

Case Worksheet for Learners

Case Goal

Early identification of autism spectrum disorder (ASD) and referral for subsequent specialized developmental services greatly improves long-term outcomes for children with ASD. The American Academy of Pediatrics (AAP) recommends ongoing developmental surveillance at every visit, developmental screenings at 9, 18, and 24 or 30 months, and autism-specific screening at 18 and 24 months.

Key Learning Points of This Case

1. *Perform ASD-specific screening as recommended by the AAP.*

- a. Review the AAP guidelines on screening for ASD. _____

- b. Discuss the importance of screening for ASD as part of developmental surveillance. _____

- c. Choose an appropriate screening tool. _____

- d. Administer and score a screening tool correctly _____

2. *Develop an appropriate management plan based on results of screening for ASD.*

- a. Interpret screening results correctly. _____

- b. Explain the results of screening to parents. _____

- c. Formulate an appropriate plan of care based on screening results. _____

Post Learning Exercise

1. Ask the caregivers of children at the 18-, 24-, and 30-month visits to complete the M-CHAT-R (the M-CHAT-R is available at <https://www.m-chat.org/index.php>).
2. Practice explaining the process of screening to families and describe the limitations of screening tools.
3. Score the M-CHAT-R screening tools completed by caregivers. If any child scores 3 or more on the MCHAT-R do Follow-Up questions and score the Follow-Up.
4. Discuss the results with families of your patients.
5. Discuss with your preceptor where you would refer a child with a positive screen in your area (for example: audiology, Early Intervention, a developmental pediatrician).

Case Study Part I

It's a busy morning in the NICU, and you, a second-year pediatric resident, think longingly of the lunch you won't be able to have as you quickly sign out your patients. You hurry over to your community clinic, arriving a few minutes late. Your first patient for the afternoon is a baby you have been following since birth. You first met the family in the newborn nursery and have enjoyed seeing little Matthew learn to roll over, sit, cruise, and walk.

Matthew is now 18 months old and is coming in for a routine health care maintenance visit. As you enter the room, you smile at Matthew and ask his mother and father how he's doing. "Great," they reply. "He loves to explore our apartment and laughs like crazy when we play peek-a-boo. We have started taking him to the park, and he enjoys playing with blocks." You do a physical exam on Matthew and note that he has said very few words during the assessment. His eye contact is variable. When you ask about his language, Matthew's parents indicate that, although they have noticed he's not saying as many words as they would have anticipated at his age, they attribute this to his being raised in a bilingual household. They indicate he only has a couple of words. You spend a few more moments engaging Matthew in play before going back to the conference room to present to the attending.

Although Matthew is a quiet and sweet boy, you remain concerned about his language and variable eye contact. Given his age, Matthew should have an ASD-specific screening as well as a general developmental screening as part of his 18-month checkup. After discussing Matthew's case with your preceptor, you go back to the family. You discuss the importance of screening with Matthew's parents. You explain to Matthew's parents that screens are not used to diagnose, but can provide important information regarding milestones that Matthew should be reaching. You give Matthew's parents the screening tool to complete.

Your next patient is Claudia, a 2-year-old girl who has just moved to the area from another state. This is Claudia's first visit to the clinic. As you introduce yourself to Claudia, you notice that she stares at the door. You complete a physical exam and look over Claudia's immunization record. You ask Claudia's dad about preschool, and he replies that since Claudia does not speak yet, the family decided not to place her in preschool. You attempt to engage Claudia with toys, but Claudia appears more interested in the buttons on her sweater. You go back to your preceptor and describe Claudia's concerning behavior and lack of words. You and your preceptor agree that these may be signs of ASD. After explaining the routine of screening for ASD at the 18-month and 2-year-old visits, you give the screening tool to Claudia's dad for completion.

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Case Study Part II

Matthew's parents complete the questionnaire and give it back to the nurse. The nurse scores the M-CHAT-R and determines that he has scored a three, putting him at Medium-Risk for ASD. You discuss Matthew with your preceptor, and together you decide to refer to an audiologist and administer the Follow-Up Interview to get additional information about at risk responses on the M-CHAT-R.

Claudia's dad is unsure of the answers to several questions as mom typically cares for Claudia during the day. He asks to speak with you. Upon scoring the M-CHAT-R, you note that Claudia scored a nine and two "unsure" responses, putting her at High-Risk for ASD. You explain to Claudia's dad that some of his responses about Claudia's behavior raised concerns about Claudia's development.

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Case Study Part III - Epilogue

Matthew's parents return the next week for a follow-up appointment to discuss the results of the screening tool, and you conduct the Follow-Up Interview. On the Follow-Up Interview, Matthew passes all the items. You discuss Matthew's development with his parents and ask them if they have any concerns. They state that they do not at this time. You provide ideas for engaging Matthew in creative play, as well as facilitating speech and language development, and you make another health care-maintenance appointment for Matthew during which you will continue to follow his development progress. Per the AAP recommendations, Matthew should have another ASD-specific screen at 24 months or earlier if the parents or physician have concerns.

Claudia and her parents also return the next week so you can obtain further history and complete the M-CHAT-R Follow-Up Interview with her mom and dad. You were concerned by Claudia's results on the M-CHAT-R screener, and you would like to use the Follow-Up Interview to identify the areas of greatest need and where to focus your energies. Claudia's parents' responses note continued concerns regarding Claudia's communication and social skills. For instance, Claudia takes interest in children, but typically does not respond to the presence of others. She does not engage in pretend play and does not play properly with toys, preferring to bang them on the floor. Although she uses her finger to point, she cries and whines when she wants something and does not use gestures or pointing in order to gain attention from others. Claudia also does not imitate others. She occasionally responds to her name, but does not respond when she is focused on a preferred activity. She also has been noted to stare at nothing and wander. Given the presence of continued concerns, you speak in depth with Claudia's parents regarding the possible diagnosis of autism spectrum disorder based on the screening measures. Of note, although some of Claudia's initially reported behaviors of concern are resolved on the M-CHAT-R Follow-Up Interview, and Claudia's dad is unsure of some of Claudia's behaviors, there remain enough concerning behaviors to warrant referral for further evaluation. You address the need for a formal evaluation to clearly delineate Claudia's symptoms. Claudia's parents are in agreement with the concerns, but also wonder how these results are accurate based on such a short time for observation. You refer Claudia for a hearing evaluation and an assessment by an early intervention specialist. You also refer her for a complete evaluation by a developmental specialist.

You schedule a follow-up visit with Claudia and her parents in two months to continue to follow her progress and to ensure that assessments and services are underway.

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Handout I: AAP Screening Guidelines

Surveillance and Screening Algorithm: Autism Spectrum Disorders (ASDs)

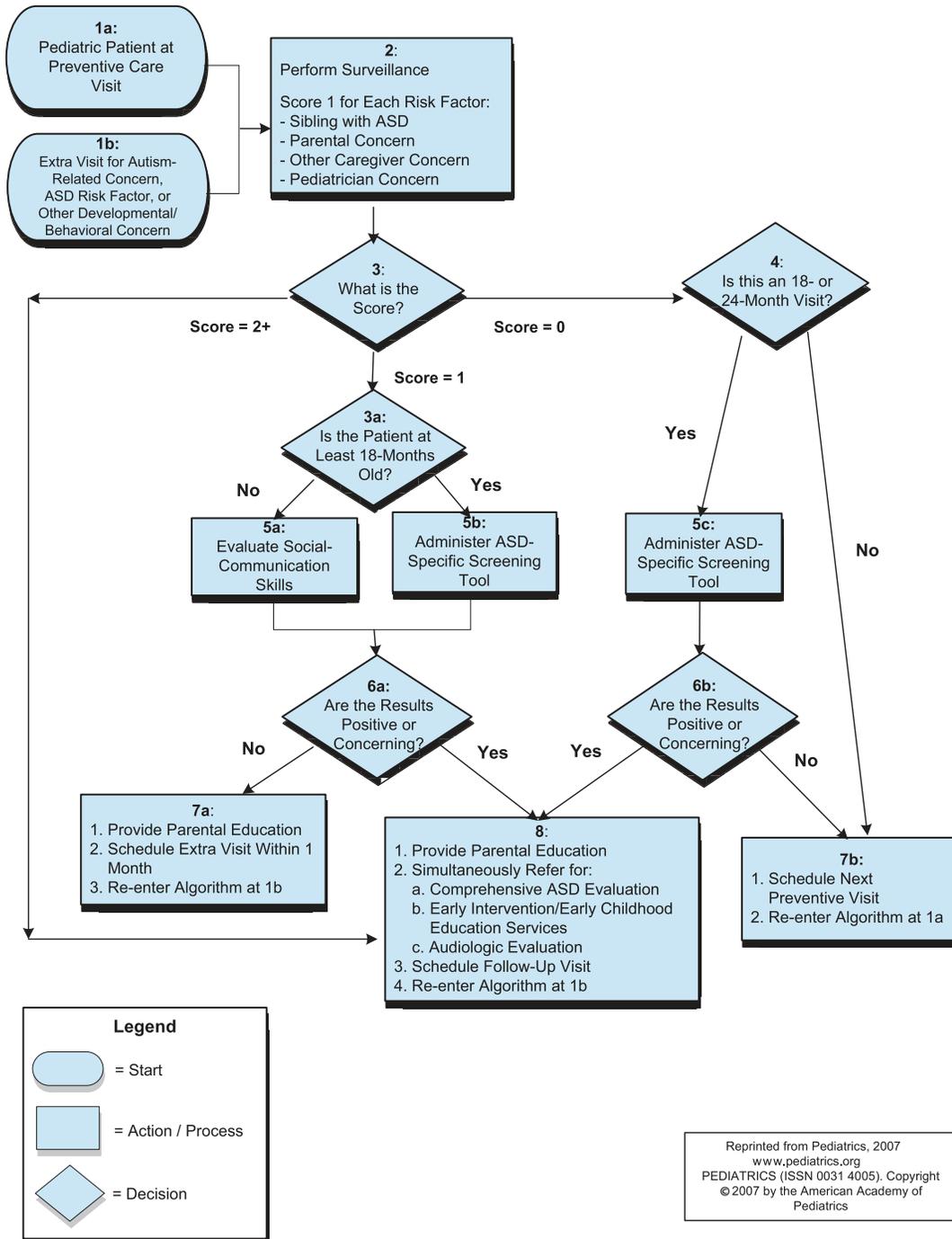


FIGURE 1
Surveillance and screening algorithm: ASDs.

Screening for Autism Spectrum Disorder

Surveillance and Screening Algorithm: Autism Spectrum Disorders (ASDs)

1a:
Pediatric Patient at Preventive Care Visit

1a - Developmental concerns, including those about social skill deficits, should be included as one of several health topics addressed at each pediatric preventive care visit through the first 5 years of life. *(Go to step 2)*

1b:
Extra Visit for Autism-Related Concern, ASD Risk Factor, or Other Developmental/Behavioral Concern

1b - At the parents' request, or when a concern is identified in a previous visit, a child may be scheduled for a "problem-targeted" clinic visit because of concerns about ASD. Parent concerns may be based on observed behaviors, social or language deficits, issues raised by other caregivers, or heightened anxiety produced by ASD coverage in the media. *(Go to step 2)*

2:
Perform Surveillance
Score 1 for Each Risk Factor:
- Sibling with ASD
- Parental Concern
- Other Caregiver Concern
- Pediatrician Concern

2 - Developmental surveillance is a flexible, longitudinal, continuous, and cumulative process whereby health care professionals identify children who may have developmental problems. There are 5 components of developmental surveillance: eliciting and attending to the parents' concerns about their child's development, documenting and maintaining a developmental history, making accurate observations of the child, identifying the risk and protective factors, and maintaining an accurate record and documenting the process and findings. The concerns of parents, other caregivers, and pediatricians all should be included in determining whether surveillance suggests that the child may be at risk of an ASD. In addition, younger siblings of children with an ASD should also be considered at risk, because they are 10 times more likely to develop symptoms of an ASD than children without a sibling with an ASD. Scoring risk factors will help determine the next steps. *(Go to step 3)*

For more information on developmental surveillance, see "Identifying Infants and Young Children With Developmental Disorders in the Medical Home: An Algorithm for Developmental Surveillance and Screening" (*Pediatrics* 2006;118:405-420).

3:
What is the Score?

