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**Can early years professionals determine which pre-schoolers have comprehension delays?**

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### **Abstract**

Language comprehension delays in pre-schoolers are predictive of difficulties in a range of developmental domains. In England, early years setting staff are required to assess the language comprehension of two-year-olds in their care. Many use a format based on the Early Years Foundation Stage My Unique Child (EYFS:UCCS ) in which the child's language comprehension is assigned to an age band based on written guidance. Seventy 2½-3-year-olds were assessed on the comprehension component of the Preschool Language Scale (PLS) by psychology graduates. Early years practitioners assessed language comprehension in the same children using the EYFS:UCCS and the WellComm which involves some direct testing. The EYFS:UCCS had poor sensitivity and specificity and the understanding section did not correlate with the PLS. The WellComm had good-acceptable levels of sensitivity and specificity and significantly correlated with the PLS. Early years setting staff can accurately assess the language comprehension of two-year-olds if provided with a tool which gives specific instructions on administration, but current frequently used procedures (EYFS:UCCS) are not fit for this purpose.

## **I Introduction**

Unlike early delays in expressive language, delays in preschool language comprehension have been found to be predictive of a range of unfavourable developmental outcomes (e.g. Chiat and Roy, 2008; Miniscalco, et al., 2006; Beitchman et al., 1994). Although there are few randomised controlled trials which have evaluated the effectiveness of intervention for early comprehension difficulties, those which have involved a reasonable number of intervention hours have found that intervention can be successful (e.g. Gallagher and Chiat, 2009).

While this might indicate a need for universal screening of pre-school language comprehension, currently few tools exist which have both adequate sensitivity (able to identify children who are concurrently delayed when assessed on a benchmark test) and adequate specificity (do not mistakenly identify typically developing children as delayed) (e.g. Nelson et al., 2006). Moreover, even when concurrent sensitivity and specificity are good, current one-off screening measures are not sufficiently accurate for determining which pre-schoolers are likely to have long-term difficulties (Dockrell and Marshall, 2015). Consequently, in the UK paediatricians do not routinely assess language development and until recent years a set format did not exist for pre-school language screening. Instead a language development check is included in the 'two-year check' by Health Visitors (specialist community public health nurses trained to administer a brief general assessment of motor, social and language development, see Cowley et al., 2007). This often involved asking the parents a few questions about their child's language and/or carrying out a short comprehension/expressive activity with the child. Crucially, until recently this assessment did not involve a standardised test and procedures varied greatly between children.

One complementary mode of assessment to accompany health based screening is to use judgements by education professionals since they spend a significant amount of time with

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most children. Unfortunately, research has found assessment methods to have poor sensitivity (Jessup et al., 2008), particularly when assessing younger children (Williams, 2006).

Nonetheless, since in many countries, including the UK, education professionals do assess the language comprehension of the children in their care; it is worth investigating whether poor findings regarding accuracy are due to the competency of education professionals or to the materials they use. In England since 2008, early years settings pass judgement on the language development of the two-year-olds in their care as part of the Early Years Foundation Stage (EYFS) progress check (Mroz and Letts, 2014). The term ‘early years setting’ includes nurseries and preschools, which are roughly equivalent to kindergartens in other English-speaking countries and can include children from birth to 5 years. The EYFS is designed to help early years practitioners (EYPs) determine which two-year-olds require additional support and focuses on three main areas of development: communication and language, physical development and personal, social and emotional development (Blades et al., 2014). The language and communication section is divided into three components: receptive language (understanding), expressive language (speaking/production) and attention and listening.

Early years settings may complete the two-year progress check using any format of their choosing (Blades et al., 2014), although they can use guidance produced by the UK Department for Education (NCB, 2012) to complete a EYFS: Unique Child Communication Sheet (EYFS:UCCS) whereby a staff member assigns each of the child’s developmental domains to an age band (e.g. 16-26 months). EYPs are required to continuously observe children in the setting and use comparisons from the EYFS guidance to identify if a child is progressing at the level expected for his / her age. In some areas of England, this check is integrated with information gathered from Health Visitors.

