

Critical review of the the dyslexia myth psychology essay



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The Dyslexia Myth documentary follows 7 year old Tina Ringleys journey through the process of being diagnosed with dyslexia and the reactions thereafter. However, the real focus of the story was on the work of Professor Julian Elliot and others who argued that dyslexia is a myth, as 'poor readers are considered poor readers' regardless of whether or not they are dyslexic (Nicolson, 2005) However, Elliot (2005) has spoken out stating that he meant that dyslexia is a "social construct, used to describe a conglomeration of literacy difficulties that exist" rather than one specific illness. The Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association, 2004) classifies a dyslexic person as having a "reading achievement, as measured by individual administered standardised tests of reading accuracy or comprehensions, which is substantially below that expected of the given person's age, intelligence and age-appropriate education"; Yet the discrepancy over the definition, or even the existence, of dyslexia has become so widespread that it was considered that dyslexia should be omitted from the DSM-V, due for release in May 2013. However, this decision has provoked widespread controversy, so much so, that dyslexia is now to be included in the latest release. With so much disagreement over the very definition dyslexia, even within the professional community, it is easy to see why the documentary has focused on the different beliefs and may be open to criticism itself due to potential biases.

The DSM-IV of dyslexia mentions the relationship between intelligence levels and reading ability. This is a conventional concept that a dyslexic child will have a high intelligence quotient (IQ) yet low reading levels, suggesting an inability to accurately decode print. There is a problem with using this

concept as a diagnosis, as it is biased towards those with high IQ levels; a high IQ is needed for a discrepancy to be found and thus for a diagnosis to be made. Siegel & Himel (1998) found that the mean IQ scores for older children, were lower suggesting a decline in IQ with age and thus IQ is not static so the discrepancy disappears over time as IQ lowers. As such, young dyslexics may be reclassified as poor readers at a later stage in development despite having the same reading problem. According to Snowling & Hulme (2009) there is no evidence that children who have decoding problems will vary in their responsiveness to teaching, according to their IQ level, and there is also no reason to believe that the cause of these word recognition difficulties are different in children with low IQs. This concept converges with the idea put forth by the documentary, that it was pointless dividing poor readers into dyslexics and non-dyslexics, as their problems are the same. Yet this is contrary to the belief of the IQ discrepancy model that 'poor readers of high and low intelligence need different explanations for their reading difficulties' (Stanovich, 1994)

The auditory deficit theory challenges the specificity of the phonological deficit to suggest that it is secondary to a more basic auditory deficit. The rapid auditory processing theory claims that the deficit lies in the perception of short or rapidly varying sounds (Tallal, 1980). This theory has been supported by evidence that dyslexics show poor performance on a number of auditory tasks, such as frequency discrimination and temporal order judgement (Tallal, 1980). According to this view the auditory deficit is the direct cause of the phonological deficit, and hence of the difficulty in learning to read. The documentary does not mention this theory directly; only

agreeing that the 'brain distinguishes the tiniest sounds in words' and 'if it's working properly children will learn to read'. However, this notion is related more to the phonological deficit hypothesis.

Several other theories have emerged as to the cause of developmental dyslexia, that defer from the relationship of IQ and poor reading, some of which are mentioned throughout the documentary. Perhaps, the most prominent of these is the Phonological Deficit hypothesis. This theory suggests that the predominant cognitive cause of dyslexia is a deficit in the phonological system, caused by problems in the left hemisphere of the brain that control speech and language processes. (Snowling & Hulme, 2009) It explains the impairment of reading in dyslexic's by reinforcing the fact that learning to read requires a grapheme-phoneme correspondence and if these sounds are poorly represented, stored or retrieved, reading will be affected (Ramus et al., 2003). However, whilst dyslexia is seen as an anomaly caused by a selective impairment in phonological processing, the other aspects of dyslexic's language, including vocabulary and grammatical skills, are normal (Goulandris, Snowling and Walker, 2000). To the extent that learning to read requires phonological skills, dyslexic individuals are impaired. However, there are aspects of reading that depend more upon semantic processing, such as reading comprehension (Frith and Snowling, 1983) and exception word reading (Metsala, Stanovich and Brown, 1998), that can be relatively intact. Put simply, the way in which their brain codes phonology is less efficient than that of normally developing children, despite their relative strengths in semantic processing. This problem at the level of phonological

representation causes a range of typical symptoms at the behavioural level (Frith, 1997)

Professor Snowling frequently features in the documentary and she states that the difficulty in reading is found in the manipulation and analysis of speech sounds. However, in early research she found evidence that poor verbal short-term memory and slow automatic naming in dyslexics pointed towards a more basic phonological deficit, perhaps related to the quality of phonological representations, their access and retrieval (Snowling, 2000)The documentary offers the phonological theory as the most plausible cause and defining factor of dyslexia, they distinguish that the impairment of the brain which causes phonological deficits, has no contribution to intellect:

Essentially rubbishing the IQ discrepancy theory. Despite the appeal of the phonological deficit hypothesis of dyslexia, it is not without its critics.

Challenges to the theory have been proposed as it is frequently linked to other theoretical positions: phonological deficits can be traced to lower-level deficits in auditory processing (Tallal, 1980), they cannot explain individual differences in dyslexia (Castles and Coltheart, 1993) and the reciprocal influence of reading on phonology is such that phonological deficits may be exacerbated in dyslexic readers as a result of limited reading experience.

