

# Psychiatric diagnosis – is it universal or relative to culture?

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**Background:** There is little consensus on the extent to which psychiatric disorders or syndromes are universal or the extent to which they differ on their core definitions and constellation of symptoms as a result of cultural or contextual factors. This controversy continues due to the lack of biological markers, imprecise measurement and the lack of a gold standard for validating most psychiatric conditions. **Method:** Empirical studies were used to present evidence in favor of or against a universalist or relativistic view of child psychiatric disorders using a model developed by Robins and Guze to determine the validity of psychiatric disorders. **Results:** The prevalence of some of the most common specific disorders and syndromes as well as its risk and protective factors vary across cultures, yet comorbid patterns and response to treatments vary little across cultures. Cross-cultural longitudinal data on outcomes is equivocal. **Conclusions:** The cross-cultural validity of child disorders may vary drastically depending on the disorder, but empirical evidence that attests for the cross-cultural validity of diagnostic criteria for each child disorder is lacking. There is a need for studies that investigate the extent to which gene–environment interactions are related to specific disorders across cultures. Clinicians are urged to consider culture and context in determining the way in which children’s psychopathology may be manifested independent of their views. Recommendations for the upcoming classificatory system are provided so that practical or theoretical considerations are addressed about how culture and ethnic issues affect the assessment or treatment of specific disorders in children. **Keywords:** Child psychiatric diagnosis, cultural differences, universalist approach, relativistic approach.

There is evidence that a person’s cultural background colors every facet of illness experience, from linguistic structure and content of delusions (Karno & Jenkins, 1993; Ribeiro, 1994) to the unique meaning of expressed emotion (Kleinman, 1988; Lewis-Fernandez, 1996). It is critical to consider the cultural background of youths as well as their exposure to cultural change in order to develop correct inferences of pathology and recognize existing disorders (Favazza & Oman, 1984; Kleinman, 1988; Westermeyer & Janca, 1997). Yet, there is little consensus on the extent to which psychiatric disorders or syndromes are universal or the extent to which they differ on their core definitions and constellation of symptoms, as influenced by cultural factors. In part, this controversy has been debated for many years due to the lack of biological markers, imprecise measurement and ultimately the lack of a gold standard for validating most psychiatric conditions (Robins, 1985). In this paper we present the views and/or theoretical approaches as well as the empirical evidence that several investigators have presented in order to support the universality or relativity of psychiatric disorders or syndromes across cultural groups.

Ideally definitions of disorders and taxonomies should be consistent over time, but classifications and the operationalization of disorders vary in different classificatory systems and within different

iterations of the same classification (American Psychiatric Association [APA] 1980, 1987, 1994; World Health Organization [WHO], 1978, 1992). For example, higher rates of attention deficit disorder are found when using the *Diagnostic Statistical Manual*, fourth edition (DSM-IV) of the American Psychiatric Association (APA, 1994) classificatory system as compared to the *International Statistical Classification of Diseases and Related Health Problems*, 10th edition (ICD-10) developed by the World Health Organization (WHO, 1992; Bird, 2002). Both classificatory systems (ICD-10 and DSM-IV) require that the symptoms present be developmentally inappropriate, persistent and frequent. However, operational definitions of what these terms mean within the context of culture are not provided by either of the two classificatory systems, leaving decisions to clinical interpretations and assessment uncertain and inconsistent across different studies (Bird, 1996). For example, rates of attention deficit disorder with hyperactivity (ADHD) in population-based studies carried out in the United States have fluctuated from less than 1% to approximately 20% (Bird, 1996; Roberts, Attkisson, & Rosenblatt, 1998). Recently in a systematic review of 102 worldwide population-based studies of ADHD, significant variations in the prevalence rates of the disorder across continents were reported (Polanczyk, Silva de Lima, Horta, Biederman, & Rhode, 2007). Significant differences in the prevalence estimates were found between North America, Africa and the Middle East, but not

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among North America, Europe, Asia, Oceania or South America. The differences in rates were attributed to differences in instrumentation, methods and definitions used across studies (Polanczyk et al., 2007). Thus within the same culture, it has been difficult to achieve diagnostic consensus among clinicians as well as consistency of diagnostic rates across different epidemiologic studies that use different diagnostic instruments. If there is a lack of diagnostic consistency within the same culture, an even greater challenge is achieving diagnostic consistency in a different cultural group.

### How universal are definitions of child normality and pathology?

The social and developmental context in which behavior occurs is what distinguishes normal from disordered behavior; deciding what is inappropriate development or harmful dysfunction is ultimately a social judgment (Munir & Beardslee, 2001; Kirmayer & Young, 1999; Lilienfeld & Marino, 1995; Pine et al., 2002; Wakefield, 1999) that may differ across cultures. Cultural and ethnic groups differ with regard to practices and activities relevant for ecological adaptation and survival (Weisner, 2002). Given these cultural differences, some investigators adhere to a relativistic view (Lewis-Fernandez & Kleinman, 1995; Rogler, 1996; Wakefield, Pottick, & Kirk, 2002; Weisz, Weiss, Suwanlert, & Chaiyasit, 2006), others to a universalistic view (Roberts & Roberts, 2007; Bird, 2002), while still others to a combined universalistic/relativistic view (Rutter & Nikapota, 2002).