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However there is concern surrounding this format of assessment as well as the competency of EYPs. Hardly any studies have examined EYPs understanding of language development. The key published evidence comes from research by Mroz, Letts and colleagues (Mroz and Letts, 2008; Mroz and Hall, 2003; Letts and Hall, 2003; Mroz and Letts, 2014) who obtained questionnaire responses from 829 EYPs from early years settings in North East England focusing on training demographics and their knowledge of speech and language development. The authors then interviewed 50 EYPs, focusing on their experiences of working with children with speech, language and communication needs (SLCN) (Mroz and Letts, 2008). Overall, EYPs reported having received minimal training in speech and language difficulties, pre or post qualification (Mroz and Hall, 2003; Mroz and Letts, 2014). Furthermore, such training tended to cover typical language development rather than language delays/disorders and was mostly not administered by specialist tutors (Letts and Hall, 2003). Letts and Hall (2003) reported that staff members who referred children due to suspected SLCN were not necessarily those who were more senior and/or who had received appropriate training (Mroz and Letts, 2008).

Mroz and Hall (2003) carried out an additional measure with the 829 EYPs, requiring them to decide whether to refer three 'case study' scenarios. The first was a 2;6-year-old with limited vocabulary, the second was a typically-developing 3;6-year-old and the third was a 4;6-year-old with receptive and expressive difficulties. While the majority of EYPs correctly classified the older two children, 60% incorrectly identified the 2;6-year-old as 'typically developing' even though 41% of respondents were working with children under 3 years. This does not instil confidence in the ability of EYPs to appropriately complete the two-year check in regards to language development. There were two factors associated with more accurate performance on the 2;6-year-old case. Firstly, those working with children under 24 months were more likely than those working with 2-3-year-olds to give a correct response. Secondly,

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respondents with nursery nurse qualifications were more accurate than were those with playgroup/teaching qualifications. The implication of this is that many EYPs are not able to make accurate judgements regarding whether two-year-olds in their care are developing language typically, at least when asked to simply observe naturalistic expressive and receptive language usage, which is essentially the current procedure highlighted by the EYFS resources (NCB, 2012).

Nonetheless, Blades et al.'s (2014) report, commissioned by the UK DoFE, suggests that amount of previous contact with the child may be of more importance than level of training. However, some children only attend early years settings a few hours a week and may not be well known to staff. Nonetheless, the language of these children must still be monitored by staff in that setting. Therefore, since these children's language proficiency will also be evaluated by EYPs and since this provides a complementary set of evidence to Health Visitor screening, it would be useful to determine whether and how the manner of language screening by EYPs could be improved.

One crucial problem might be that there is no standardised way of delivering the EYFS progress check. A further drawback of the progress check is the width of the age bands used to categorise a child's ability and the fact that these categories overlap. To illustrate, for 'language understanding' the most frequent categories utilised by staff for 2½ -year-olds are either 16-26 months, 22-36 months or 30-50 months. Problematically, assignment to, for example, the 22-36 month-old category does not differentiate between a child who is performing at/exceeding the expected level for his/her age and a child who has a delay of eight months. This issue has been raised in work by McKean et al. (2011) who examined (as part of a larger study) properties of the EYFS Profile (EYFSP) when used by education professionals with 60 three to four year olds. While there was a significant relationship between the EYFSP and directly assessed vocabulary scores, the authors concluded overall

that ‘*the EYFSP alone cannot be relied upon to accurately identify children with language or social and emotional difficulties*’ (2011: 24).

It may be that EYPs can carry out language comprehension assessments with reasonable accuracy if the tool involves some direct assessment and uses an objective scoring criteria. An example of such a tool is the WellCommToolkit (Sandwell Primary Care Trust, 2012) which is currently used by early years settings in a few areas of the UK and was developed in partnership with Speech and Language Therapists. The WellComm requires EYPs to individually test children for approximately five-eight minutes. This measure has concurrent validity when assessed against the Reynell Developmental Language Scales III (RDLS:III; Edwards et al., 1997) with a strong significant correlation of 0.89 when using a population of 87 three to six-year-old (Sandwell Primary Care Trust, 2012). With the same cohort the WellComm showed good sensitivity: 100% of children who had both a receptive and expressive delay and 88% for children with *either* a receptive or expressive delay. However, it had low specificity (58.5%). Unfortunately the WellComm manual only includes information on concurrent validity with a population of 3-6 year old children. There is no norming data or information on concurrent validity for two-year-olds.