- 3** - Scoring risk factors:
- If the child does not have a sibling with an ASD and there are no concerns from the parents, other caregivers, or pediatrician: Score=0 *(Go to step 4)*
 - If the child has only 1 risk factor, either a sibling with ASD or the concern of a parent, caregiver, or pediatrician: Score=1 *(Go to step 3a)*
 - If the child has 2 or more risk factors: Score=2+ *(Go to step 8)*

3a:
Is the Patient at Least 18-Months Old?

- 3a** -
- If the child's age is <18 months, *Go to step 5a*
 - If the child's age is ≥18 months, *Go to step 5b*

4:
Is this an 18- or 24-Month Visit?

4 - In the absence of established risk factors and parental/provider concerns (score=0), a level-1 ASD-specific tool should be administered at the 18- and 24-month visits. *(Go to step 5c)* If this is not an 18- or 24-month visit, *(Go to step 7b)*.

Note: In the AAP policy, "Identifying Infants and Young Children With Developmental Disorders in the Medical Home: An Algorithm for Developmental Surveillance and Screening", a general developmental screen is recommended at the 9-, 18-, and 24-or 30-month visits and an ASD screening is recommended at the 18-month visit. This clinical report also recommends an ASD screening at the 24-month visit to identify children who may regress after 18 months of age.

5a:
Evaluate Social-Communication Skills

5a - If the child's age is <18 months, the pediatrician should use a tool that specifically addresses the clinical characteristics of ASDs, such as those that target social-communication skills. *(Go to step 6a)*

5b:
Administer ASD-Specific Screening Tool

5b - If the child's age is ≥18 months, the pediatrician should use an ASD-specific screening tool. *(Go to step 6a)*

5c:
Administer ASD-Specific Screening Tool

5c - For all children ages 18 or 24 months (regardless of risk factors), the pediatrician should use an ASD-specific screening tool. *(Go to step 6b)*

AAP-recommended strategies for using ASD screening tools: "Autism: Caring for Children with Autism Spectrum Disorders: A Resource Toolkit for Clinicians" (in press)*

6a:
Are the Results Positive or Concerning?

6a - When the result of the screening is *negative*, *Go to step 7a*
When the result of the screening is *positive*, *Go to step 8*

6b:
Are the Results Positive or Concerning?

6b - When the result of the ASD screening (at 18- and 24-month visits) is *negative*, *Go to step 7b*
When the result of the ASD screening (at 18- and 24-month visits) is *positive*, *Go to step 8*

7a:
1. Provide Parental Education
2. Schedule Extra Visit Within 1 Month
3. Re-enter Algorithm at 1b

7a - If the child demonstrates risk but has a negative screening result, information about ASDs should be provided to parents. The pediatrician should schedule an extra visit within 1 month to address any residual ASD concerns or additional developmental/behavioral concerns after a negative screening result. The child will then re-enter the algorithm at 1b. A "wait-and-see" approach is discouraged. If the only risk factor is a sibling with an ASD, the pediatrician should maintain a higher index of suspicion and address ASD symptoms at each preventive care visit, but an early follow-up within 1 month is not necessary unless a parental concern subsequently arises.

7b:
1. Schedule Next Preventive Visit
2. Re-enter Algorithm at 1a

7b - If this is not an 18- or 24-month visit, or when the result of the ASD screening is *negative*, the pediatrician can inform the parents and schedule the next routine preventive visit. The child will then re-enter the algorithm at 1a.

8:
1. Provide Parental Education
2. Simultaneously Refer for:
a. Comprehensive ASD Evaluation
b. Early Intervention/Early Childhood Education Services
c. Audiologic Evaluation
3. Schedule Follow-up Visit
4. Re-enter Algorithm at 1b

8 - If the screening result is *positive* for possible ASD in step 6a or 6b, the pediatrician should provide peer reviewed and/or consensus-developed ASD materials. Because a positive screening result does not determine a diagnosis of ASD, the child should be referred for a comprehensive ASD evaluation, to early intervention/early childhood education services (depending on child's age), and an audiologic evaluation. A categorical diagnosis is not needed to access intervention services. These programs often provide evaluations and other services even before a medical evaluation is complete. A referral to intervention services or school also is indicated when other developmental/behavioral concerns exist, even though the ASD screening result is negative. The child should be scheduled for a follow-up visit and will then re-enter the algorithm at 1b. All communication between the referral sources and the pediatrician should be coordinated.

AAP information for parents about ASDs includes: "Is Your One-Year-Old Communicating with You?"* and "Understanding Autism Spectrum Disorders."*

*Available at www.aap.org

FIGURE 1
Continued

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Handout II: Screening Tools Chart

Screener	Ages	Format	Items	Time to Complete	Available Languages	Information and Free Downloadable Templates	Scoring Templates and Instructions
Checklist for Autism in Toddlers (CHAT)	18–24 mo+	Interview or questionnaire + observations	Section A: 9 yes/no parent questions Section B: 5 clinician observations	5 min	English, Dutch, Greek, Persian, Spanish, Swedish	http://autismresearchcentre.com/arc_tests	www.ny2aap.org/CHATscoring.pdf
Childhood Autism Spectrum Test (CAST)	4–11 yr	Parent-completed questionnaire	37 items	10 min	English, Dutch, French, Greek, Persian, Slovak, Slovenian, Spanish, Swedish	http://autismresearchcentre.com/arc_tests	www.autismresearchcentre.com/tests/cast_test.asp
Modified Checklist for Autism in Toddlers, Revised with Follow-Up (M-CHAT-R/F)	16–30 mo	Parent-completed questionnaire	20 items	5–10 min	Arabic, Bangla, Chinese, Dutch, French, German, Greek, Gujarati, Icelandic, Japanese, Kannada, Kurdish, Portuguese, Sinhala, Somali, Spanish, Tamil, Turkish, Vietnamese, Urdu	https://www.m-chat.org/about.php	https://www.m-chat.org/_references/mchatdotorg.pdf
Pervasive Developmental Disorders Screening Test-II, Primary Care Screener (PDDST-II, PCS)	18–48 mo	Parent-completed questionnaire	22 items	10–15 min	English, Spanish	Available for purchase at: http://www.pearsonassessments.com/haiweb/cultures/en-us/productdetail.htm?pid=076-1635-106&Community=CA_Ed_AI_Early	
Communication and Symbolic Behavior Scales Developmental Profile (CSBS DP) Infant-Toddler Checklist	9–24 mo	Broadband screener used to detect communication delays including in children with ASD	24 items	5–10 min	English, Chinese, German, Slovenian, Spanish	http://firstwords.fsu.edu/pdf/checklist.pdf	http://firstwords.fsu.edu/pdf/Checklist_Scoring_Cutoffs.pdf
Screening Tool for Autism in 2-Year Olds (STAT)	24–36 mo	Screener is administered by trained examiners	12 activities that look at play, imitation, communication	20 min	not applicable	http://kc.vanderbilt.edu/triad/training/page.aspx?id=821	

Screening Tools Chart References

Overall

Johnson CP, Myers SM, Council on Children with Disabilities. American Academy of Pediatrics. Identification and Evaluation Autism Spectrum Disorders. *Pediatrics*. 2007;120(5):1183-215.

Schonwald A. Developmental Screening Tool Kit for Primary Care Providers. 2006-2007. www.developmentalscreening.org.

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M-CHAT-R/F™

Robins D, Fein D, Barton M. Modified Checklist for Autism in Toddlers, Revised with Follow-Up. M-CHAT-R/F(<https://www.m-chat.org/about.php>, Accessed April 2015

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Robins DL. M-CHAT Information. http://www2.gsu.edu/~psydlr/Diana_L_Robins_Ph.D..html

PDDST-II

Pervasive Developmental Disorders Screening Test-II (PDDST-II). American Speech-Language-Hearing Association website. [http://www.asha.org/SLP/assessment/Pervasive-Developmental-Disorders-Screening-Test-II-\(PDDST-II\).htm](http://www.asha.org/SLP/assessment/Pervasive-Developmental-Disorders-Screening-Test-II-(PDDST-II).htm).

Suggested Citation: Scharf RJ, Sia JH, Pappas D, Rosenberg M. Screening Tools Chart. Developed for the Autism Case Training A Development-Behavioral Pediatrics Curriculum. 2011.

Handout III: Blank M-CHAT-R Form

Permissions for Use of the M-CHAT-R/F™

The Modified Checklist for Autism in Toddlers, Revised with Follow-Up (M-CHAT-R/F; Robins, Fein, & Barton, 2009) is a 2-stage parent-report screening tool to assess risk for Autism Spectrum Disorder (ASD). The M-CHAT-R/F is available for free download for clinical, research, and educational purposes. Download of the M-CHAT-R/F and related material is authorized from www.mchatscreen.com.

The M-CHAT-R/F is a copyrighted instrument, and use of the M-CHAT-R/F must follow these guidelines:

- (1) Reprints/reproductions of the M-CHAT-R must include the copyright at the bottom (© 2009 Robins, Fein, & Barton). No modifications can be made to items, instructions, or item order without permission from the authors.
- (2) The M-CHAT-R must be used in its entirety. Evidence indicates that any subsets of items do not demonstrate adequate psychometric properties.
- (3) Parties interested in reproducing the M-CHAT-R/F in print (e.g., a book or journal article) or electronically for use by others (e.g., as part of digital medical record or other software packages) must contact Diana Robins to request permission (DianaLRobins@gmail.com).
- (4) If you are part of a medical practice, and you want to incorporate the first stage M-CHAT-R questions into your own practice's electronic medical record (EMR), you are welcome to do so. However, if you ever want to distribute your EMR page outside of your practice, please contact Diana Robins to request a licensing agreement.

Instructions for Use

The M-CHAT-R can be administered and scored as part of a well-child care visit, and also can be used by specialists or other professionals to assess risk for ASD. The primary goal of the M-CHAT-R is to maximize sensitivity, meaning to detect as many cases of ASD as possible. Therefore, there is a high false positive rate, meaning that not all children who score at risk will be diagnosed with ASD. To address this, we have developed the Follow-Up questions (M-CHAT-R/F). Users should be aware that even with the Follow-Up, a significant number of the children who screen positive on the M-CHAT-R will not be diagnosed with ASD; however, these children are at high risk for other developmental disorders or delays, and therefore, evaluation is warranted for any child who screens positive. The M-CHAT-R can be scored in less than two minutes. Scoring instructions can be downloaded from <http://www.mchatscreen.com>. Associated documents will be available for download as well.

Scoring Algorithm

For all items except 2, 5, and 12, the response "NO" indicates ASD risk; for items 2, 5, and 12, "YES" indicates ASD risk. The following algorithm maximizes psychometric properties of the M-CHAT-R:

- LOW-RISK:** **Total Score is 0-2;** if child is younger than 24 months, screen again after second birthday. No further action required unless surveillance indicates risk for ASD.
- MEDIUM-RISK:** **Total Score is 3-7;** Administer the Follow-Up (second stage of M-CHAT-R/F) to get additional information about at-risk responses. If M-CHAT-R/F score remains at 2 or higher, the child has screened positive. Action required: refer child for diagnostic evaluation and eligibility evaluation for early intervention. If score on Follow-Up is 0-1, child has screened negative. No further action required unless surveillance indicates risk for ASD. Child should be rescreened at future well-child visits.
- HIGH-RISK:** **Total Score is 8-20;** It is acceptable to bypass the Follow-Up and refer immediately for diagnostic evaluation and eligibility evaluation for early intervention.

Screening for Autism Spectrum Disorder

M-CHAT-R™

Please fill out the following about how your child usually is. Please try to answer every question. If the behavior is rare (e.g., you've seen it once or twice), please answer as if the child does not do it.