A great number of investigators, particularly in the area of psychiatric epidemiology, adhere solely to a universalistic view of psychopathology. The basic premise of the universalist view is that psychiatric disorders and syndromes are universal and have core symptoms that cluster into universal syndromal patterns. According to this view, what could vary across cultures or sub-groups within a culture is the symptomatic manifestation of the disorder or the threshold of what is considered pathological versus normal behavior (Canino, Lewis-Fernandez, & Bravo, 1997). Thus, the same internal disorder can be manifested differently in different cultures but the underlying psychopathology is the same across cultures. This concept has been coined by Weisz, McCarty, Eastman, Suwanlert, and Chaiyasit (1997) as *ethnotypic consistency*, related to the notion of *heterotypic continuity* or the idea that a trait or disorder may manifest itself differently at different developmental stages. An example of ethnotypic consistency (Weisz et al., 1997) is the way disobedience is manifested in Anglo cultures versus the Thai culture. In the Anglo culture, the child exhibits disobedience with external and direct behavior and by overtly refusing to comply with the adult's request. In

the Thai society, disobedience is manifested by the child looking uninterested, or hesitating, signaling his unwillingness to obey. However, in both societies disobedience, when it is accompanied by a cluster of other defiant behaviors, is recognized as a symptom of oppositional defiant disorder. The assumption of the universalist is that the same set of criteria and symptom clusters is observed across cultures, or the same set of syndromal clusters, even if the manifestation of the symptom varies cross-culturally.

The universalist position exemplified by DSM-IV states that although disorders are caused by internal dysfunction, this dysfunction may originate from exposure to negative environments. Thus, contrary to what is commonly believed, the universalist position does not negate that risk and/or protective factors related to the pathogenesis of the disorder may affect the various manifestations of the disorder. In fact, for each disorder DSM-IV has a section on Specific Culture, Age and Gender Features that is intended to guide the clinician on variations of the disorder that may be attributable to the individual's culture, sex or developmental stage. Nevertheless, DSM-IV has not formally incorporated social or cultural factors as exclusionary criteria of disorders. The difficulty lies in distinguishing between behaviors caused by negative environments that do not involve internal dysfunction and those that originate from negative environments but involve internal dysfunction (Wakefield, Pottick, & Kirk, 2002). For example, as stated by Rutter and Nikapota (2002), deprived environments may cause enduring biological dysfunctions in empathy and impulse control characteristic of conduct disorders, but the same environment may also cause non-disordered youth to react in socially undesirable ways out of motives of self-protection or social conformity.

Bird (1996) has been critical of this position, stating that DSM-IV is supposed to be a descriptive nosology system, free of etiological inferences and causality. He states that although clinicians, through painstaking and time-consuming work, can make the inference of causality, there is no way in which the distinction between conduct behaviors that are symptoms of an internal dysfunction from those that are reflections of a negative environmental context can be made in epidemiologic surveys. In fact, Bird (1996), contrary to other investigators (Wakefield et al., 2002), concurs with the direction of the DSM-IV that has not formally incorporated social or cultural factors as exclusionary criteria for disorders.

The relativistic point of view claims that culture shapes the individual's development and his/her biological and psychological unfolding to a substantial degree, with the need to integrate culture within the diagnostic classificatory system (Lewis-Fernandez & Kleinman, 1995). According to the relativists DSM excludes important cultural symptoms and syndromes unique to particular cultural

settings that results in a category fallacy or apparent homogeneity of disorders across cultures (Kleinman & Kleinman, 1991). The main premise of this point of view is that cultural settings shape definitions of normality and pathology, the number and duration of symptoms required for defining impairment, and the phenomenology of the disorder as well as the course and response to treatment of the syndromes (Lewis-Fernandez & Kleinman, 1995). Relativists question the internal dysfunction criterion of the universalist DSM-IV approach and state that external and cultural factors can shape and determine the symptoms associated with psychiatric disorders even when no internal dysfunction is present (Lilienfeld & Marino, 1999; Wakefield et al., 2002). Thus, for example, ethnographic vignettes administered to clinicians showed that most clinicians in the study thought that youth reacting to a negative environment vignette that exhibited antisocial behavior but were free of an internal dysfunction were judged not to have a mental disorder in following DSM-IV criteria but were in need of professional treatment (Wakefield et al., 2002). Thus, whether or not the internal dysfunction is considered an essential criterion for a disorder, clinicians ultimately use their common sense when referring children for treatment.

Relativists like Weisz and colleagues (2006) question the feasibility of developing a universal classificatory system for all cultures, such as the ICD-10 (WHO, 1992), since such taxonomies build on the assumption that syndromes or disorders are similar across cultures and what may vary is the manifestation of the symptoms. In fact, relativists claim that culture can shape not only the manifestation and content of symptoms, but the development of the syndrome and symptom cluster per se, a core difference with the universalist approach which claims the role of culture is in shaping the expression of the symptom and the magnitude and intensity of psychosocial risk and protective factors. Thus, some relativistic researchers posit that unless nosological criteria are significantly recast or even derived anew on the basis of culture-specific information, misclassification will continue to occur (Fabrega, 1990; Hughes, Simons, & Wintrob, 1997).

The combined relativistic and universalistic approach in diagnostic classificatory systems for psychopathology states that some disorders (i.e., autism, schizophrenia, fragile X syndrome and other pervasive developmental disorders) are more likely to be universal in all cultures because they are mostly based on neural pathology (Rutter & Nikapota, 2002). However, other more common disorders, even though they may share a biological or genetic substrate, are more likely to be shaped by social context, cultural norms and developmental stage. Thus, Rutter and Nikapota argue in favor of integrating both a universal and relativistic view of psychopathology depending on the specific disorder. They

argue that the extent to which more common specific disorders vary across cultures will depend on the extent to which societies differ in socio-cultural and contextual features that are important in the pathogenesis of the disorder. The key question, as stated by Rutter and Nikapota, is 'whether the associations with psychosocial functioning or disorder stem from ethnicity, from racial discrimination, from the associated social risks (e.g., poor housing, unemployment, educational disadvantage) or some complex interaction between these variables' (p. 278).

