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Letter to the Editor

All that shines is not psychosis: a cautionary note on the assessment of psychotic symptoms in childhood and adolescence

Kelleher and co-workers' (2012) recent contribution addresses crucial issues in research on psychosis-proneness with potential implications for prevention. By revising the prevalence studies on psychotic-like experiences (PLEs) in children and adolescents, Kelleher *et al.* (2012) provide a comprehensive map of mainstream empirical approaches in the field, but also reveal major flaws in the clinical and epidemiological validity of the results.

For example, two studies (Poulton *et al.* 2000; Welham *et al.* 2009) are quoted in support of the higher risk of psychosis in adulthood following reports of childhood or adolescent psychotic symptoms. However, in Poulton *et al.* (2000) the data show that out of the 654 individuals screened at follow-up only 13 received a diagnosis of schizophreniform disorder. Of these only nine out of 95 participants were considered with 'weak' symptoms at age 11, and three out of 12 of those with 'strong' symptoms at age 11. Overall, of the 107 children considered at risk of psychosis from their screening, only 12 (11%) developed psychosis in the following years. In Welham *et al.* (2009) the evidence in favour of early screening procedures is based on 56 adult positive cases out of a birth cohort ($n=3573$) assessed at ages 5 and 14. Unfortunately, the paper does not report a detailed description of the symptoms experienced and their distribution. In both studies the figures are statistically significant, but rather evanescent for epidemiological and clinical purposes. The low sensitivity of the assessment measures have also aroused clinical concerns including exposing young individuals to unnecessary assessment procedures and potential risk of stigmatization (Corcoran *et al.* 2005).

Moreover, the large part of the empirical literature reviewed by Kelleher *et al.* (2012) assumes that children younger than 14 years old can unequivocally understand a question on 'hearing voices no one else can hear' with the same semiological subtlety of a clinician. This issue becomes evident when considering the question 'Do you ever hear voices when you are alone?' In this case, the prevalence estimates

(i.e. 22% in youths aged 12–16 and 32% in those aged 12–18) are plausibly over-inflated for the very fact that children may have replied thinking about a real experience (i.e. really hearing voices when alone) rather than guessing the research's focus on hallucination-like experiences. Several studies have estimated the lifetime prevalence of any mental disorder to range between 10% and 36% (Alonso *et al.* 2004; Kessler *et al.* 2009). It seems unrealistic that prevalence figures for auditory hallucinations in children equates to the lifetime prevalence of mental disorders in the general population and it may be reasonable to suggest that some of the items contained in the current assessments might result in a gross overestimation of psychosis risk. Indeed, a growing empirical literature (e.g. Simonds *et al.* 2009) indicates that the specificity of some of the PLEs might be very limited and that they probably intercept a broad spectrum of sub-threshold psychopathology not necessarily forerunning psychosis, but also anxiety or affective disorders.

The appraisal of unusual subjective experiences and the role of emotions have been suggested to play a more crucial role in exacerbating and consolidating psychotic symptoms (Yung & McGorry, 1996; Freeman & Garety, 2003; Cella *et al.* 2008; Preti *et al.* 2011). These research findings suggest that the role of associated features (e.g. appraisal and emotional context) may be as important for the development of psychosis as the frequency and content of the unusual experience *per se*. Without such caveats, stating that 'psychotic symptoms are common in childhood and adolescence' has the same heuristic value of the sentence 'rain [i.e. a potential prodrome for hydrological disasters] is common in the northern hemisphere'.

Declaration of Interest

None.

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The authors reply

All that shines is not psychosis . . . but is still clinically important

We thank Preti and colleagues for their interest in our systematic review and meta-analysis on the prevalence of psychotic symptom in the community (Kelleher *et al.* 2012a). The authors raise a very important issue regarding our emerging understanding of the clinicopathological significance of psychotic symptoms in the population. As the term suggests, psychotic symptoms have traditionally been considered to relate to psychotic disorder. Indeed, more than 10 years ago Poulton *et al.* (2000) demonstrated that psychotic symptoms in childhood predicted an increased risk of psychotic disorder in adulthood. These findings led to a great deal of interest in studying young people with psychotic symptoms as a means of exploring risk for psychosis. Preti and colleagues rightly point out, however, that while childhood psychotic symptoms were associated with a relative increase in risk for psychosis, the absolute risk for psychotic disorder among young people with psychotic symptoms remained low. This raises the question: 'are psychotic symptoms clinically important?'

A number of more recent population surveys have shown that individuals who report psychotic symptoms are also more likely to report symptoms of non-psychotic psychopathology, especially symptoms of depression (Johns *et al.* 2004; Scott *et al.* 2009; Wigman *et al.* 2011). But an important question alluded to by Preti and colleagues is to what extent are population level psychotic symptoms clinically relevant? That is, what proportion of individuals with psychotic symptoms in the community has a psychiatric disorder? And, furthermore, what does the presence of psychotic symptoms tell us about such individuals beyond a given probability that they will have some kind of psychopathology? It is these questions that we have recently sought to address, using two in-depth diagnostic interview studies which assessed psychotic symptoms and DSM-IV psychiatric disorders in young people in the community (Kelleher *et al.* 2012b). In contrast to the relatively low level of association between psychotic symptoms and psychotic disorder (Poulton *et al.* 2000), we found a very strong association between psychotic symptoms and non-psychotic psychopathology. In fact, an absolute majority of young people aged 11–15 years (57–79%) who reported psychotic symptoms (chiefly auditory hallucinations) had at least one lifetime Axis I psychiatric