyness was significantly and positively related to the display of reticent behavior and parallel play. Results from follow-up simple effects analyses indicated that conflicted shyness was positively related to the display of solitary–passive behavior. However, there was no link found between shyness and self-reported preferences for not playing with peers. Solitary-passive play entailed solitary-constructive play, solitary-exploratory behaviors and parallel play."

V  Mol Lous, A., De Wit, C.A.M., De Bruyn, E.E.J., Riksen-Walraven, 2000  "The present article reports an exploratory study carried out to examine how depressive young children's  Quantitative (questionnaires and teachers’ reports)  n=8 (children 3 to 5.11 y.o.)  MDD diagnosed according to DSM-IV and ICD-10 criteria for major  Unidentified  Duration of observations: 20 minutes  "Significantly less play and more behavioral changes during solitary-free play (SoIFP). Less coherence in play switching behaviors more..."
behavior in play situations differ from that of their non-depressed age-mates."}

"This study examined the various behavioral correlates of different forms of non-social play among Chinese preschoolers for boys and girls, respectively."

Quantitative (questionnaires) n=506 (children 3.5 to 6 y.o.)

"Inattentive, Fearful along with anxiety symptoms (anxious among peers) Oversensitive/ Depressed (worried about many things, appear miserable, unhappy, tearful or distressed)"

Teacher Behavior Rating Scale (TBRS; C. H. Hart & Robinson, 1996)

"Solitary-passive play was positively related to fearfulness, depression. Reticence was positively related to fearfulness, depression."

MH

Note 1. QR= Quality Rating

Note 2. SIN=Study Identification Number. See Table 3.2

Note 2. ML= Medium Low, MH= Medium High, H= High
Appendix G. *Table displaying all the search words used for the three word clusters in the relevant databases.*

<table>
<thead>
<tr>
<th>Databases</th>
<th>Search words</th>
<th>Search words</th>
<th>Search words</th>
</tr>
</thead>
<tbody>
<tr>
<td>PsycINFO</td>
<td>- Childhood play behavior AND (combined with “OR”): - Children Recreational Games - Role Playing - Free play - Toys - Peer interactive play - Dramatic play - Pretend play</td>
<td>- Child behavior AND (combined with “OR”): - Emotional Disturbances - Emotional Adjustment - Emotional problems - Emotional disorders - Anxiety disorders - Schizophreni* - Obsessive compulsive disorder - Social phobia - Separation anxiety disorder - Trauma* - Post-traumatic disorder - Fear</td>
<td>- Behavior* AND (combined with “OR”): - Play behavior - Playfulness - Childhood Play Development</td>
</tr>
<tr>
<td>ERIC</td>
<td>- Play behavior AND (combined with “OR”): - Play - Playgrounds - Role Playing - Recreational Activities - Games - Dramatic Play - Recess Breaks - Playground Activities - Free play - Peer interactive play - Symbolic play - Preschool play - Pretend play</td>
<td>- Child play behavior AND (combined with “OR”): - Anxiety - Posttraumatic Stress Disorder - Schizophrenia - Emotional Adjustment - Depression - Emotional Disturbances - Emotional Problems - Personality Problems - Anxiety disorders - Social phobia - Specific phobia - separation anxiety disorder - Fear</td>
<td></td>
</tr>
<tr>
<td>ScienceDirect</td>
<td>- Play behavior AND (combined with “OR”): - Play - Free play - Peer interactive play - Role play - Pretend play - Dramatic play - Preschool play - Kindergarten play</td>
<td>- Children play behavior AND (combined with “OR”): - Posttraumatic Stress Disorder - Schizophreni* - Depression - Emotional Disturbances - Personality Problems - Emotional Problems</td>
<td>- Childhood behavior AND (combined with “OR”): - Anxiety disorders</td>
</tr>
</tbody>
</table>
- Social phobia
- Specific phobia
- Fear
- Separation anxiety disorder