The debate among investigators and clinicians who adhere to the universalist versus the relativistic approach has had a long history and continues to this date. However, the extent to which the definitions of disorders or syndromes are universal across cultures or vary significantly across cultures is a matter to be determined by empirical inquiry that establishes the validity of the diagnostic criteria across cultures (Rutter & Nikapota, 2002). In what follows we organize our presentation of empirical evidence in favor of or against the different views based on a modification made by Bird (2002) of the Robins and Guze (1970) criteria for determining the validity of the diagnostic criteria cross-culturally. The criteria are the following: 1) clinicians across cultures should describe the problem in children similarly attesting to the face validity of the syndrome or disorder, 2) the risk and protective factors associated with the disorder or syndrome should be similar across cultures, 3) conditions that tend to co-occur with the syndrome or disorder should co-occur across cultures, 4) there should be commonality in the outcomes described for the condition, including laboratory and other biological or neurological tests, and 5) there should be commonality in treatment response. We add to these criteria the need for assessing reliability and validity of the tools or protocols available that measure the diagnostic criteria, an issue that is crucial for estimating cross-cultural validity. Unfortunately a rigorous testing of all these validity criteria has yet to be accomplished for almost all psychiatric disorders within a cultural setting and even less evidence exists across cultural groups particularly for child disorders.

### **The extent to which there is face validity of the disorders across cultures**

Reviews of the literature have consistently shown that although the overall prevalence of disorders or syndromes does not vary cross-culturally, specific disorders and or syndromes may vary (Bird, 1996; Roberts et al., 1998; Crijnen, Achenbach, & Verhulst, 1999). The question that needs to be answered is whether the differences in prevalence are due to the lack of validity of the diagnostic criteria exposed across the cultures. Our first criterion, face validity, is exemplified by the cross-cultural studies which

examine the extent to which the syndrome of ADHD varies due to differences in threshold of what is considered pathological by each culture and by the research available on cultural bound syndromes.

Rates of hyperactivity in Hong Kong (Ho et al., 1996) are double those reported in other countries (e.g., US). Suppression of aggression, anger and strong emotions or overt behaviors is part of the Chinese culture as well as the Thai culture. This cultural suppression may lead parents to have a lower threshold (or tolerance) for the hyperactive behavior and therefore increased likelihood of reporting hyperactive and disruptive behaviors. A similar threshold effect was observed when comparing vignette ratings of clinicians from different cultures (Mann et al., 1992). Chinese and Indonesian clinicians gave significantly higher scores for hyperactive-disruptive behavior problems to the same vignettes as compared to Japanese and American clinicians. In an analyses of these and other cross-cultural studies of ADHD carried out in Italy, New Zealand, China, Japan, Germany, Brazil, and Puerto Rico, Bird (2002) concluded that the syndromes of the disorder (hyperactivity, inattention and impulsivity) were recognized by parents and clinicians of all these cultures even though the prevalence of the syndromes and the threshold of what was considered pathological varied across the cultures. Across all these cultures the syndromes of ADHD had high internal consistency and factor analyses showed two main factors of inattention and hyperactivity/impulsivity which appeared to be independent from other conditions (Bird, 2002). Similar results were found in a population-based study of 6,645 children from a rural non-Western province in the north of South Africa (Limpopo) (Meyer, Eilertsen, Sundet, Tshifularo, & Sagvolden, 2004). Thus, the results of these studies provide evidence in favor of the face validity of ADHD across different cultures since the core syndromes and features of the disorder as well as the criteria that defined the disorder varied little across cultures. Nonetheless, the prevalence and the threshold of what was considered pathological symptoms varied across cultures. ADHD may be one of those disorders described by Rutter and Nikapota (2002) that has a strong neurological and biological substrate and therefore tends to be universal in all cultures.

Few investigators have provided evidence in favor of the cross-cultural face validity of other than ADHD-specific disorders. What has been more commonly observed in the literature is evidence of a relativistic view portrayed with the identification of syndromes or disorders existent in one culture but not found or observed in other cultures. For example, using the Child Behavior Checklist (CBCL), Weisz et al. (2006) observed syndromes in Thai youngsters that were not matched or even present in US youngsters. A verbally internalizing syndrome and an immature syndrome among Thai boys as well

as a covert delinquency syndrome and a habit problem syndrome among Thai girls were not found among US youth. Similarly, a sex syndrome (e.g., preoccupation with sex, excessive masturbation, behaving like the other sex, general sexual problems) was observed in Thai boys but not found in US youngsters.

Other investigators have added to their child psychiatric epidemiology surveys items to assess syndromes that have been identified by indigenous clinicians or parents but that do not form part of any psychiatric classificatory system. Thus Canino et al. (2004) added several items to a large survey of child psychiatric disorders in the island of Puerto Rico to assess the extent to which the child and adolescent population of the island suffered from 'nerve attacks' ('ataques de nervios'). The syndrome as described in adults consists of screaming uncontrollably, attacks of crying, trembling or becoming physically or verbally aggressive and some individuals have dissociative experiences, seizure-like or fainting episodes and suicidal gestures (Guarnaccia, Rivera, Franco, & Neighbors, 1996). The results of the study showed that 9% of children in the island reported having experienced an 'ataque de nervios', while 26% of children receiving psychiatric services in island clinics also reported the same syndrome (Guarnaccia, Martinez, Ramirez, & Canino, 2005). In both the community and clinic samples, a strong association was found between the cultural syndrome and the presence of psychiatric disorders, particularly anxiety and depression. For the first time in the child literature empirical evidence was provided for the presence of a culturally determined syndrome among children and adolescents. Had the investigators not introduced an additional questionnaire to measure the cultural syndrome, the results of the study would have demonstrated an artificial cultural homogeneity (Kleinman, 1977).