1. If you point at something across the room, does your child look at it? (FOR EXAMPLE , if you point at a toy or an animal, does your child look at the toy or animal?)	Yes	No
2. Have you ever wondered if your child might be deaf?	Yes	No
3. Does your child play pretend or make-believe? (FOR EXAMPLE , pretend to drink from an empty cup, pretend to talk on a phone, or pretend to feed a doll or stuffed animal?)	Yes	No
4. Does your child like climbing on things? (FOR EXAMPLE , furniture, playground equipment, or stairs)	Yes	No
5. Does your child make <u>unusual</u> finger movements near his or her eyes? (FOR EXAMPLE , does your child wiggle his or her fingers close to his or her eyes?)	Yes	No
6. Does your child point with one finger to ask for something or to get help? (FOR EXAMPLE , pointing to a snack or toy that is out of reach)	Yes	No
7. Does your child point with one finger to show you something interesting? (FOR EXAMPLE , pointing to an airplane in the sky or a big truck in the road)	Yes	No
8. Is your child interested in other children? (FOR EXAMPLE , does your child watch other children, smile at them, or go to them?)	Yes	No
9. Does your child show you things by bringing them to you or holding them up for you to see – not to get help, but just to share? (FOR EXAMPLE , showing you a flower, a stuffed animal, or a toy truck)	Yes	No
10. Does your child respond when you call his or her name? (FOR EXAMPLE , does he or she look up, talk or babble, or stop what he or she is doing when you call his or her name?)	Yes	No
11. When you smile at your child, does he or she smile back at you?	Yes	No
12. Does your child get upset by everyday noises? (FOR EXAMPLE , does your child scream or cry to noise such as a vacuum cleaner or loud music?)	Yes	No
13. Does your child walk?	Yes	No
14. Does your child look you in the eye when you are talking to him or her, playing with him or her, or dressing him or her?	Yes	No
15. Does your child try to copy what you do? (FOR EXAMPLE , wave bye-bye, clap, or make a funny noise when you do)	Yes	No
16. If you turn your head to look at something, does your child look around to see what you are looking at?	Yes	No
17. Does your child try to get you to watch him or her? (FOR EXAMPLE , does your child look at you for praise, or say “look” or “watch me”?)	Yes	No
18. Does your child understand when you tell him or her to do something? (FOR EXAMPLE , if you don't point, can your child understand “put the book on the chair” or “bring me the blanket”?)	Yes	No
19. If something new happens, does your child look at your face to see how you feel about it? (FOR EXAMPLE , if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?)	Yes	No
20. Does your child like movement activities? (FOR EXAMPLE , being swung or bounced on your knee)	Yes	No

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Handout IV: M-CHAT-R for Matthew

:30

MATTHEW

M-CHAT-R™

Please answer these questions about your child. Keep in mind how your child usually behaves. If you have seen your child do the behavior a few times, but he or she does not usually do it, then please answer **no**. Please circle **yes** or **no** for every question. Thank you very much.

1. If you point at something across the room, does your child look at it?
(FOR EXAMPLE, if you point at a toy or an animal, does your child look at the toy or animal?) Yes No
2. Have you ever wondered if your child might be deaf? Yes No
3. Does your child play pretend or make-believe? (FOR EXAMPLE, pretend to drink from an empty cup, pretend to talk on a phone, or pretend to feed a doll or stuffed animal?) Yes No
4. Does your child like climbing on things? (FOR EXAMPLE, furniture, playground equipment, or stairs) Yes No
5. Does your child make unusual finger movements near his or her eyes?
(FOR EXAMPLE, does your child wiggle his or her fingers close to his or her eyes?) Yes No
6. Does your child point with one finger to ask for something or to get help?
(FOR EXAMPLE, pointing to a snack or toy that is out of reach) Yes No
7. Does your child point with one finger to show you something interesting?
(FOR EXAMPLE, pointing to an airplane in the sky or a big truck in the road) Yes No
8. Is your child interested in other children? (FOR EXAMPLE, does your child watch other children, smile at them, or go to them?) Yes No
9. Does your child show you things by bringing them to you or holding them up for you to see – not to get help, but just to share? (FOR EXAMPLE, showing you a flower, a stuffed animal, or a toy truck) Yes No
10. Does your child respond when you call his or her name? (FOR EXAMPLE, does he or she look up, talk or babble, or stop what he or she is doing when you call his or her name?) Yes No
11. When you smile at your child, does he or she smile back at you? Yes No
12. Does your child get upset by everyday noises? (FOR EXAMPLE, does your child scream or cry to noise such as a vacuum cleaner or loud music?) Yes No
13. Does your child walk? Yes No
14. Does your child look you in the eye when you are talking to him or her, playing with him or her, or dressing him or her? Yes No
15. Does your child try to copy what you do? (FOR EXAMPLE, wave bye-bye, clap, or make a funny noise when you do) Yes No
16. If you turn your head to look at something, does your child look around to see what you are looking at? Yes No
17. Does your child try to get you to watch him or her? (FOR EXAMPLE, does your child look at you for praise, or say “look” or “watch me”?) Yes No
18. Does your child understand when you tell him or her to do something?
(FOR EXAMPLE, if you don’t point, can your child understand “put the book on the chair” or “bring me the blanket”?) Yes No
19. If something new happens, does your child look at your face to see how you feel about it?
(FOR EXAMPLE, if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?) Yes No
20. Does your child like movement activities?
(FOR EXAMPLE, being swung or bounced on your knee) Yes No

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Handout V: M-CHAT-R Form for Claudia

:30

M-CHAT-R™

CLAUDIA

Please answer these questions about your child. Keep in mind how your child usually behaves. If you have seen your child do the behavior a few times, but he or she does not usually do it, then please answer **no**. Please circle **yes** or **no** for every question. Thank you very much.

- | | | |
|---|--------------------------------------|-------------------------------------|
| 1. If you point at something across the room, does your child look at it?
(FOR EXAMPLE, if you point at a toy or an animal, does your child look at the toy or animal?) | <input checked="" type="radio"/> Yes | <input type="radio"/> No |
| 2. Have you ever wondered if your child might be deaf? | <input type="radio"/> Yes | <input type="radio"/> No ? |
| 3. Does your child play pretend or make-believe? (FOR EXAMPLE, pretend to drink from an empty cup, pretend to talk on a phone, or pretend to feed a doll or stuffed animal?) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 4. Does your child like climbing on things? (FOR EXAMPLE, furniture, playground equipment, or stairs) | <input checked="" type="radio"/> Yes | <input type="radio"/> No |
| 5. Does your child make <u>unusual</u> finger movements near his or her eyes?
(FOR EXAMPLE, does your child wiggle his or her fingers close to his or her eyes?) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 6. Does your child point with one finger to ask for something or to get help?
(FOR EXAMPLE, pointing to a snack or toy that is out of reach) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 7. Does your child point with one finger to show you something interesting?
(FOR EXAMPLE, pointing to an airplane in the sky or a big truck in the road) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 8. Is your child interested in other children? (FOR EXAMPLE, does your child watch other children, smile at them, or go to them?) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 9. Does your child show you things by bringing them to you or holding them up for you to see – not to get help, but just to share? (FOR EXAMPLE, showing you a flower, a stuffed animal, or a toy truck) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 10. Does your child respond when you call his or her name? (FOR EXAMPLE, does he or she look up, talk or babble, or stop what he or she is doing when you call his or her name?) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 11. When you smile at your child, does he or she smile back at you? | <input checked="" type="radio"/> Yes | <input type="radio"/> No |
| 12. Does your child get upset by everyday noises? (FOR EXAMPLE, does your child scream or cry to noise such as a vacuum cleaner or loud music?) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 13. Does your child walk? | <input checked="" type="radio"/> Yes | <input type="radio"/> No |
| 14. Does your child look you in the eye when you are talking to him or her, playing with him or her, or dressing him or her? | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 15. Does your child try to copy what you do? (FOR EXAMPLE, wave bye-bye, clap, or make a funny noise when you do) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 16. If you turn your head to look at something, does your child look around to see what you are looking at? | <input checked="" type="radio"/> Yes | <input type="radio"/> No |
| 17. Does your child try to get you to watch him or her? (FOR EXAMPLE, does your child look at you for praise, or say “look” or “watch me”?) | <input checked="" type="radio"/> Yes | <input type="radio"/> No |
| 18. Does your child understand when you tell him or her to do something?
(FOR EXAMPLE, if you don’t point, can your child understand “put the book on the chair” or “bring me the blanket”?) | <input type="radio"/> Yes | <input checked="" type="radio"/> No |
| 19. If something new happens, does your child look at your face to see how you feel about it?
(FOR EXAMPLE, if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?) | <input type="radio"/> Yes | <input type="radio"/> No ? |
| 20. Does your child like movement activities?
(FOR EXAMPLE, being swung or bounced on your knee) | <input checked="" type="radio"/> Yes | <input type="radio"/> No |

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Handout VI: M-CHAT-R Scoring Instructions

Question	Failed Response
1	No
2	Yes
3	No
4	No
5	Yes
6	No
7	No
8	No
9	No
10	No
11	No
12	Yes
13	No
14	No
15	No
16	No
17	No
18	No
19	No
20	No

Handout VII: M-CHAT-R Follow-Up Interview

Permissions for Use

The Modified Checklist for Autism in Toddlers, Revised, with Follow-Up (M-CHAT-R/F; Robins, Fein, & Barton, 2009) is designed to accompany the M-CHAT-R. The M-CHAT-R/F may be downloaded from www.mchatscreen.com.

The M-CHAT-R/F is a copyrighted instrument, and use of this instrument is limited by the authors and copyright holders. The M-CHAT-R and M-CHAT-R/F may be used for clinical, research, and educational purposes. Although we are making the tool available free of charge for these uses, this is copyrighted material and it is not open source. Anyone interested in using the M-CHAT-R/F in any commercial or electronic products must contact Diana L. Robins at DianaL.Robins@gmail.com to request permission.

Instructions for Use

The M-CHAT-R/F is designed to be used with the M-CHAT-R; the M-CHAT-R is valid for screening toddlers between 16 and 30 months of age, to assess risk for autism spectrum disorder (ASD). Users should be aware that even with the Follow-Up, a significant number of the children who fail the M-CHAT-R will not be diagnosed with ASD; however, these children are at risk for other developmental disorders or delays, and therefore, follow-up is warranted for any child who screens positive.

Once a parent has completed the M-CHAT-R, score the instrument according to the instructions. If the child screens positive, select the Follow-Up items based on which items the child failed on the M-CHAT-R; only those items that were originally failed need to be administered for a complete interview.

Each page of the interview corresponds to one item from the M-CHAT-R. Follow the flowchart format, asking questions until a PASS or FAIL is scored. Please note that parents may report "maybe" in response to questions during the interview. When a parent reports "maybe," ask whether most often the answer is "yes" or "no" and continue the interview according to that response. In places where there is room to report an "other" response, the interviewer must use his/her judgment to determine whether it is a passing response or not.

Score the responses to each item on the M-CHAT-R/F Scoring Sheet (which contains the same items as the M-CHAT-R, but Yes/No has been replaced by Pass/Fail). The interview is considered to be a screen positive if the child fails any two items on the Follow-Up. If a child screens positive on the M-CHAT-R/F, it is strongly recommended that the child is referred for early intervention and diagnostic testing as soon as possible. Please note that if the healthcare provider or parent has concerns about ASDs, children should be referred for evaluation regardless of the score on the M-CHAT-R or M-CHAT-R/F.