The current study therefore investigates, firstly, whether UK EYPs can, without additional training, accurately assess the language comprehension of 2½-3-year-olds; secondly, which instrument (Wellcomm vs. EYFS:UCCS) best serves this purpose; and thirdly, whether EYPs qualifications and experience influence the accuracy of their ratings. For our direct measure of language we chose only the auditory component (receptive language) of the Preschool Language Scale 4 (PLS-4; Zimmerman et al., 2002). Early expressive language delays often ameliorate (e.g. Dale et al., 2003). In contrast, early receptive language delays are associated with poorer outcomes in areas such as social adaptation, mental health and academic achievement (Clegg et al., 2005; Young, et al., 2002)



and are a better predictor of persistent language impairment (Clark et al., 2007). Using the PLS-4, Chiat and Roy (2008) found the auditory component to be the strongest predictor of later receptive and expressive language and identified those from a referred clinical population aged 2;6-3;6 years old who were likely to have long-term language difficulties.

Problematically, although receptive language between 2-3 years has greater predictive validity than expressive language, it has been noted that untrained parents generally find it difficult to assess the receptive language of their children (Paradis et al., 2010). This may also be the case for EYPs who are currently carrying out the two-year progress checks in the UK. Thus we aimed to see whether EYPs are able to accurately assess the receptive language of children aged 30-35 months when using their current procedures (e.g. EYFS:UCCS). We compared this measure to the WellComm when completed by the same EYPs whereby the auditory component of the PLS-4 was our outcome measure:

- *Research Question 1:* Which tool (EYFS:UCCS vs. WellComm), when completed by EYPs, most accurately identifies those 2½-3-year-olds who are delayed (sensitivity) and those who are in the typical range (specificity) as measured by the auditory component of the PLS-4?
- *Research Question 2:* Which tool (EYFS:UCCS vs. WellComm), when completed by EYPs, has concurrent validity for 2½ to 3-year-olds in terms of the Preschool Language Scales 4?
- *Research Question 3:* Is there a relationship between how EYPs complete their measures (EYFS:UCCS, WellComm) and their general experience and/or their qualifications.

## **II Method**

### **1 Participants**

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Eighty-two monolingual children aged 30-35-months-old participated in the study. Participants were selected by opportunity sampling. Initially, letters were sent to a large number of managers of early years settings across the counties of Kent, Essex, Norfolk, Warwickshire, Cambridgeshire and Sussex in the UK explaining the purpose of the study and inviting them to take part. Managers of 12 early years settings agreed to participate, letters were then sent out to parents so that they could give permission for their child to take part. A combination of opt in and opt out consent was used depending on the manager's discretion. Children were included in the study if they were between 30-35 months of age, were monolingual and had no known hearing problems.

The children were assessed by four female British-English-speaking Psychology graduates<sup>1</sup>. Twelve participants were excluded from analysis because data from the PLS-4 was incomplete or erroneously completed. The final sample consisted of 70 children (34 male, 36 female,  $M= 33$  months,  $SD= 1.624$ , range= 30-35 months). Some participants had missing data for individual screening measures. Thus, for the Wellcomm measure  $n=61$  and for the EYFS:UCCS  $n=64$ .

On average the children spent 17 hours per week in an early years setting (range= 3-45 hours). The EYPs who completed the WellComm and EYFS:UCCS worked a range of 12-50 hours per week with children and their qualifications ranged from a BTEC/NVQ level two to a Master's degree.

### **2 Design and Materials**

Our direct measure of receptive language was the auditory component of the PLS-4 and we investigated the degree to which this correlated with two measures completed by the EYPs.

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<sup>1</sup>One of the testers was the first author. Prior to testing, all four testers were trained extensively by the second author via video-recorded pilot testing of 30-35-month-olds in a developmental lab.