Perhaps the most important conclusion we can derive from studies such as those reported by Weisz et al. (2006) and Guarnaccia et al. (2005) is that cross-cultural similarity cannot be assumed at least for some syndromes, and that we should be aware of the possibility of the existence of syndromes that may not be identified in the DSM-IV. However, the issue of whether these cultural syndromes can be distinguished from specific disorders is still an empirical question to be determined. The syndromes could very well be culturally determined variants of the symptoms of well-known disorders.

### **Whether the risk and protective factors associated with the disorder or syndrome are similar across cultures**

An important source of variation in the prevalence of disorders across cultures may be related to differences across cultures in the risk and protective

factors associated with the pathogenesis of the disease (Rutter & Nikapota, 2002). There is evidence of little or no variation across cultures when several correlates of general psychopathology are compared between Puerto Rico and other international studies (Bird et al., 1988; Bird, 1996) or between two communities in India and other international studies (Hackett, Hackett, Bhakta, & Gowers, 1999), or when examining age and gender related to externalizing and internalizing syndromes (Crijnen, Achenbach, & Verhulst, 1997) or disorders (Nottelmann & Jensen, 1995). Across cultures the behavior disruptive disorders and ADHD are more common in boys than in girls and ADHD tends to decline in adolescence whereas depressive disorders increase (Nottelmann & Jensen, 1995). Similar correlates across cultures have also been consistently reported for major depressive disorder (MDD) and ADHD. A recent international meta-analysis of population-based studies in which MDD was ascertained found that in all cultures and studies MDD was higher for adolescents than children and for adolescent girls than adolescent boys and no evidence was found for an increase in MDD over recent decades (Costello, Erkanli, & Angold, 2006). In his cross-cultural review of ADHD, Bird (2002) described an epidemiologic study of over three thousand Chinese school-boys from Hong Kong (Leung et al., 1996) in which Chinese boys displayed the same neuro-physiological abnormalities, motor and language delays, and other correlates of the disorder described in Western cultures. More recently, Buitelaar et al. (2006) compared a group of North American children with ADHD receiving treatment with a similar group of children from Africa, Austria, and Israel and found that in all sites the majority of patients had a family history of ADHD.

Other studies have found differences in the magnitude of the correlates of conduct disorder (CD) and oppositional disruptive disorder (ODD) across cultures. For example, using the same methods across four communities the Methods for Epidemiologic Child and Adolescent Study (MECA) found that rates of CD and ODD, as well as the rates of antisocial behaviors (ASB), were lower among Puerto Rican children living in San Juan, Puerto Rico (4.1% and 3.0% respectively, as compared to Latino children (mostly of Puerto Rican descent) living in West Chester, New York (5.8% and 9.6% respectively) as well as lower than non-Latino whites and African Americans living in three other mainland communities (Bird et al., 2001). The lower prevalence rates of these disorders in Puerto Rico were not explained by differences in demographic sample composition such as socio-economic status or study methodology. Comparative analyses of the risk and protective factors associated with the disorder showed that the lower prevalence of ASB and CD in the Puerto Rico site was associated with lower rates of risk and greater prevalence of protective factors such as

better family relations in this site as compared to the other sites (Bird et al., 2006). Thus, although the content of the risk and protective factors was the same across sites, the magnitude or prevalence of these factors differed across sites and seemed to be related to the difference in prevalence of these externalizing conditions. Significant differences in the magnitude of the correlates of most specific disorders have also been reported when comparisons are made across three ethnic groups (Mexican American, African American, European American) of adolescents from Texas (Roberts & Roberts, 2007). Yet in this study no difference in the prevalence rates of most disorders was observed once the rates were adjusted for socio-economic and other demographic differences.

The question is whether or not these findings are evidence of a relativistic view or of the lack of validity of the diagnostic criteria. The universalist's view proclaims that the prevalence of disorders varies across cultural groups because the risk and protective factors associated universally with these disorders vary in degree or intensity across groups, not because cultures shape in any way the factors associated with the criteria that define the disorder or the syndrome, the nature of the disorder per se or its natural history. Relativists would argue that the difference in prevalence might be related to how these risk and protective factors differentially influence not only the likelihood of developing the disorder (i.e., prevalence) but the nature of the disorder (i.e., its criteria) and its natural history. The evidence so far favors a universalist approach since most studies to date seem to find similar psychosocial risk and protective factors and what seems to vary across cultures is the magnitude or intensity of these factors.

### **Conditions that tend to co-occur with the disorder or syndrome should co-occur cross-culturally**

Establishing the validity of a disorder based on whether it can be differentiated from other disorders or syndromes in the area of child psychopathology is still an issue of inquiry within any culture because of methodological and conceptual difficulties associated with the empirical research of comorbid diagnostic patterns (Jensen, 2003; Lilienfeld, 2003). Thus establishing the cross-cultural validity of the disorder using this criterion is even more difficult. Angold and Costello (1993) compared the comorbidity patterns of major depressive disorder from several population-based studies held in New Zealand, Ontario, Canada, Puerto Rico, and different communities in the US. The results of this analysis showed that in all cultures the likelihood of a child meeting criteria for any other disorder if he/she met criteria for MDD was significantly greater than

chance, although the magnitude of this association varied by country. In every study conduct/oppositional disorders showed a significant association with MDD that ranged from 3.6 to 9.5 times higher in depressed than in non-depressed children. Similarly, a higher prevalence of anxiety disorders was observed in children with MDD as compared to those without MDD, but the range of association varied from a low of two to 26 times higher. The relationship of MDD with ADHD was not found in every culture or every age range. These results were replicated in another analysis of comorbidity patterns of most common psychiatric disorders (Angold, Costello, & Erkanli, 1999). In all cultures the association between CD/ODD and anxiety disorders was weaker than that between CD and depression and MDD was almost as strongly related to CD/ODD as to anxiety. Similar results were reported by Zoccolillo (1992) on his review of international population studies on the co-occurrence of CD with depression and anxiety disorders. Strong associations between CD/ODD and ADHD and between MDD and anxiety disorders have also been reported in reviews of international population-based studies (Nottelmann & Jensen, 1995; Angold et al., 1999). Thus, the majority of the evidence favors a universalistic view related to commonality in comorbid patterns of the most common child psychiatric disorders. It is nevertheless important to note that although the comorbid patterns were similar across cultures, the magnitude of the association between disorders varied highly across cultures. Differences across cultures in the magnitude or intensity of either comorbid diagnostic patterns or risk and protective factors are not necessarily evidence against a universalistic approach.