Screening for Autism Spectrum Disorder

M-CHAT-R Follow-Up™ Scoring Sheet

Please note: Yes/No has been replaced with Pass/Fail

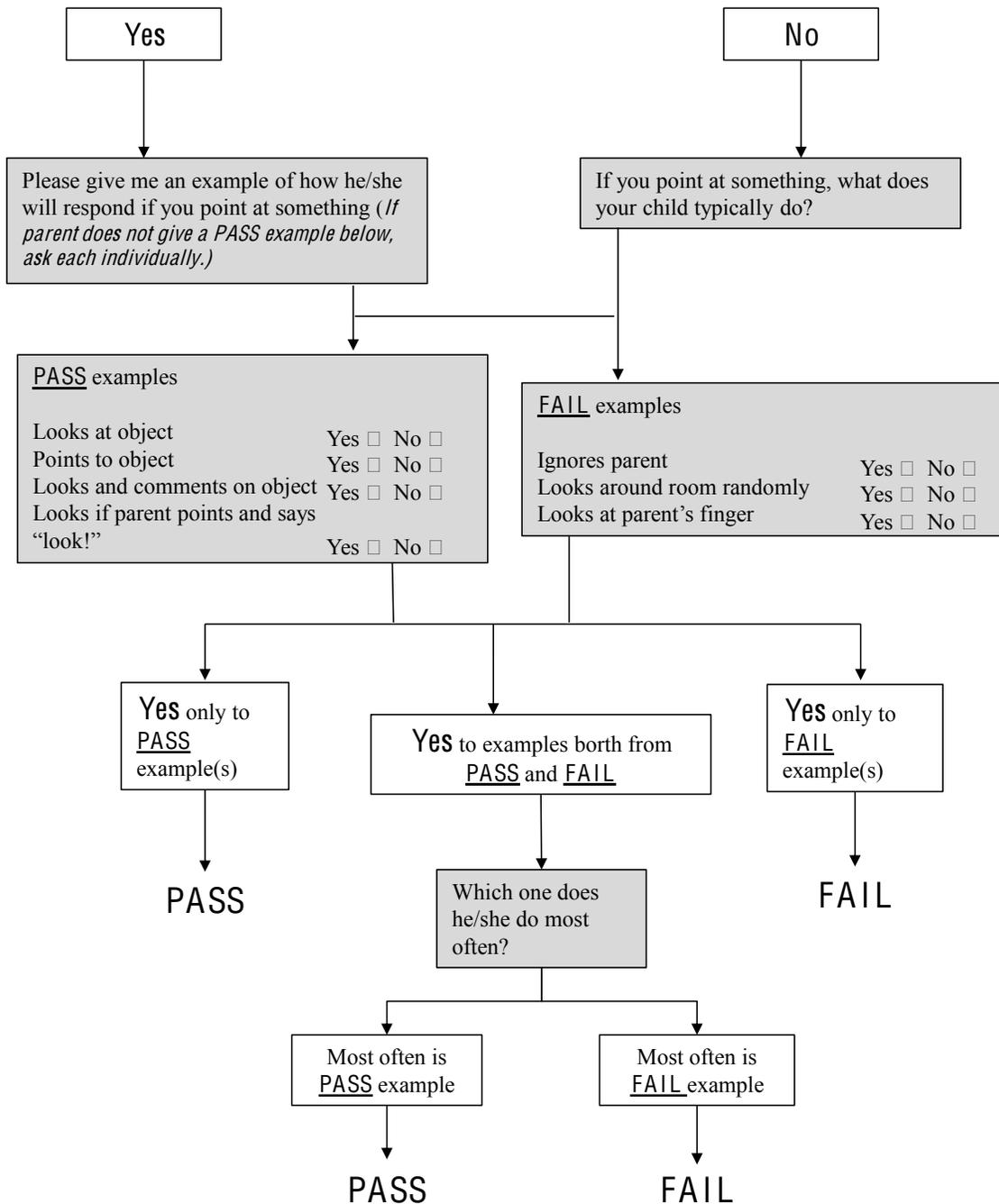
1. If you point at something across the room, does your child look at it? (FOR EXAMPLE, if you point at a toy or an animal, does your child look at the toy or animal?)	Pass	Fail
2. Have you ever wondered if your child might be deaf?	Pass	Fail
3. Does your child play pretend or make-believe? (FOR EXAMPLE, pretend to drink from an empty cup, pretend to talk on a phone, or pretend to feed a doll or stuffed animal)	Pass	Fail
4. Does your child like climbing on things? (FOR EXAMPLE, furniture, playground equipment, or stairs)	Pass	Fail
5. Does your child make <u>unusual</u> finger movements near his or her eyes? (FOR EXAMPLE, does your child wiggle his or her fingers close to his or her eyes?)	Pass	Fail
6. Does your child point with one finger to ask for something or to get help? (FOR EXAMPLE, pointing to a snack or toy that is out of reach)	Pass	Fail
7. Does your child point with one finger to show you something interesting? (FOR EXAMPLE, pointing to an airplane in the sky or a big truck in the road)	Pass	Fail
8. Is your child interested in other children? (FOR EXAMPLE, does your child watch other children, smile at them, or go to them?)	Pass	Fail
9. Does your child show you things by bringing them to you or holding them up for you to see – not to get help, but just to share? (FOR EXAMPLE, showing you a flower, a stuffed animal, or a toy truck)	Pass	Fail
10. Does your child respond when you call his or her name? (FOR EXAMPLE, does he or she look up, talk or babble, or stop what he or she is doing when you call his or her name?)	Pass	Fail
11. When you smile at your child, does he or she smile back at you?	Pass	Fail
12. Does your child get upset by everyday noises? (FOR EXAMPLE, a vacuum cleaner or loud music)	Pass	Fail
13. Does your child walk?	Pass	Fail
14. Does your child look you in the eye when you are talking to him or her, playing with him or her, or dressing him or her?	Pass	Fail
15. Does your child try to copy what you do? (FOR EXAMPLE, wave bye-bye, clap, or make a funny noise when you do)	Pass	Fail
16. If you turn your head to look at something, does your child look around to see what you are looking at?	Pass	Fail
17. Does your child try to get you to watch him or her? (FOR EXAMPLE, does your child look at you for praise, or say “look” or “watch me”)	Pass	Fail
18. Does your child understand when you tell him or her to do something? (FOR EXAMPLE, if you don’t point, can your child understand “put the book on the chair” or “bring me the blanket”)	Pass	Fail
19. If something new happens, does your child look at your face to see how you feel about it? (FOR EXAMPLE, if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?)	Pass	Fail
20. Does your child like movement activities? (FOR EXAMPLE, being swung or bounced on your knee)	Pass	Fail

Total Score: _____

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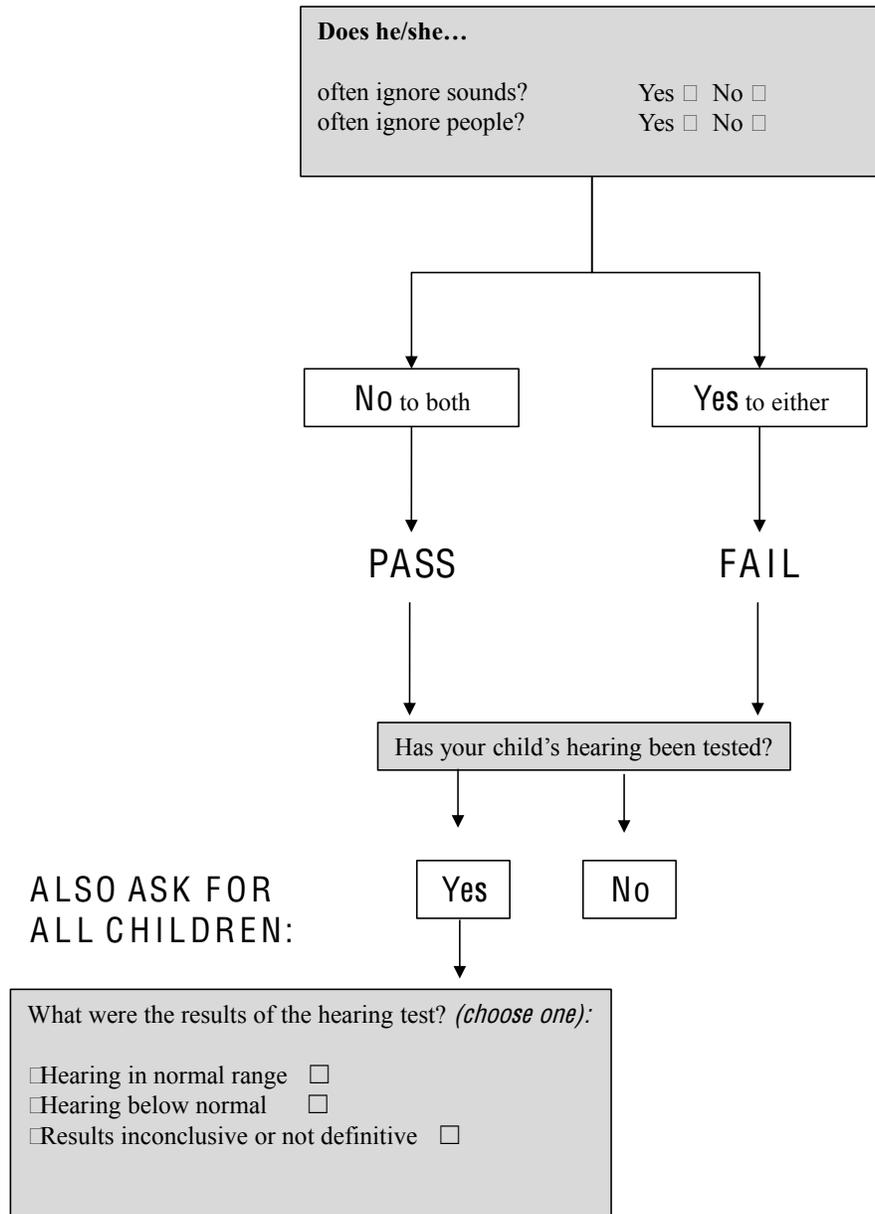
1. If you point at something across the room, does _____ look at it?



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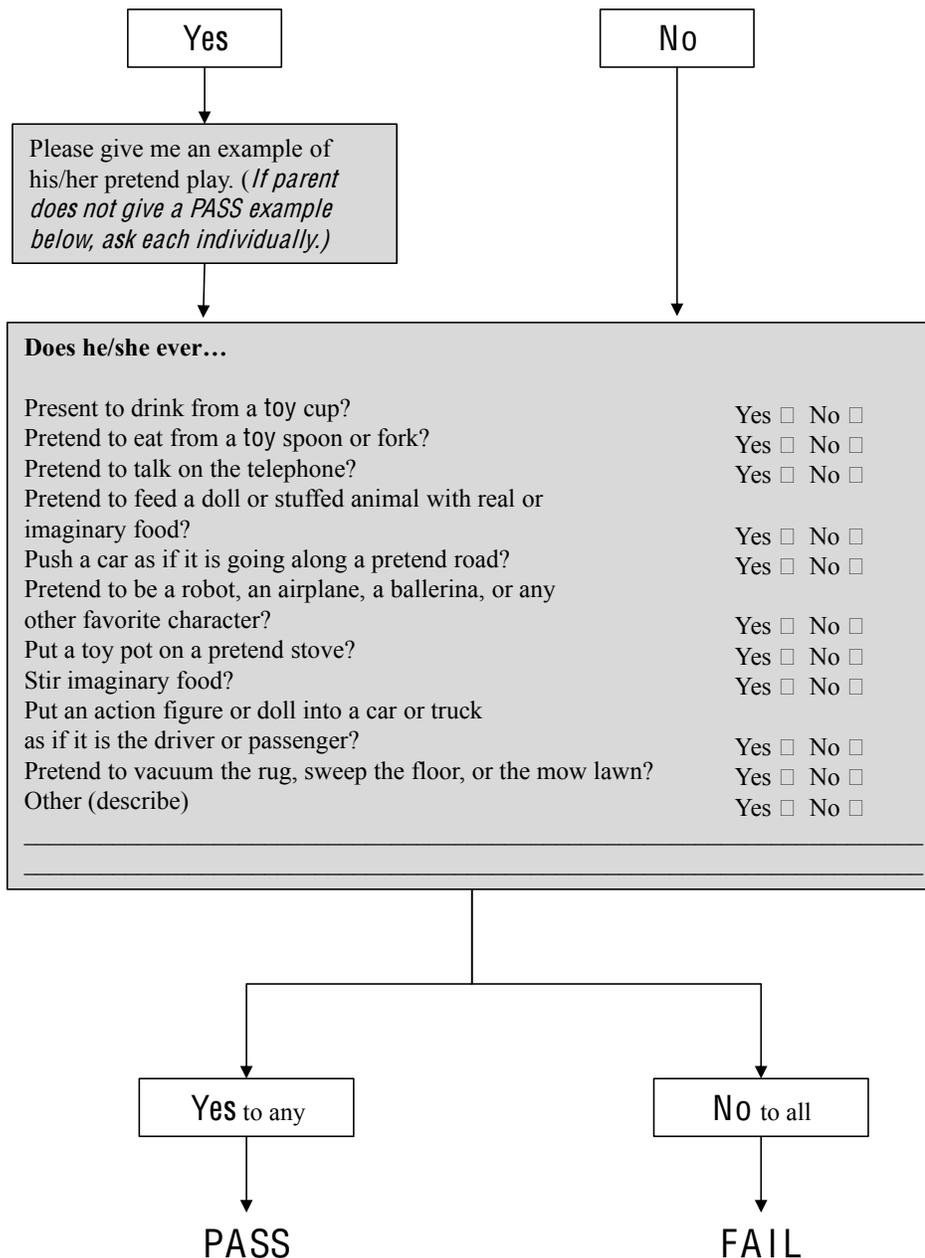
2. You reported that you have wondered if your child is deaf. What led you to wonder that?