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The first was the EYFS: Unique Child Communication Sheet (EYFS; Department of Education, 2012). This asked the EYPs to rate each child in three domains: listening and attention, understanding and speaking. For each section, the EYPs could assign a child to one of 6 age brackets (0-11 months; 8-20 months; 16-26 months; 22-36 months; 30-50 months and 40-60 months) as illustrated on page 28 of the document *The Know How Guide: The EYFS progress check at age 2* (NCB, 2012). For each age bracket and for each language domain EYPs used example language items provided in the document *Development Matters in the Early Years Foundation Stage* (Early Education, 2012). The example items for the 22-36 month bracket for language understanding are:

- Identifies action words by pointing to the right picture, e.g. ‘who’s jumping?’
- Understands more complex sentences, e.g. *‘Put your toys away and then we’ll read a book.’*
- Understands ‘who’, ‘what’, ‘where’ in simple questions (e.g. *Who’s that? What’s that? Where is?*).
- Developing understanding of simple concepts (e.g. *big/little*).

The second EYP-completed language measure was the WellComm Toolkit. The Wellcomm for 30-35-month-olds involves 10 questions: four items on receptive language, five items for expressive language and one which assesses play skills. Here is an example focusing on receptive language:

*Place a box with a lid in front of the child. Give the child a spoon and say:*

*(\*) “Put the spoon in the box”*

*(\*) “Put the spoon under the box”.*

*Place the objects back in their original position after each instruction. The adult does not point or look at the objects and the child must wait until the instruction has been given before following the instruction. Can the child do this for BOTH instructions?*

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According to the manual, a score of 8-10 out of 10 is coded 'green', meaning that the child's language is developing typically (Sandwell Primary Care, 2012).

Finally, EYPs completed a demographic questionnaire concerning the child's age, the number of hours the child spent in day care, and the qualification level and experience in months of the EYP completing the measures. EYPs were asked to report how long they had been working in an early years setting in years / months and how many hours per week they currently spend working with children. They were also asked to select one of the following categories with regards to their qualifications: 1= none, 2= BTEC / NVQ level 1 / GCSEs D-G; 3= BTEC / NVQ level 2/GCSEs A\*-C; 4= NVQ level 3 or 4 /A levels / Certificate of Higher Education / BTEC Professional Diploma; 5= HNC/HND Foundation Degree, 6= Bachelor's degree / BTEC Advanced Professional Diploma / NVQ level 5 / PGCE, 7= Master's or other postgraduate degree.

### **3 Procedure**

EYPs were talked through the EYFS:UCCS, WellComm and demographic questionnaire and were given copies of the EYFS:UCCS guidance (Early Education, 2012) and the WellComm manual instructions (Sandwell Primary Care, 2012). The WellComm items specifically remind the EYP not to provide the child with any non-verbal cues. It was clarified that one individual should complete the EYFS:UCCS, WellComm and demographic questionnaire for a particular child. In most cases this was the child's key-worker (staff member who is responsible for observing and documenting the child's progress). It was ensured that a gap of no more than two weeks was left between administering the PLS-4 and the EYP completed measures. Whilst completing these measures the EYPs were not observed and were blind to each child's PLS-4 score. Each child was also assessed individually on the

auditory component of the PLS-4 (Zimmerman et al., 2002) by one of four Psychology graduates in a quiet area of the early years setting. This generally took 30-40 minutes. When administering the PLS the psychologists were blind to the child's language status as judged by the EYPs.

### **III Results**

All analyses conflate across gender since there were no differences on any measure ( $p > .2$  for all measures). The boys ( $N = 34$ ) had a percentile mean of 47.35 on the auditory component of the PLS ( $SD = 28.02$ ) and the girls ( $N = 36$ ) had a percentile mean of 45.53 ( $SD = 23.62$ ).

#### **1. Which tool most accurately identifies typically-developing vs. comprehension-delayed children?**

To assess the sensitivity and specificity of the EYFS:UCCS and WellComm, the auditory component of the PLS-4 was used as the outcome measure. For the PLS-4 we used the 15<sup>th</sup> percentile as our clinical cut-off (1 SD below the mean) since 1 SD below the mean is frequently used as a criteria for language impairment/delay (e.g. Broomfield and Dodd, 2011; Chiat and Roy, 2008). Ten children in our final sample fell below this threshold on the PLS-4 and for the purposes of our analyses were classified as having 'delayed' receptive language.

To examine the accuracy of the EYFS guidance, the EYFS:UCCS was converted into an ordinal scale. Only one child received a rating of lower than the '16-26 months' category (this was for the 'speaking' section). No child scored higher than the 30-50 month category. The vast majority were assessed as performing appropriately for their age.