### Cross-cultural commonalities in outcomes

In a comparison of the developmental outcomes of psychiatric disorders and syndromes of several international psychiatric epidemiology studies, Nottelmann and Jensen (1995) reported that most studies reported worst outcomes and higher persistence rates of externalizing syndromes and disorders and comorbid disorders in children as compared to those with internalizing syndromes and disorders and non-comorbid conditions. In most studies, children with comorbid disruptive disorders tended to have an early onset of problem behavior and persistent negative outcomes related to poor social and academic functioning. In addition, the continuity patterns were similar: less continuity and persistence of disorders from childhood to early adolescence as compared to mid adolescence and later adolescence.

On the other hand, comparisons of the same ethnic group living in two different contexts (San Juan, PR, and the Bronx, NY) have shown differences in the longitudinal trajectories of ASB and

disruptive behavior disorders (DBD) (Bird et al., 2007). Over a three-year period ASB and DBD rates remained relatively the same in the Bronx for both boys and girls and in both the younger and older age groups, yet in San Juan the rates decreased for both age groups and gender. Further analyses of this data showed that the differences in trajectories between sites were related to the fact that economically disadvantaged children in the Bronx were twice as likely to experience onset of ASB relative to comparable economically disadvantaged youth on the island (OR = 2.05; 95% CI (1.5, 2.8) and this higher onset rates remained even after controlling for the differences across sites in several known risk factors for ASB (Shrout et al., under review). Although at present there is no empirical explanation for these results, it is possible that poverty level does not exert the same risk for ASB in the two contexts and that this may account for the higher onset of ASB in the Bronx. In another study with island Puerto Rican children (Canino, 2004), relative or absolute poverty was not associated with any psychiatric disorder in Puerto Rican children. However, in this same study, parental perception of poverty was found to be related to externalizing disorders. Other studies have found differential effects across ethnic groups of the same risk factor. For example, African American youth living in single parent households were less at risk for psychiatric disorders than non-Latino whites in a similar family structure (Smith & Krohn, 1995; Peebles & Loeber, 1994). The data from these studies suggests the need to examine the extent to which known risks factors of psychopathology may exert a different risk for psychopathology depending on the context or the ethnic and racial group studied. In addition, the results of the Bird et al. (2007) study suggest that important variations in outcomes can be observed within the same culture and these may be related to contextual differences. However, it is important to note that with the scant literature available on cross-cultural outcomes of child disorders it is difficult to reconcile the data available in order to favor or not a universalistic or relativistic view of psychopathology for this criterion. The data so far though seems to favor a relativistic approach.

### Commonalities in treatment response

With few exceptions, most studies that evaluate the response to evidence-based treatments in children using randomized controlled trials (RCT) have been carried out in the United States. Thus, Weisz, McCarty, and Valeri (2006) performed a meta analysis of evidence-based treatment effects for MDD in children and, with the exception of one study carried out in PR and a few in England, all other studies were US studies. The results of this meta analysis showed that for cognitive behavior therapies (CBT), as well as non-CBT therapies, there was a modest positive

treatment effect (mean of .34) but this effect did not hold for more than a year. These results were replicated by Rosselló, Bernal, and Rivera-Medina (in press), who found similar treatment effects in the reduction of depressive symptoms among adolescents randomized to CBT and interpersonal therapy. In another study of Australian adolescents with acute MDD that were randomized to CBT alone, CBT with medication and medication alone, Melvin et al. (2006) found that combined CBT and medication was not superior to either medication or CBT alone and that CBT had larger effects than medication alone. In a study of Spanish adolescents meeting criteria for social phobia the results replicated those found for adolescents with MDD since youth randomized to CBT, social effectiveness therapy or a social phobia intervention for adolescents had a significant treatment effect at one year and five years after the intervention (Garcia-Lopez et al., 2006).

Other evidence-based treatment such as Multi-Systemic Treatment (MST) for antisocial problems has been found to reduce out-of-home placement and increase several positive individual and family outcomes in Norway (Ogden & Halliday-Boykins, 2004), in the US (see Kazdin, 1997 and Elliott, 1998 for review) and London (Farrington & Welsh, 1999).

Other than the few above-mentioned international studies, the vast literature on treatment response referred to ethnic/racial differences of youths living in the US. In a comprehensive review of several RCTs related to this topic, Miranda et al. (2005) concluded that although the data on treatment effects among ethnic/racial minority youths in the US is scant, the findings available support the idea that when evidence-based treatments are developed for MDD, anxiety, ADHD and DBD, these treatments are as effective for African American, Latino and Euro-American youths. Perhaps the most salient RCT study that compared the effects of evidence-based treatment for children of various ethnic/racial groups with ADHD is the Multimodal Treatment Study of Children with ADHD (MTA) (Arnold et al., 2003). In this study, significant differences between African American, Latino and Euro-American youths were observed in symptom reduction post treatment, but these differences disappeared after controlling for public assistance and single parent status. Similarly, several studies have supported the efficacy of MST with African American juvenile offenders (Borduin et al., 1995; Henggeler, Clingempeel, Brondino, & Pickrel, 2002; Henggeler, Melton, & Smith, 1992; Henggeler, Melton, Brondino, Scherer, & Hanley, 1997). In these studies MST led to greater reductions in re-arrests and time incarcerated, these effects lasted as long as 13 years post-treatment (Schaeffer & Borduin, 2005), and youth ethnicity (African American versus Euro-American) did not moderate outcomes. Randomized control trials have also found MST to be effective in decreasing drug use at post-treatment and four years later, with ethnicity (African

American vs. White) not moderating treatment outcomes (Henggeler, Pickrel, & Brondino, 1999; Henggeler et al., 2002). Thus, even though the literature is very limited, for both the international and the US inter-racial/ethnic literature the evidence has consistently shown similar treatment effects for the most common psychiatric disorders in children, supporting a universalistic view for this criterion.