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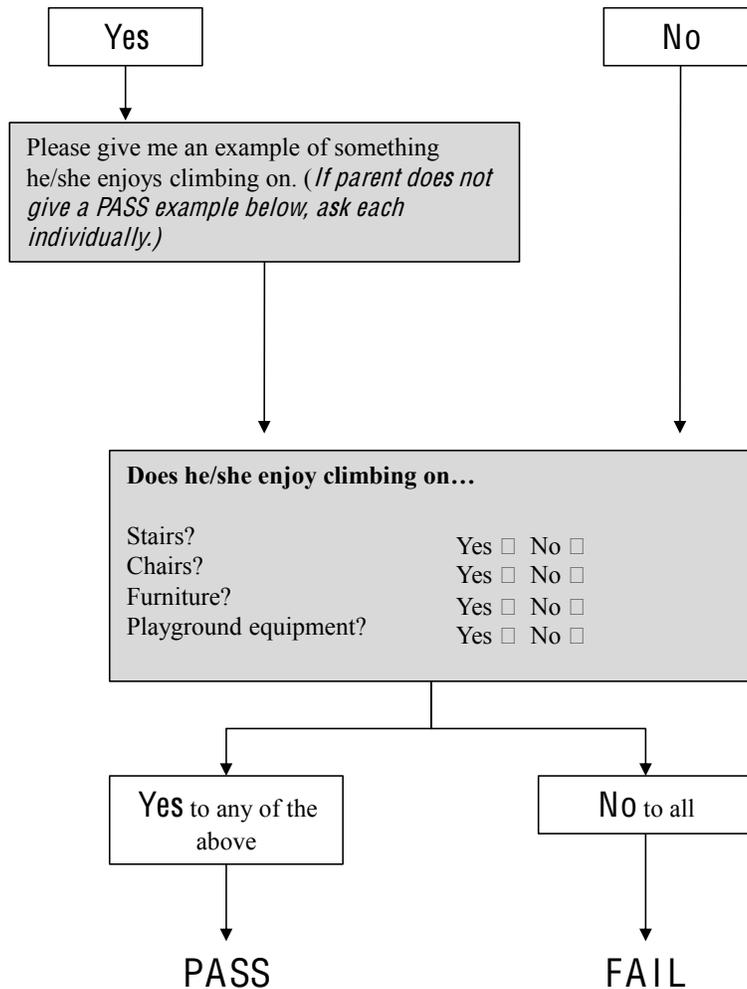
3. Does _____ play pretend or make- believe



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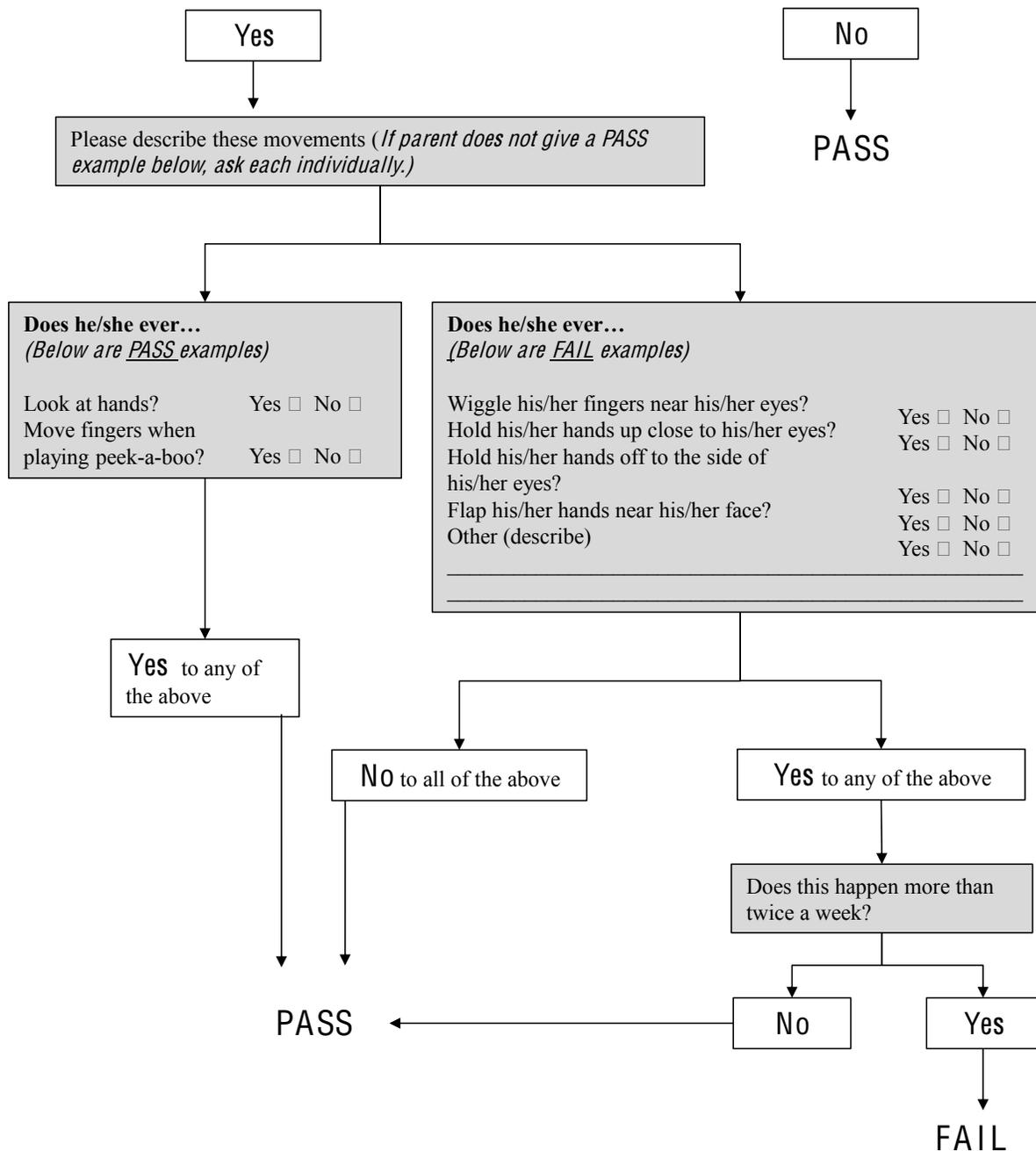
4. Does _____ like climbing on things?



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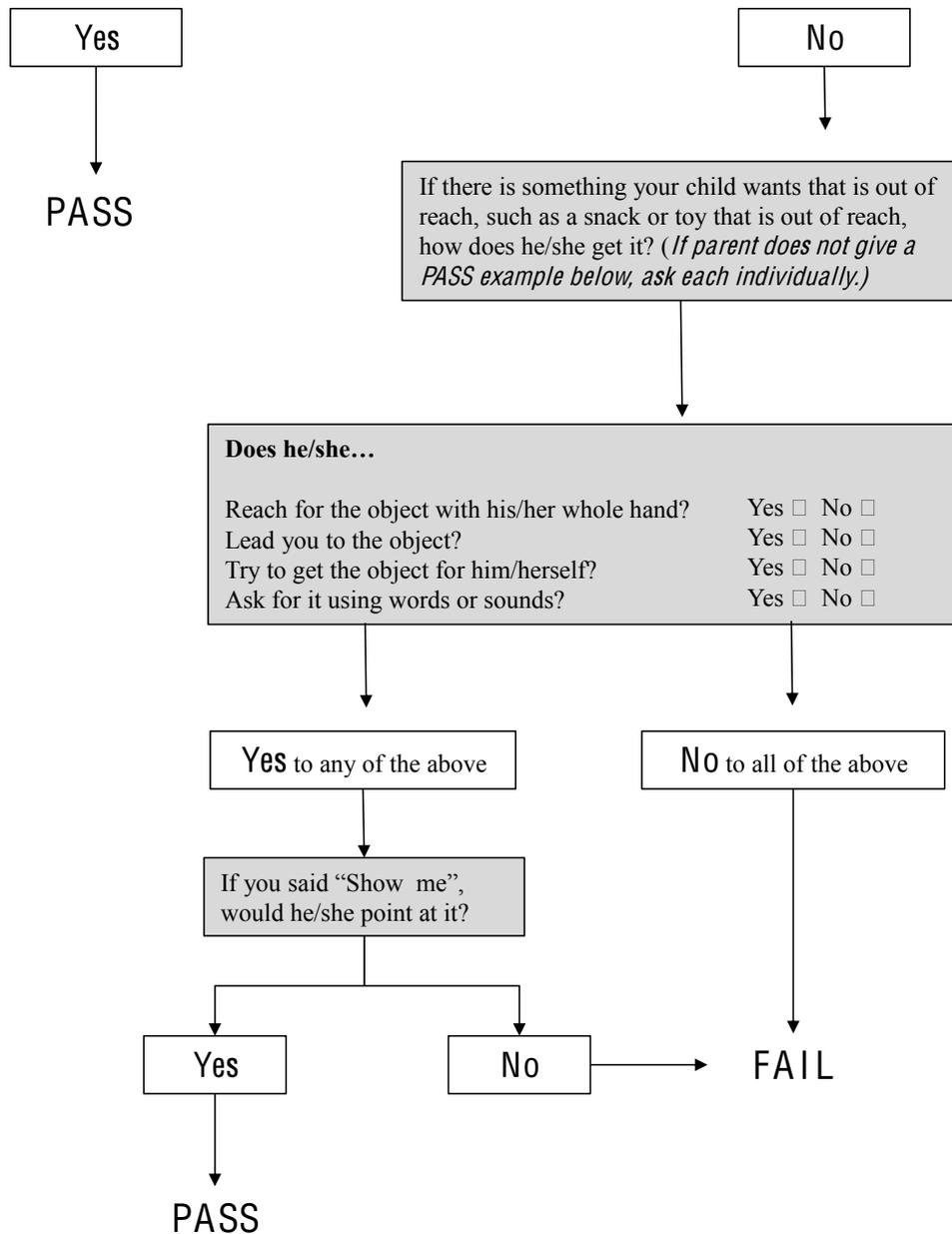
5. Does _____ make unusual finger movements near his/her eyes?



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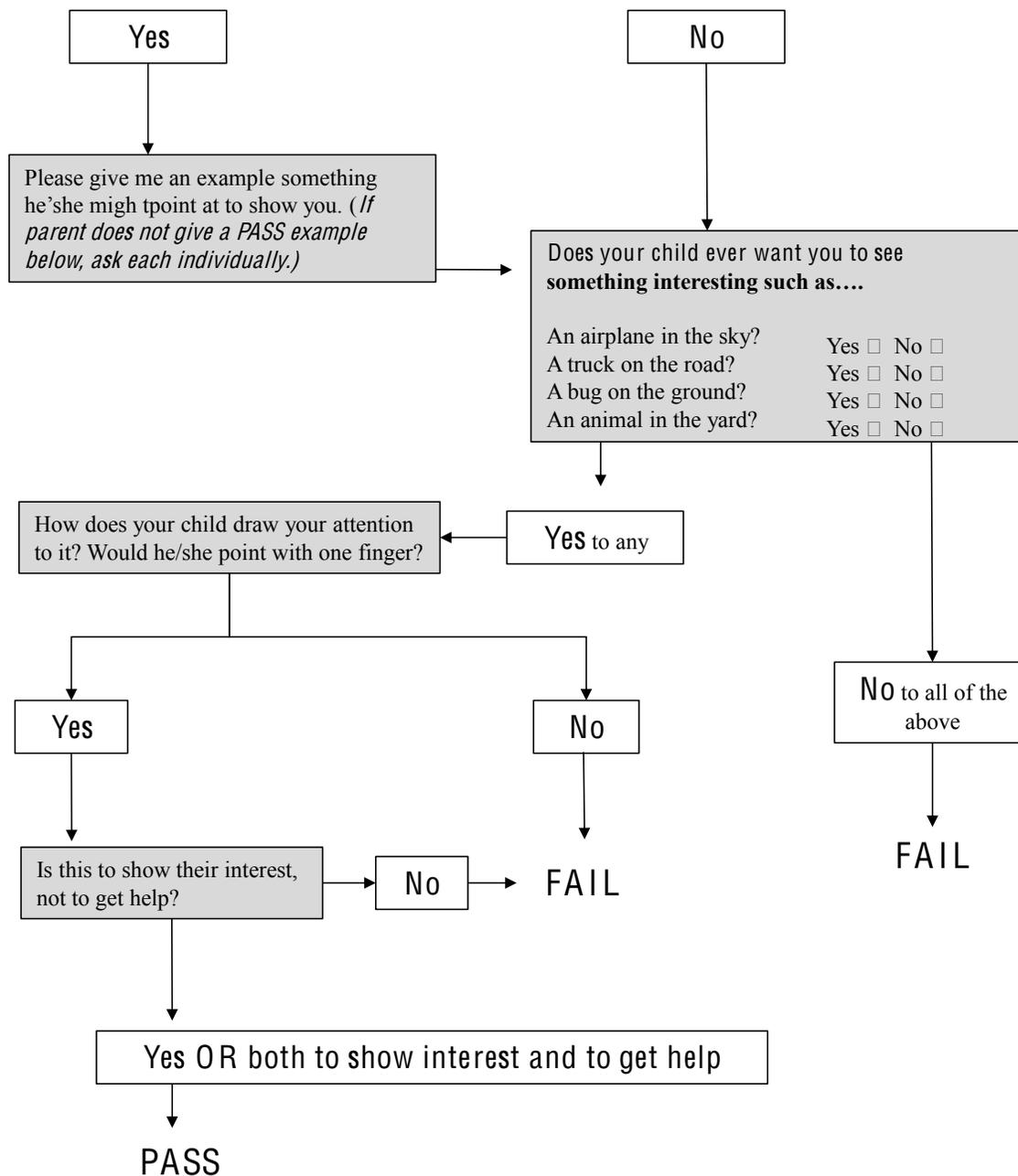
6. Does your child point with one finger to ask for something or to get help?