Sensitivity was calculated as true positive divided by the sum of true positive and false negative. Specificity was calculated as true negative divided by the sum of false positive

and true negative (Altman & Bland, 1994). Of particular interest was the ‘understanding’ section, since this should in principle measure the same construct as the PLS-4 auditory component, and therefore should have the highest specificity and sensitivity of all screening measures we used. However the EYFS:UCCS understanding measure had very low sensitivity (0.2), reflecting that, when using this guidance, EYPs frequently did not detect those children who were at risk for receptive language delays/impairments (see Table 1).

INSERT TABLE 1 ABOUT HERE

We then investigated whether our sensitivity/specificity measure for the EYFS:UCCS would improve if we included the ‘attention and listening’ and ‘speaking’ measures within a sum score, whereby a score of less than 12 was our cut-off for the ‘impaired’ range (as this equates to assessing a child as performing below age level for at least one of the three EYFS:UCCS categories). Using the sum score sensitivity improved but not to an ‘acceptable’ level (0.4). For the Wellcomm, we followed the manual in taking any score of seven or below as indicating a language delay. We found that sensitivity (0.75) was within the ‘good’ criterion and specificity (0.68) was of borderline acceptability (Table 1).

## **2. Concurrent validity of the WellComm vs. EYFS:UCCS for 2½- 3-year-olds**

INSERT TABLE 2 ABOUT HERE

To assess the concurrent validity of the EYFS:UCCS and the WellComm we initially compiled a correlation matrix of all the variables (Table 2). There was a significant strong correlation between the WellComm and the PLS-4-auditory ( $r(61) = .563, p < .001$ ), indicating that the WellComm does have concurrent validity for this age range. Importantly, there was a significant strong correlation between a composite of the receptive language items of the WellComm and the auditory component of the PLS-4 ( $r(61) = .441, p < .001$ ), indicating that our sample of EYPs were able to assess the language comprehension of

children in their care between 2½ to 3 years, *if asked to directly assess these children*. In contrast, there was no relationship between the EYFS:UCCS understanding section and the PLS-4 suggesting that when using this measure EYPs were not able to make accurate judgements about a child's comprehension (see Figure 1).

INSERT FIGURE 1 ABOUT HERE

### **3. Relationships between staff screening measure completion and their experience/qualifications.**

Staff qualifications were recorded on a scale of 1-7. Approximately 26% of EYPs had an NVQ level 2 and / or GCSEs level A\*-C; 31% had either an NVQ level 3 or A-levels; 11% had a Foundation degree; 10% had a Bachelor's Degree and 1% had either a Master's or other postgraduate degree. Staff experience was recorded on a continuous scale. However, this data was not normally distributed; rather it showed a tendency towards a bimodal distribution, whereby the majority of staff had been working with children for 16 years or less (and 25% of staff had been working with children for three years or less). Data was therefore analysed using Spearman's rank order correlation, which does not assume data is normally distributed.

Table 3 shows the correlation matrix between all language measures, staff qualifications and amount of experience working in early years settings. There was no relationship between staff experience and the EYFS:UCCS but there were weak relationships between qualification level and EYFS:UCCS understanding ( $r(51) = .306, p = .029$ ). In contrast, a moderate negative correlation was found between the WellComm and EYP experience ( $r(49) = -.340, p = .017$ , whereby EYPs who had been working in their profession for 29 years or more tended to rate children lower on the WellComm than EYPs who had worked for in the profession for 15 years or less.

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INSERT TABLE 3 ABOUT HERE

#### **IV Discussion**

In England, early years settings are required to assess the language of two-year-olds in their care using a format of their choosing. The current study investigated whether EYPs can accurately screen the language of 30-35-month-olds in their care using the method most currently used (EYFS), which involves categorising each child into a particular age band using guidance from the EYFS documentation. We compared EYPs accuracy when using the EYFS method versus an alternative measure, the WellComm. Our direct measure (auditory component of the PLS-4) assessed language comprehension, since this is known to be more predictive of later life difficulties than is expressive language (Beitchman et al., 1996; Chiat and Roy, 2008). Ours is the first study to examine the concurrent validity of the WellComm for children under three years of age and to assess the concurrent validity of the most frequent method used by early years settings in England (EYFS) in relation to language comprehension.