### Reliability and validity of diagnostic assessment tools

The adequacy of a diagnostic instrument or interview in a given culture does not guarantee its reliability or validity in another, even given a faithful translation (Canino & Bravo, 1994). Unless the assessment tool used for diagnosis is developed in the culture for which it is intended, its use requires a comprehensive adaptation process so that the instrument is capable of identifying similar phenomena to those identified by the original version but in a different culture. This process, which has been described in detail elsewhere (Matias-Carrelo et al., 2003), entails achieving equivalence of the adapted with the original instrument in several dimensions: content, semantic, technical, criterion and conceptual. If equivalence in all these dimensions is not achieved, applying cutoffs or diagnostic algorithms may lead to misclassification and distort prevalence estimates. Misclassification can occur, for example, when an instrument does not achieve conceptual equivalence, that is, when the meaning of the construct may differ across cultures, and as a consequence the items do not have the same interpretation or meaning in both cultures. Perhaps the best example of how misclassification can occur because of lack of conceptual equivalence is the results of a study reported by Crockett, Randall, Shen, Russell, and Driscoll (2005) in which the factor structure of the Center for Epidemiological Studies Depression Scale (C-ESD) was compared in three ethnic groups. Their results showed a different factor structure for Puerto Ricans and Cubans, indicating that some of the items of the scale were not as good indicators of depression in these groups as in the non-Latino Whites. For example, for Puerto Ricans a four-factor structure was found in which negative affect and somatic symptoms loaded on one factor, suggesting a co-occurrence of these symptoms and blurring the distinction between affective and somatic symptoms (Crockett et al., 2005).

A similar example of possible misclassification of depression because of poor conceptual equivalence of the diagnostic instrument was reported for Chinese youth (Chen, Roberts, & Aday, 1998). In an in-depth analysis comparing data on the response functions of the DSM Scale for Depression, only 5 of 26 items exhibited differential functioning between Chinese and Anglo American adolescents (Chen,

Roberts, & Aday, 1998). When these five items were deleted from the DSM-generated depression algorithm and new algorithms were formed using the remaining items, no significant changes in estimated prevalence rates of major depression were observed. These examples of misclassification results for both Chinese and Puerto Rican youth can be interpreted as a failure of the diagnostic instruments (developed for Anglos) to capture cultural differences in the expression of depression, or as due to true differences in rates of specific criteria that may define depression in these two cultures (Chang, Morrissey, & Koplewicz, 1995; Canino et al., 1997). The first interpretation of differences in the manifestation of depression is more consonant with the universalist view and the second with the relativistic view. Regardless of which interpretation is more likely, these findings suggest the need to pay careful attention to the psychometrics of a diagnostic instrument and its cultural equivalence in a different culture from that in which the instrument was developed. Concepts central to diagnosing psychiatric disorders in other non-US cultures may not map consistently onto the Western diagnostic system, leading to missed opportunities for diagnosing psychiatric disorders in youths from other cultures.

### What is needed in future cross-cultural research

There is extensive evidence that environmental risk includes varying degrees of genetic mediation, indicating gene-environment interactions (Rutter, Pickles, Murray, & Eaves, 2001; Carbonneau, Eaves, Silberg, Simonoff, & Rutter, 2002). A great many of the environmental risk factors of child psychopathology involve some form of social interaction (e.g., divorce, family dysfunction, lack of social support) in which a person's own behavior plays an important role in the risk feature and this behavior is subject to genetic influences (Rutter, 2000). The crucial factor as stated by Rutter et al. (2001) is to separate environmental effects on the person from person effects on the environment, something very difficult to achieve methodologically. The main problem has been that behavior geneticists have focused on individual variation at the expense of population-based studies. As a result, there is little evidence of gene-environment interactions related to cross-cultural development of psychiatric conditions in children. Twin and familial aggregation studies have provided most of the population-based evidence on gene-environment interaction, but a main problem has been the high attrition rates that compromise the generalizability of the results, and the lack of studies comparing results using the same design across different cultural groups.

One population-based twin study carried out with 865 Puerto Rican twins less than a year old obtained

very high response rates (83%). Consistent with other results, the study found genetic and unique environmental influences on infant temperament. Perhaps the greatest importance of the study (so far, since it is ongoing) is the finding at such an early age of modest shared environmental effects on maternal ratings of adaptability (Silberg et al., 2005). The finding was related to other studies that have shown significant differences in social interactions between Puerto Rican mothers of toddlers and infants and Caucasian mothers (Harwood, Miller, & Irizarry, 1995). Whereas Caucasian mothers valued mastery and self-sufficiency in their children, Puerto Rican mothers valued social interactions and respect for others. These early-established Puerto Rican child-rearing practices have been associated with the lower rates of CD and substance use disorders as compared to other cultural groups observed in many population-based studies carried out in Puerto Rico (Bird et al., 1987; Canino et al., 2004; Bird et al., 2001).