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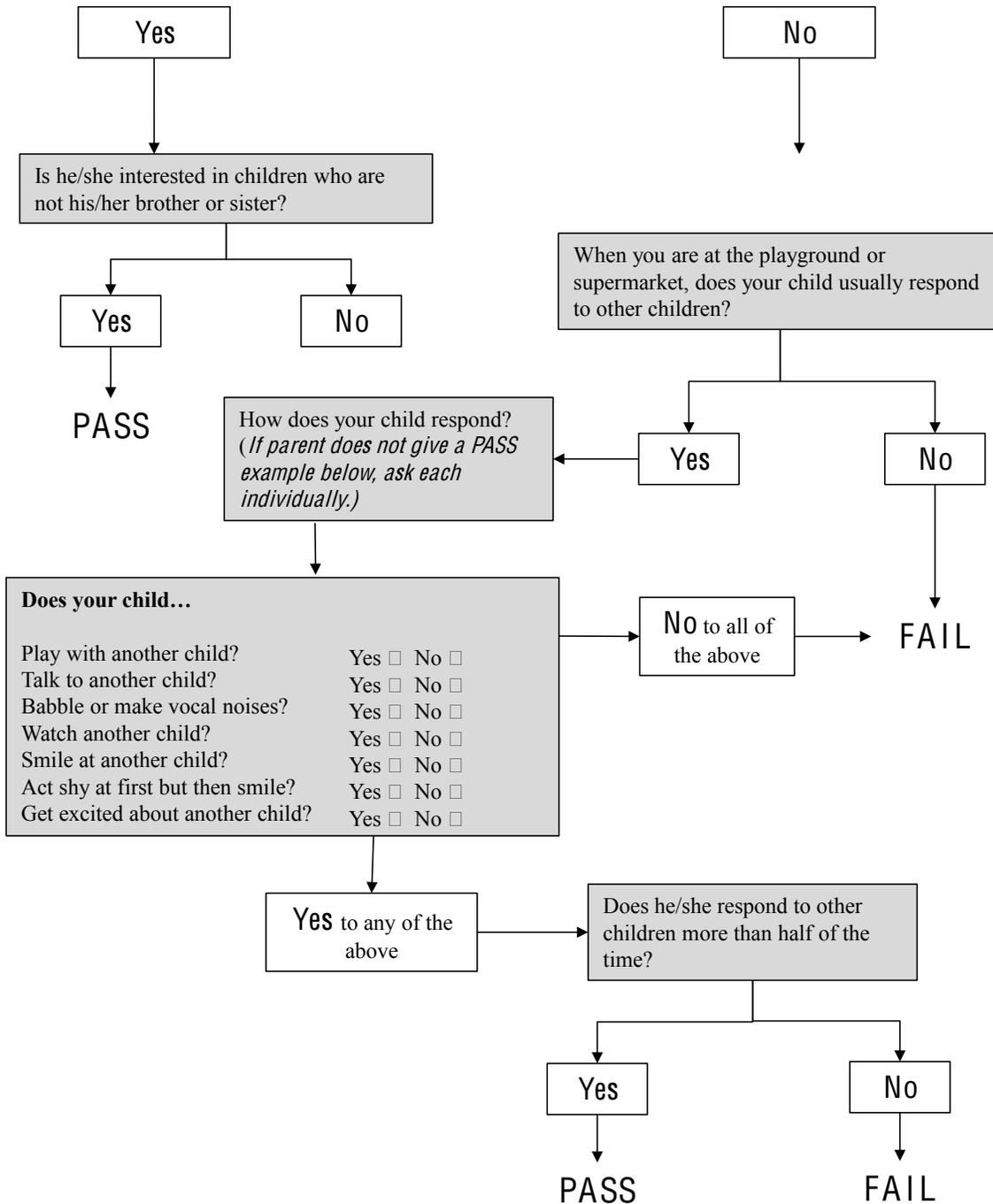
7. * If the interviewer just asked #6, begin here: We just talked about pointing to *ask* for something, ASK ALL → Does your child point with one finger just to show you something interesting?



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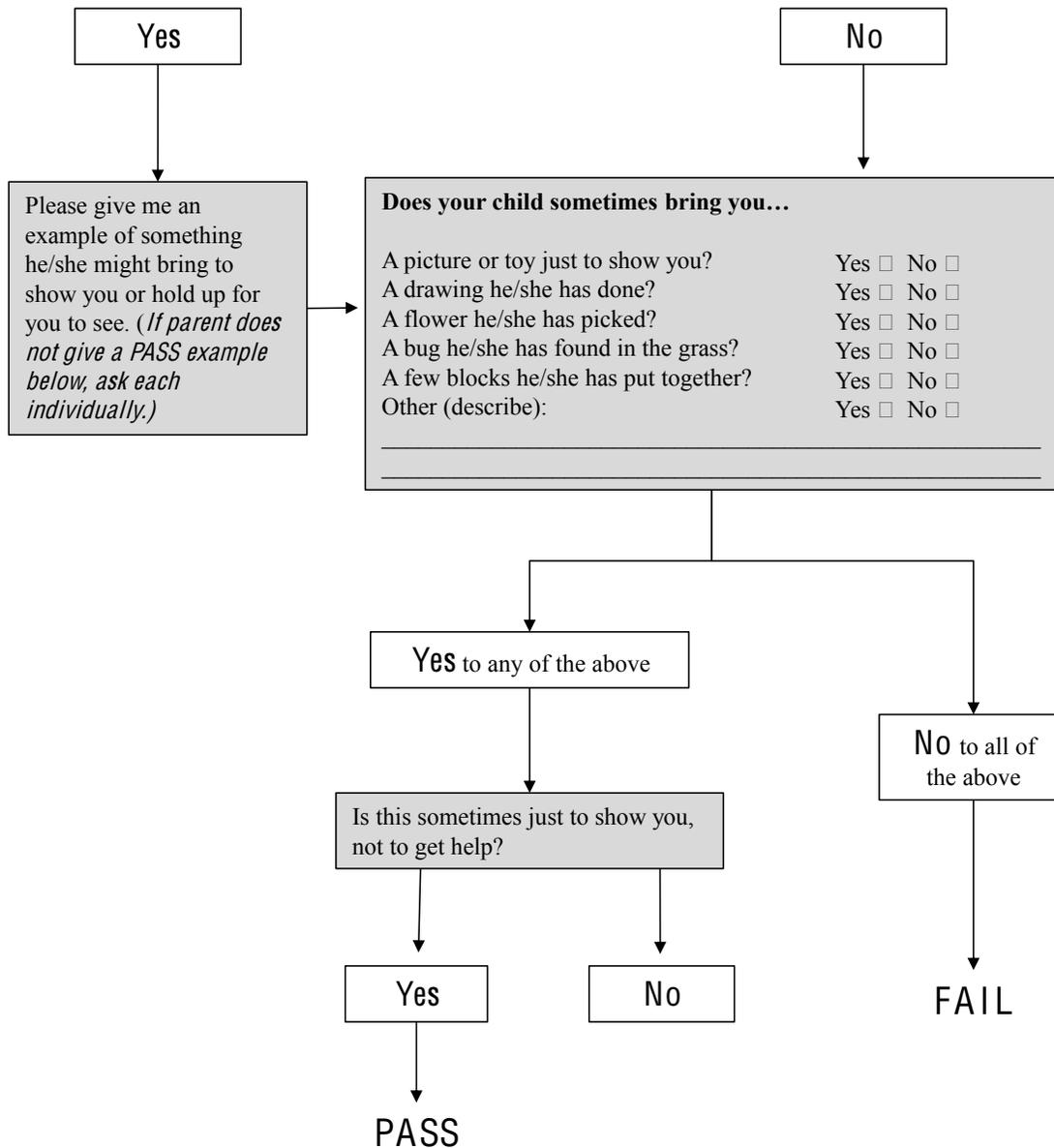
8. Is _____ interested in other children?



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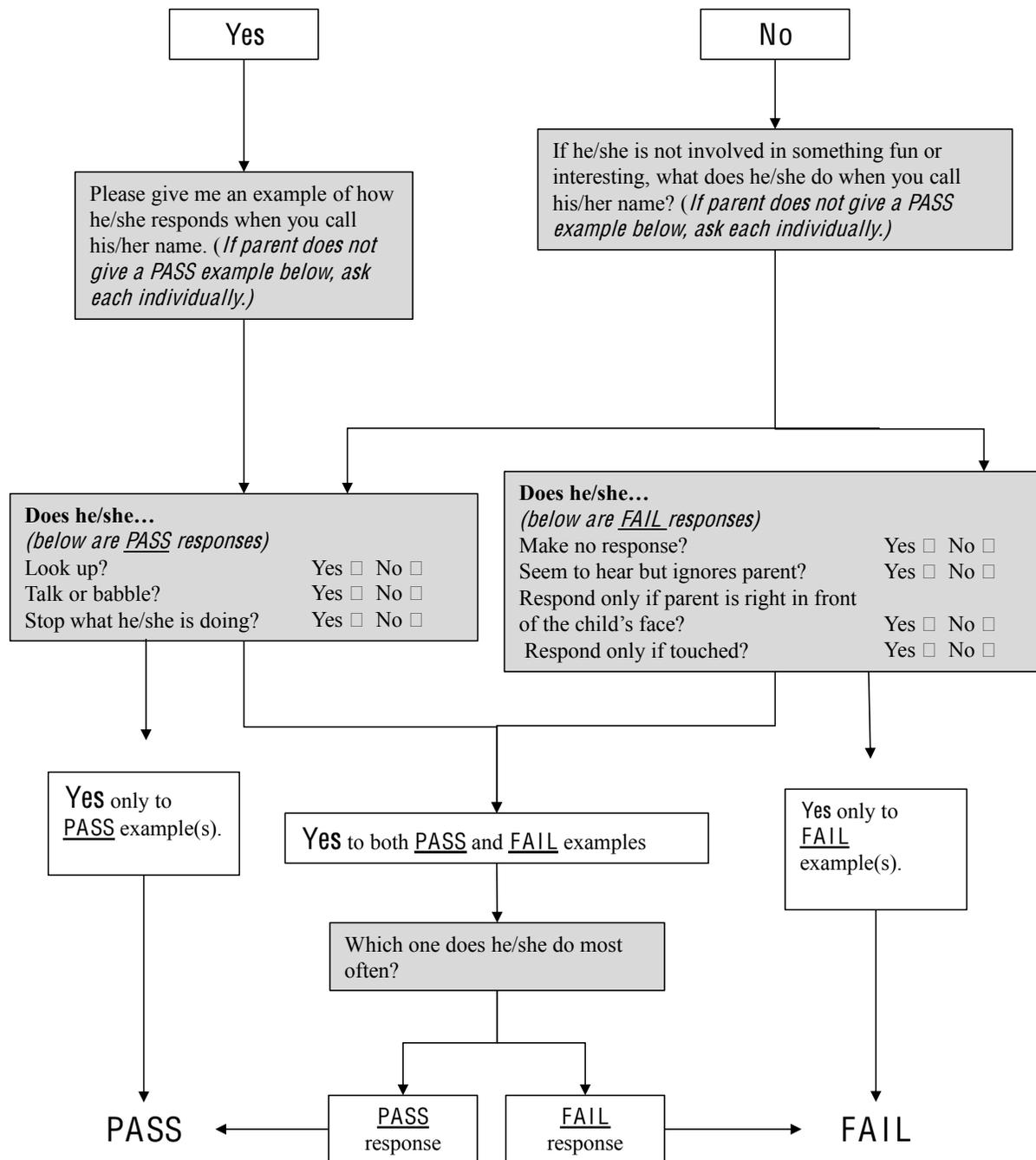
9. Does _____ show you things by bringing them to you or holding them up for you to see? Not just to get help, but to share?