The latter is touched on in the documentary; it suggested that environmental factors, such as disruptive home life, may mean that children are not receiving the exposure to reading they may have in a stable home environment, thus exacerbating the deficit. However, Snowling (2000) comes across as a supporter of this theory, ignoring its inability to explain why sensory and motor disorders occur in dyslexic individuals. The documentary

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and Snowling don't consider this co-occurrence with the phonological deficit as playing a causal role in reading impairment. (Ramus et al., 2003) This bias is evident in the documentary as it excludes any real criticism of the theory; it even endorses a 'reading recovery' programme aimed at overcoming their difficulty in distinguishing sounds. Nicolson (2005) remarks that the documentary does have some valid points on this theory; stating that dyslexics do show phonological difficulties which are a major cause in their difficulty to read. He also states that non-dyslexics poor readers also show equivalent phonological problems.

The cerebellar theory claims that the dyslexic's cerebellum is mildly dysfunctional and as a result a number of cognitive difficulties ensue. As the cerebellum is involved in motor control, it also impacts up speech articulation. It is hypothesised that dysfunctional articulation would lead to deficient phonological representations (Ramus et al., 2003). The cerebellum is also involved with the automisation of tasks which become overlearned such as reading or writing. A weakened capacity to automatise would therefore affect the learning of grapheme-phoneme correspondences.

Fawcett, Nicolson & Dean, (1996) support this theory through as they found there is a poor performance of dyslexics in a large number of motor tasks as well as in dual tasks demonstrating impaired balance automisaiton (Nicolson and Fawcett, 1990) Nicolson, Fawcett and Dean (2001) conclude that difficulties in skill automisation correspond directly to the role of the cerebellum and that dyslexic children show evidence of abnormal cerebellar function through their skill automisation, time estimation, balance and dystonia. However, they conclude that the hypothesis can only be seen as

speculative at this point as their studies were small scale. They did however provide a possible causal explanation of the correlation between dyslexia and abnormal cerebellar function: if the infant has cerebellar impairment then this would cause motor skill impairment and impact on writing, as well as an impact on the articulatory skill and phonological awareness, which in turn affects reading.

The documentary mentions this theory through critique of the ' Tonight' show's broadcast: that exercises in physical coordination will not help children to learn to read. However, if Nicolson et al.,'s (2001) view is correct then theoretically these exercises should improve reading. Yet, many theorists have argued the motor deficits present in dyslexic children are caused by comorbidity with attentional hyperactivity problems. For instance Ramus, Pidgeon and Frith (2002) found that half of their dyslexic group did not experience motor deficits and the other half that did had received an additional diagnosis of attention deficit hyperactivity disorder. The hypothesis is skimmed over in the documentary, whether this is due to a lack of knowledge or to fit their programming, it is unclear, but this theory seems to revolve more around automaticity rather than just the coordination mentioned. Nicolson (2003) comments that the documentary has shown, to its credit, that many dyslexic children also face problems which are not literacy based.

The documentary comments that the most commonly held assessment of dyslexics is that they are " gifted children who see letters differently" yet this view is discredited, stating it is only a myth. However, this belief has formed the visual theory of dyslexia (Stein & Walsh, 1997): where dyslexia is <https://assignbuster.com/critical-review-of-the-the-dyslexia-myth-psychology-essay/>

considered a visual impairment that causes problems with processing letters and words. Suggestions for this impairment come in the form of unstable binocular fixations and poor vergence or increased visual crowding (Ramus, Rosen, Dakin, Day, et al., 2003). Whilst the theory does not exclude the phonological theory, it focuses on the visual contribution to reading problems in some dyslexics. The biological basis of this theory is that the dysfunction is based on the divisions of the visual system into two different pathways with two different roles and properties: the magnocellular pathway and the parvocellular pathway (Ramus et al., 2003). The magnocellular pathway is disrupted, leading to deficiencies in visual processing (Stein & Walsh, 1997) Eden, VanMeter, Rumsey & Zeffiro (1996) suggest that the visual deficits of dyslexia may be more widespread than previously thought and may manifest themselves as disorders of phonological awareness, rapid naming, rapid visual processing or motion detection. They go on to remark that studies examining visual processing in dyslexics often find a large overlap between visual deficits and phonological weakness (Eden et al., 1996)

However, it is not clear where these problems arise due to a shared aetiology, or alternatively, one may be the result of the other. Their bias toward the phonological theory, and the large overlap with this theory, may be the reason why the documentary discredits the visual theory; stating that there is no difference in the way poor readers and normal readers view letters. A generalization of the visual theory comes in the form of the magnocellular theory (Stein and Walsh, 1997) which hypothesises that magnocellular dysfunction is not confined to visual pathways but is generalised to auditory and tactile as well. Through a single biological cause,

this theory manages to account for all known manifestations of dyslexia and convinced supporters of visual and auditory theories that visual and auditory disorders in dyslexia are part of a more general magnocellular dys function. Arguably, the impairment of the magnocellular system is slight and not found in all dyslexics (Skottun, 2000), so poor readers might simply be bad at psychophysical tests and therefore there is nothing specific about their visual magnocellular system. This notion corresponds to the 'poor readers are poor readers' sentiment of the documentary.

In conclusion although, the programme highlighted some difficulties in diagnosing dyslexia there has yet to be a consensus on how this should be done. Nicolson (2003) makes the claim that as 50% of the variance in dyslexia is genetic this means that dyslexia has a clear basis, and hence cannot be a 'myth'. The documentary's enquiries into the 'myth argument' are also incoherent in places as the experts argued that phonological problems were the defining feature of dyslexia, yet the phonologically based Dyslexia Institute interventions were not working. Elliot (2005) suggests that instead it may be helpful to define dyslexia as those who fail to make adequate progress despite several years of systematic intervention. Thus, those considered to be dyslexic would prove to be a very small number with seemingly intractable problems.