There is a real scarcity of child psychiatric cross-cultural gene environment studies in the literature. The only population-based study identified showed that differences across cultures are likely and that these can be the result of differences in child-rearing practices across the different cultures, but this study did not involve molecular genetics. Separating environmental effects from genetic effects is challenging, and even more challenging cross-culturally, but given the state of the art, future cross-cultural studies must involve not only the study of psychosocial and cultural factors but the study of how these interact with genetics.

### Clinical considerations

The above overview suggests that issues related to culture and context can be central in determining the way in which children's psychopathology may be manifested. Surprisingly, no generally available guidelines, beyond the Appendix on Cultural Formulations of the DSM-IV, have been identified that address practical or theoretical considerations about how culture and ethnic issues affect the assessment or treatment of specific disorders in children. The ideal guideline would give concrete information that would allow the clinician to do a recalibration of the standard criteria of a specific disorder on the basis of its meaningfulness given the youth's culture and context. However, without the availability of such guidelines, the first requirement is for clinicians to determine whether the diagnostic criteria of specific disorders have face validity for the population to be assessed. To judge whether diagnostic criteria are likely to map into Western constructs of illness, clinicians should try to evaluate the context of what appears as illness behaviors. Are its features inherent to cultural beliefs and practices? Are these

behaviors functional and adaptive or do they produce conflict and cause suffering or distress? It is essential to discover similarities as well as differences in how the symptoms are exhibited in a different culture, the clinician being attentive to the cultural context of emotion and behavior to avoid misspecification of the illness (Lewis-Fernandez & Kleinman, 1994).

Qualitative analysis should be taught as part of the clinical training to capture sociolinguistic evidence of meanings and interpretations (Weisner, 1996) when using a Western-based diagnostic paradigm in other cultures. An explanatory model interview of illness should focus on youth practices and everyday activities, peer and friendship relationships, feelings of family that can help unravel the interpretations of youth's symptoms, within their context. Having a grasp of identity formation and self-understanding would provide evidence for cultural motivations and behaviors specific to a practice or context (Lewis-Fernandez et al., 2002). Within this inquisitive approach, the clinician first grasps the culture, its local terminology and what is judged as appropriate or inappropriate and common psychopathology and distress symptoms. It might be more effective initially to explore the degree to which children's emotional and behavioral problems fit along a continuum of adjustment and resilience within a specific culture rather than prematurely labeling particular behaviors as psychiatric symptoms or disorders. For a description of recommendations for helping clinicians assess the extent to which cultural background and context affect the expression or manifestation of symptoms and syndromes, and of the possible existence of culturally bound syndromes, see Table 1.

## Conclusions

The issue of whether child psychiatric disorders or syndromes are universal across culture or relative to context and culture continues to be debated. It is nevertheless clear that it is necessary to make distinctions between overall psychopathology and specific syndromes or disorders if any useful information on the extent to which culture and context can affect disorders is to be obtained. Unfortunately, empirical evidence that attests for the cross-cultural validity of diagnostic criteria for each child disorder is non-existent. In addition, the cross-cultural empirical evidence related to the four criteria described by Robins and Guze (1970) was limited and often contradictory, making it difficult to reach any definitive conclusion on whether we should question the feasibility of a universal taxonomy or not. What has become clear, though, is that the cross-cultural validity of specific disorders may vary drastically depending on the disorder. Thus, the data for ADHD seems to point consistently towards a

universal syndrome, but the data for CD and ODD seems to be less clear and possibly more subject to variation across cultures. Thus, a combined relativistic and universalistic view, as suggested by Rutter and Nikapota (2002), may be the most prudent choice given the state of the art in the cross-cultural validity of child psychiatric disorders. Future studies in which the extent to which gene-environment interaction affects the development of disorders cross-culturally may shed light on this important issue. However, within the constraint of the scant cross-cultural data available, we can conclude that at present the vast majority of the evidence favors the universalistic view at least for three of the criteria: risk and protective factors, comorbidity and treatment response. The cross-cultural evidence of the existence of cultural syndromes not existent in other cultures, the specific clusters of symptoms that define depression among Chinese youths, and the lack of consistency of long-term outcomes for anti-social and conduct problems favor a relativistic view. The available data on the commonality of risk and protective factors associated with child disorders points mostly towards differences in the magnitude of these factors cross-culturally, but this does not seem to contradict the universalistic view.

The conceptual understanding of the assumptions underlying a universalistic versus a relativistic approach to child psychopathology may have little bearing on the application that clinicians make of the psychiatric nosology, whether it is the one exemplified by the American Psychiatric Association (DSM-IV; APA, 1994) or whether it is the international classification (ICD-10; WHO, 1992). As stated by Hackett and Hackett (1999), 'the validity of a diagnostic system lies in whether it ultimately helps the patient, not whether it conforms to irreconcilable positions of medial anthropologists or universalists' (p. 226). Even though DSM-IV may state that clinicians should consider contextual and cultural factors in making their diagnosis, the classification provides no operational or explicit criteria on how to apply this knowledge for clinicians making a diagnosis across cultures. Furthermore, it provides no exclusionary criteria based on whether the social and contextual factors that are related to the disorder are adaptive to a child with no internal dysfunction (Wakefield et al., 2002). In part this may be due to the fact that the expert panel guiding the DSM-IV development could not reach a consensus on the extent to which culture and context should be incorporated into the nosology and opted for placing all culture-bound syndromes and cultural considerations in an appendix (Canino et al., 1997). Given this scenario, it is easy to conceive that inadequate understanding by the clinician of the interplay between social, cultural and contextual factors in the development of disorders or syndromes may result in either over-identification (false positives) or under-identification (false negatives) of cases (Alegria &

**Table 1** Ten recommendations for helping clinicians assess the extent to which cultural background and context affect the manifestation of symptoms and syndromes