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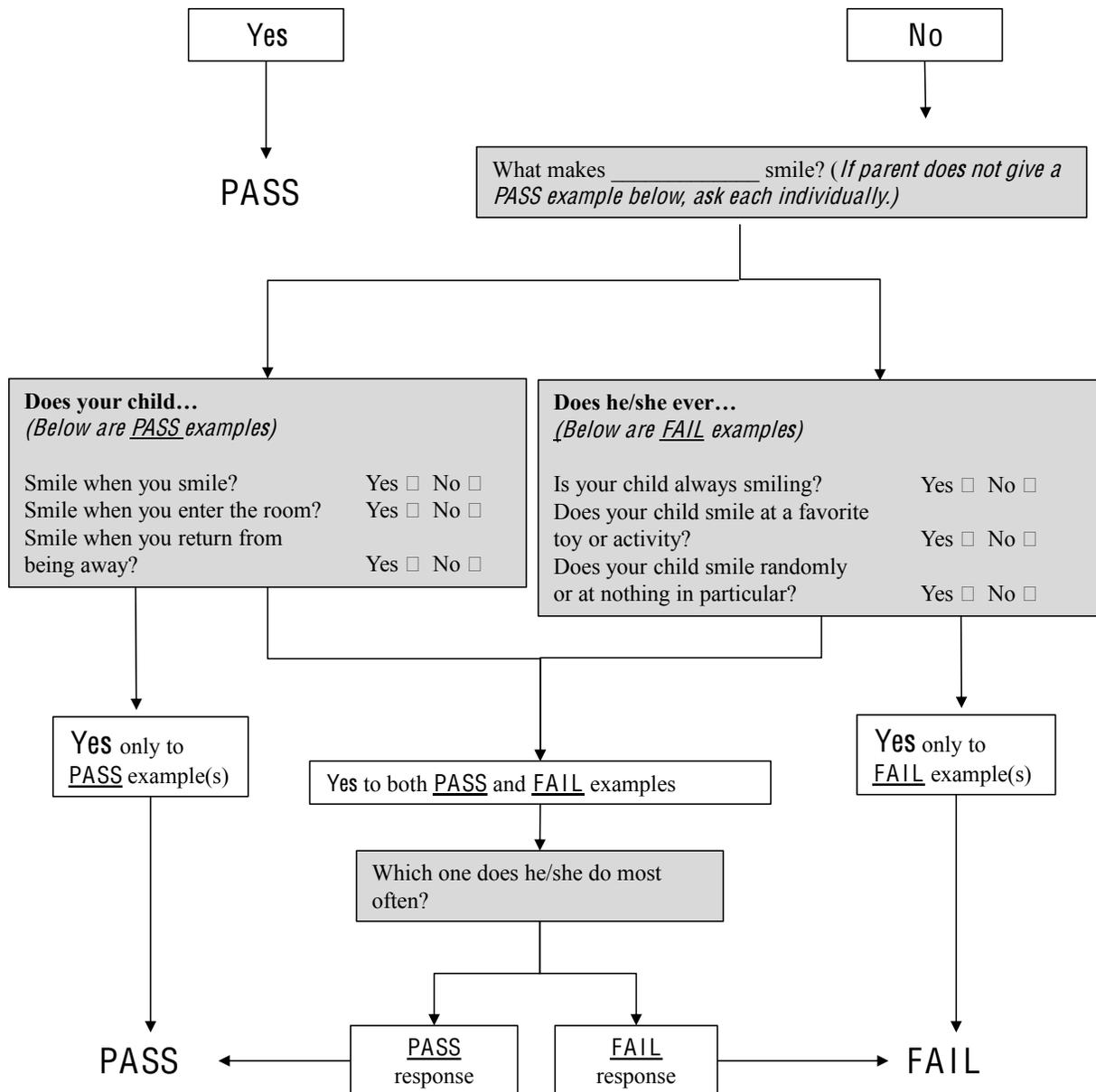
10. Does _____ respond when you call his/her name?



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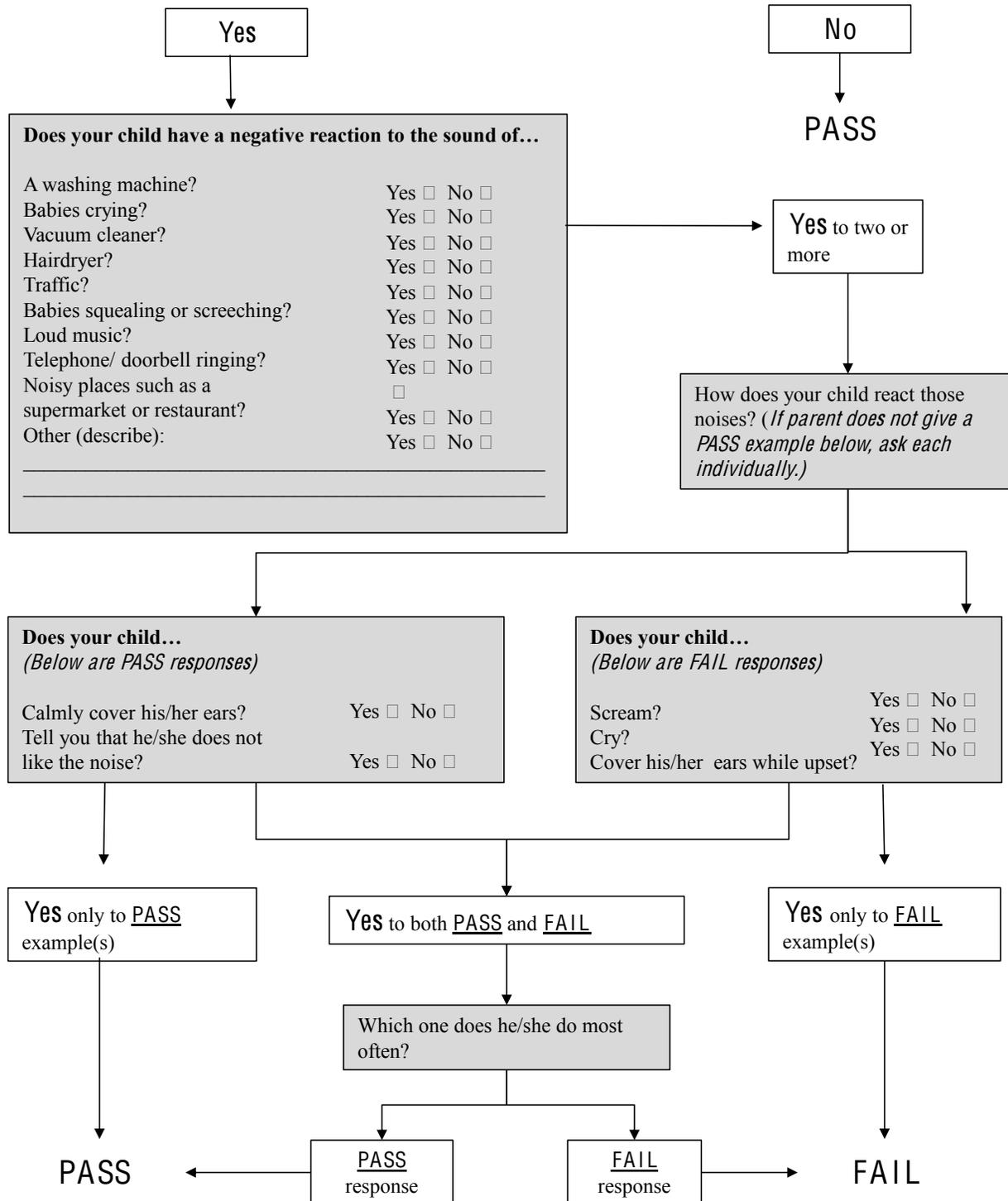
11. When you smile at _____, does he/she smile back at you?



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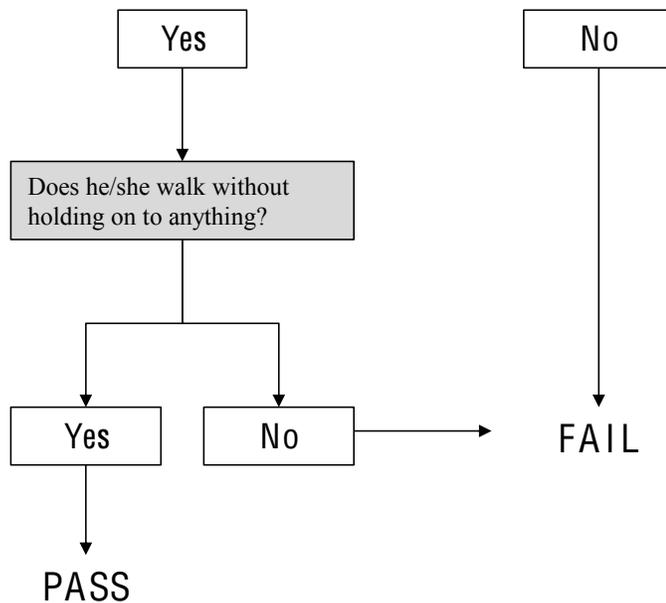
12. Does _____ get upset by everyday noises?



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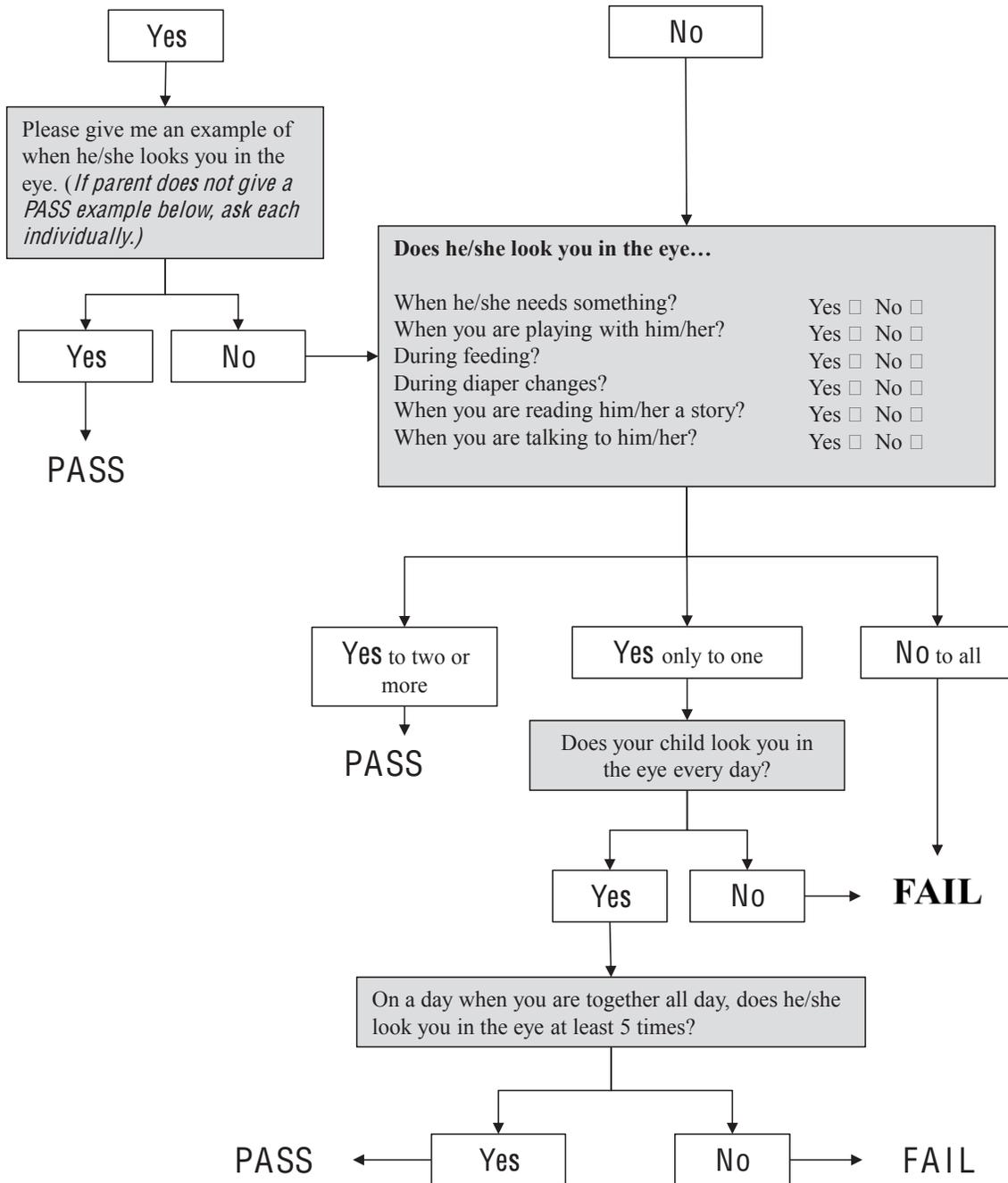
13. Does _____ walk?