We asked whether the EYFS:UCCS or the WellComm could accurately identify 2½-3-year-olds who are delayed in receptive language development. The EYFS:UCCS was found to have poor sensitivity; using this format, EYPs failed to detect the majority of children who scored on or below the 15<sup>th</sup> percentile on the PLS-4. In contrast, the WellComm showed good levels of sensitivity and borderline acceptable levels of specificity in discriminating ‘typically-developing’ children from those who are delayed. That is, those children who did not score in the ‘green’ range on the WellComm were more likely than not to score on or below the 15<sup>th</sup> percentile on the PLS-4 (and vice versa). Although far from perfect, this result is better than that of many language screening instruments (see Law et al., 2000, for a review).



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Our second research question was whether the EYFS:UCCS or the WellComm have concurrent validity for 2½-3-year-olds. The ‘attention and listening’ and ‘speaking’ sections of the EYFS:UCCS showed a weak correlation with the PLS-4. Most critically, there was no significant relationship between the ‘understanding’ section of the EYFS and the PLS-4. This suggests that when using current tools EYPs are more likely to detect that a child this age is language delayed based on difficulties with expressive language and/or attention/attentive listening. Figure 1 suggests that EYPs tended to score children as performing at the expected level for their chronological age even though the results from our direct measure indicate that around 16% of children were scoring in the delayed range. In contrast, the WellComm correlated with the PLS-4 (with or without the WellComm expressive language items). This contrasts with Mroz and Hall’s (2003) finding that 60% of their sample incorrectly classified a 2½-year-olds with language difficulties as ‘typically-developing’ and therefore, in conjunction with our findings for the EYFS:UCCS, suggests that EYPs are capable of assessing child language comprehension if they are given appropriately structured tools to use.

Our third research question was whether there is a relationship between how EYPs completed the measures (EYFS:UCCS, WellComm) and their experience/qualifications. There were weak relationships between qualification level and how staff completed the EYFS:UCCS, which does link with the findings of Mroz and Hall (2003). However, there was no relationship between qualification level and how the staff completed the WellComm. Thus, although staff are not homogenous in their ability to assess child language, when using the WellComm our sample had on average good accuracy levels, despite the fact that no additional training was given. This may allay some worries as to whether EYPs are sufficiently well trained to screen children’s language (e.g. Blades et al., 2014). One unexpected finding was, that EYPs with the greatest amount of experience working in the

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childcare profession (29 years or more) tended to rate children lower overall on the WellComm than the other EYPs. However, because of the small-scale nature of our study this is difficult to interpret, since for many early years settings only a few EYPs rated children. It is possible that more experienced staff members are assigned as ‘keyworkers’ to children who seem to be experiencing difficulties in behaviour/attention. A future large-scale study is needed in order to explore this question systematically.

Therefore, while previous studies have suggested that education professionals find it difficult to detect language difficulties, particularly comprehension difficulties (e.g. Williams, 2006; Mroz and Hall, 2003; McKean et al., 2011), our study suggests that this difficulty is not due to lack of training but the screening tool used. That is, the same EYPs were quite good at detecting which 30-35-month-olds had language comprehension difficulties when using the WellComm. This raises the question as to what differentiates the WellComm from the EYFS (and other similar methods). The EYFS ‘understanding’ section for 22-36 and 30-50 months lists examples involving the understanding of WH-questions, the understanding of directives containing at least three information-carrying words, the comprehension of adjectival concepts and the understanding of locatives. These are all also covered by the WellComm section for 30-35 months. Therefore, the key difference between the WellComm and the EYFS must be that direct testing is involved or that explicit instructions on test administration are given (particularly removing non-verbal and contextual cues). Whilst for the EYFS:UCCS the EYPs are required to observe the child and reflect, for the WellComm, the EYPs are given explicit instructions. Therefore, the key factor leading to higher accuracy levels of EYPs language screening, particularly for comprehension, involves not the measure content but the degree to which the instructions specify direct testing with the removal of potential non-verbal and contextual cues for comprehension.