1. Assess lifestyle behaviors, social norms, everyday practices and activities relevant for eco-cultural adaptation and survival.	Determine what is considered pathological versus normal behavior in youth's environment. Inquire about youth's practices and everyday activities, peer relationships, and family in order to interpret symptoms within their context. Having a grasp of child's identity formation and child's self-understanding would provide evidence for cultural motivations and behaviors specific to the context and culture. For example, 'running away from home' under conditions of abuse might be viewed differently than 'running away' from a nurturing family environment.
2. Determine whether diagnostic criteria of specific disorders have face validity for the population to be assessed.	For example, criteria of time, simultaneity of symptoms and comparative assessment (e.g., worries more than usual) may not have same significance or relevance for each informant. Asking parents or adolescents whether behaviors occur more or less often than in a typical, similar-aged child may be challenging when parents or child might not share a concept of typical behavior (Cauce et al., 2002). Negatively endorsing these questions may not necessarily imply the psychiatric illness is absent. For example, for anorexia, recognition by an outsider of low weight as a negative outcome may not be endorsed in certain cultures (Alegría et al., 2007), since receiving feedback about weight might be an unlikely event.
3. Capture sociolinguistic evidence of meanings, labels and interpretations when using a Western-based diagnostic paradigm in other cultures, and use them throughout the interview.	Within this inquisitive approach, the clinician first comprehends the culture, local terminology, and commonly-regarded psychopathology and distress symptoms (Weisner, 1996). What words are commonly used to label behavior or signs of children's emotional or behavioral problems? How do people in a community know that children have those problems? What behaviors do they display? It might be more effective to explore the degree to which the child's emotional and behavioral problems fit along a continuum of adjustment and pathology within a specific culture rather than prematurely labeling particular behaviors as psychiatric symptoms or disorders.
4. Simplify the cognitive complexity of assessment questions to facilitate shared meaning between clinician and youth.	Clarify your need to understand in order to help effectively as a clinician, and your motivation to correctly interpret the information, particularly if you come from a different culture than the patient. Explain that you might repeat some questions to ensure you capture the exact meaning, and that this does not indicate a lack of listening skills.
5. Evaluate the context of what appears as illness behavior to judge whether diagnostic criteria are likely to map onto Western constructs of illness.	Are these behaviors functional and adaptive, or do they produce conflict and cause suffering or distress? Inquiring about the impact of these behaviors or symptoms might assist in establishing whether they cause impairment or dysfunction in role performance. Asking how these behaviors and symptoms have had an impact on what the child does (e.g., role), in who he is (e.g., personal identity), or in how others perceive him (e.g., social identity) might be useful to ascertain whether it is leading to psychopathology. Asking the child and parents what they fear (Kleinman & Benson, 2006) about these behaviors and symptoms might also facilitate grasping whether these have significance as a psychiatric illness.
6. Exchange of the clinician's and patient's social identities might be necessary.	The process of diagnostic assessment will greatly depend on the identity and social positioning of the patient and clinician (Groleau, Young, & Kirmayer, 2006). This might entail the clinician sharing her/his social background (e.g., age, race, national origin, family position, education, professional and family-related identity), as this might help to create an atmosphere of trust and model what information is or is not disclosed. It also requires the clinician to explore the patient's social position, including class, religion, education, ethnicity, national origin, sexual orientation, immigration history, family position, integration in the community, as well as intergenerational conflicts in the family.
7. Cross-validate your own assumptions as a clinician.	Question several potential informants regarding your conceptions of the non-verbal and verbal communication of distress, the child's mental illness and functioning and the family's functioning. If available, consultation by a cultural liaison (Kirmayer, Young, & Robbins, 1994) that has expert knowledge of the culture and community might guarantee proper interpretation of the signs, behaviors and symptoms. There is evidence that certain facial expressions are more linked to certain moods in a US resident, but the same facial expressions did not lead to those subjective positive feelings in members of non-Western cultures (Russell, 1994).
8. Appraise the child's, parents' and teachers' 'distress threshold' and coping styles regarding children's identified behavioral problems.	A distress threshold model by Weisz et al. (1988) considers the effect of culture setting adult thresholds for distress over child problems, which influence if problems are considered serious. This can aid evaluation of whether the behavior is being judged within the context of parents or teachers being under stress themselves. As a consequence, parents/teachers might have potentially low tolerance for certain behaviors that might be viewed as emotional or mental health problems in the child. Or they might have high tolerance for certain behavioral problems while the child labels them as problematic (Roberts, Alegría, Roberts, & Chen, 2005). It can also be instrumental in detecting whether the child might have a high distress threshold and may be refusing to talk about certain symptoms or traumatic events (Lopez, Boccellari, & Hall, 1988). For example, Chiu (1994) presents data to suggest that Blacks might be more tolerant of depressive symptoms.
9. Reflect on whether you (e.g., the clinician) are doing 'dynamic sizing.'	'Dynamic sizing' (Sue, 1998) is generalizing or individualizing the behaviors or symptoms of patients of a particular cultural or contextual background. This is essential to reduce stereotyping (Hwang, 2006) of diverse cultures, in the absence of cultural or contextual anchoring knowledge.
10. Have a skeptical approach to the results of standardized tests.	Because of language and interpretation difficulties, some of the standardized tests for children might be invalid and only confound the diagnostic assessment (Roysircar-Sodowsky & Kuo, 2001). In evaluating the validity of this information, it is important to find out the conditions of the evaluation as well as the expertise of the evaluator in cross-cultural assessment and language competency of the child.

McGuire, 2003). There is a crucial need to provide clinicians with clear and practical guidelines on the extent to which cultural background and context affect the expression or manifestation of symptoms and syndromes, and of the possible existence of culturally bound syndromes.

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