Despite promising findings, there are issues of our preliminary study needing further exploration. Firstly our direct measure was not a full-scale language assessment but focused on comprehension. However, since expressive language delays during the two year range have so frequently been found to ameliorate (e.g. Dale et al., 2003) and since the particular measure of receptive language we chose has been found to have good predictive validity (Chiat and Roy, 2008), the current study still has much to contribute. A further caveat is that our sample only included a small number of ‘delayed’ children, which is to be expected given population sampling. Previous studies have obviated this problem by over-sampling clinically referred children (e.g. Pesco and O’Neill, 2012). However, this method is not suitable for determining the accuracy of EYPs language screening, since knowledge of a child’s previous referral/diagnosis would likely bias how the staff rated the language of those children. However, a larger scale study should be carried out to replicate the current findings with a larger number of children with delays in language comprehension.

Furthermore, some children in our sample only attended an early years setting for three hours per week; therefore it could be argued that these children may not be known well enough by staff to be accurately assessed using EYFS guidance. However this is the situation which exists in the UK today. Children who only attend an early years setting for a few hours a week will be assessed by staff and so it is of importance to ensure that staff have a tool that they can use accurately.

A fourth potential issue to consider is that the evidence which early years settings collect relating to language comprehension is not intended to be a ‘language screening’. A related issue is the fact that one-off assessment (particularly if not encompassing a number of language domains) is unlikely to be as accurate for predicting later language or communication difficulties as are multiple assessments over time (Dockrell and Marshall, 2015). The key issue is that English EYPs are required to collect evidence of language

development of two-year-olds, to feed this evidence to parents, and to refer for further assessment those whose language is not developing typically. Specifically, around the time of the ‘two year progress check’, many EYPs must ensure that their information regarding a child’s language development dovetails with that of Health Visitors. Because of this, it is important to assess if EYPs can provide accurate information about a child’s language comprehension abilities and how the accuracy of this information can be improved. The current findings regarding the sensitivity and specificity levels of the WellComm as completed by EYPs are reasonably reassuring regarding the potential of EYPs to contribute accurate information for this process. However, the fact that most EYPs are not using a structured measure such as the WellComm but are instead using materials and procedures similar to the EYFS:UCCS poses cause for concern, in the light of our findings.

### **V Conclusion**

Despite the preliminary status of the current study, we demonstrated that EYPs can accurately assess the language comprehension of the children in their care when provided with structured instruments such as the WellComm Toolkit. This is an important finding, both because EYPs are required to do this and because previous interview data has found that they wish to do this accurately (Mroz and Hall, 2003). Indeed, if EYPs used measures which allowed them to establish with reasonable concurrent validity which children have comprehension difficulties, this would allow staff and parents to modify their rate and complexity of speech, potentially making the language system more accessible to these children. However, the procedures that are most frequently used by EYPs to rate two-year-old language using wide age bands and few language examples appear to be insufficient, particularly for assessing language comprehension.

### **Conflict of interest statement**

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The authors declare that there is no conflict of interest

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Table 1. Sensitivity and specificity of language measures

Measure	Sensitivity	Specificity
EYFS (understanding)	0.2	0.98
EYFS	0.40	0.89
Wellcomm	0.75	0.68

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Table 2. Correlation matrix showing the relationships between age, the auditory component of the PLS, the WellComm and EYFS language measures.

Measure	PLS	WellComm	EYFS atten	EYFS speak	EYFS under
Age in days	.391**	.308*	.290*	.086	.001
PLS		.563***	.314*	.227*	.213
WellComm			.376**	.491***	.442**
WellComm receptive	.441***	.805***	.195	.238	.236
EYFS attention				.591***	.578***
EYFS speaking					.672***

Note: \* -  $p < .05$ , \*\* -  $p < .01$ , \*\*\* -  $p < .001$

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Table 3: Correlation matrix showing the relationships between staff experience, qualification, PLS, WellComm and EYFS language measures

Measure	PLS	WellComm	EYFS attention	EYFS speaking	EYFS understanding
Early years staff experience	-.077	-.340*	.175	-.149	.005
Early years staff qualifications	-.031	.102	.066	.238	.306*

Note: \* -  $p < .05$ ,

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Figure 1: Scatterplot showing the relationship between the PLS and the understanding section of the EYFS