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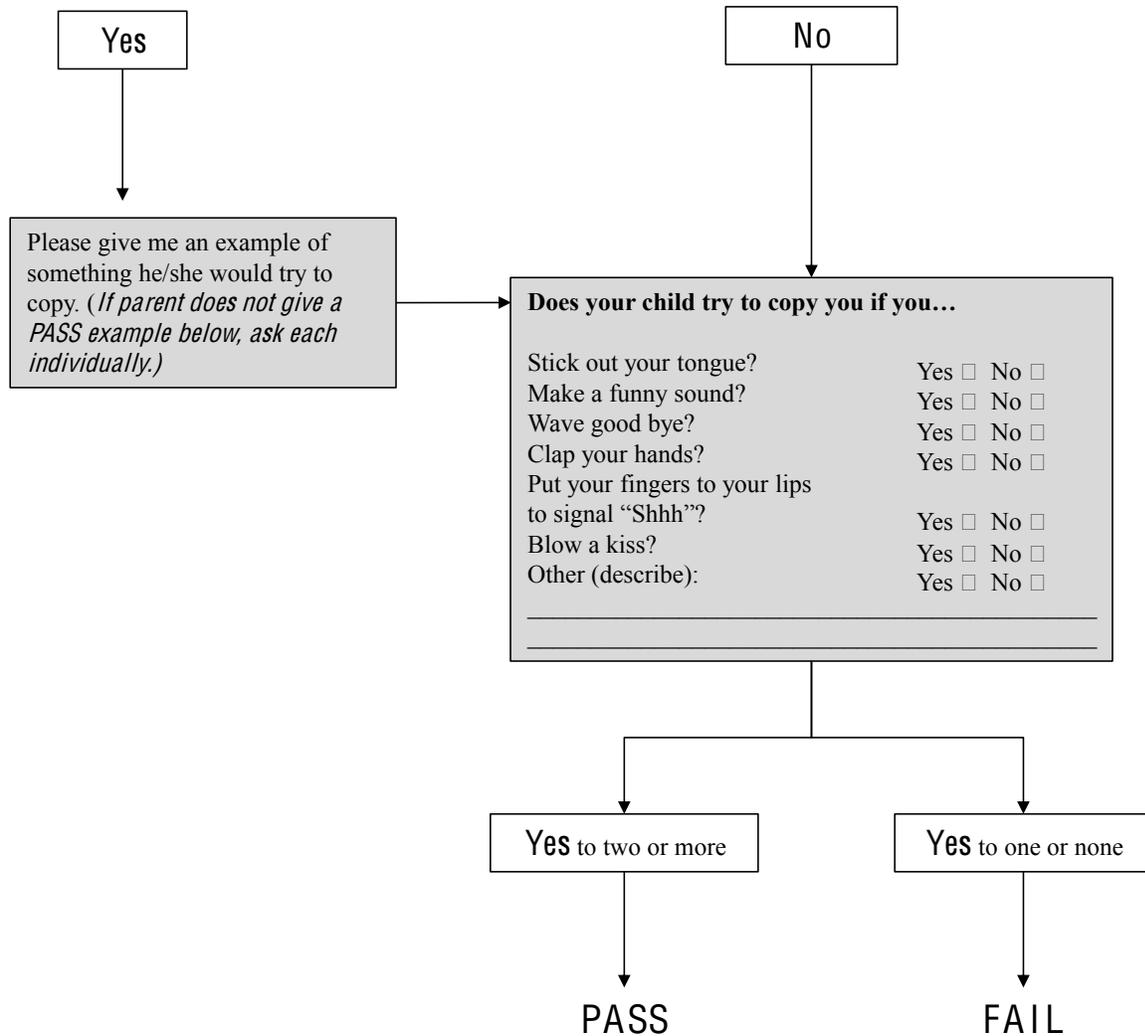
14. Does _____ look you in the eye when you are talking to him/her, playing with him/her, or changing him/her?



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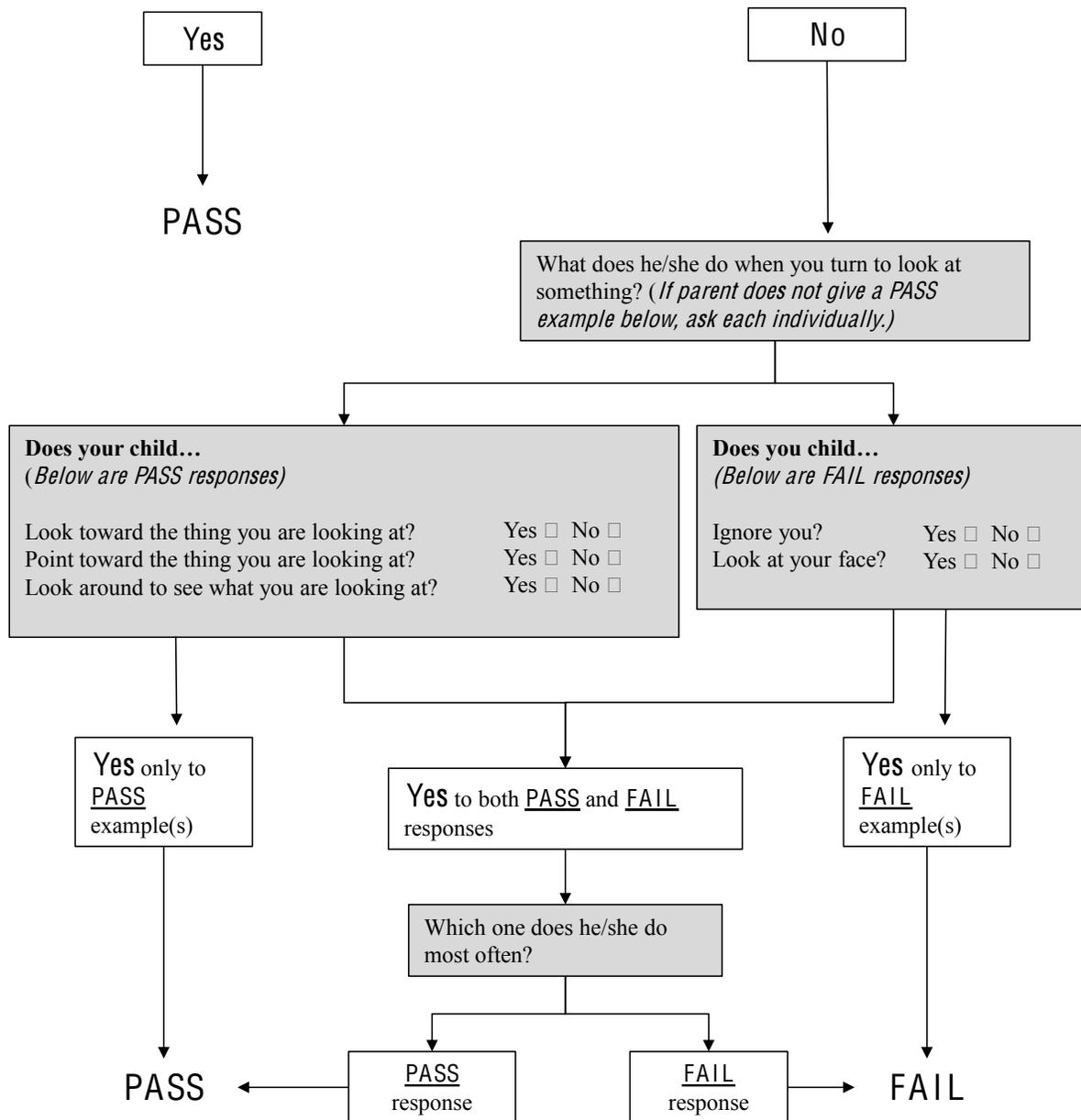
15. Does _____ try to copy what you do?



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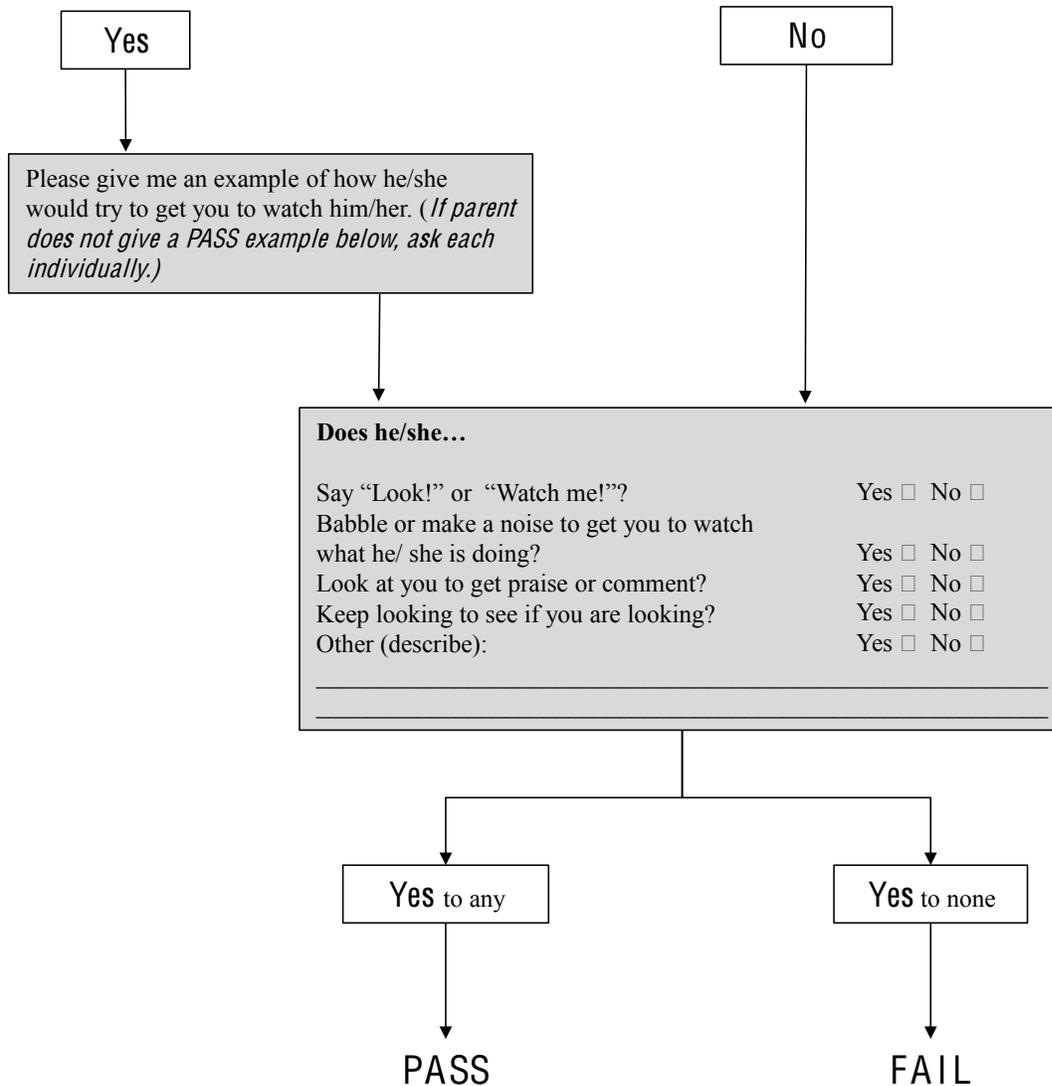
16. If you turn your head to look at something, does _____ look around to see what you are looking at?



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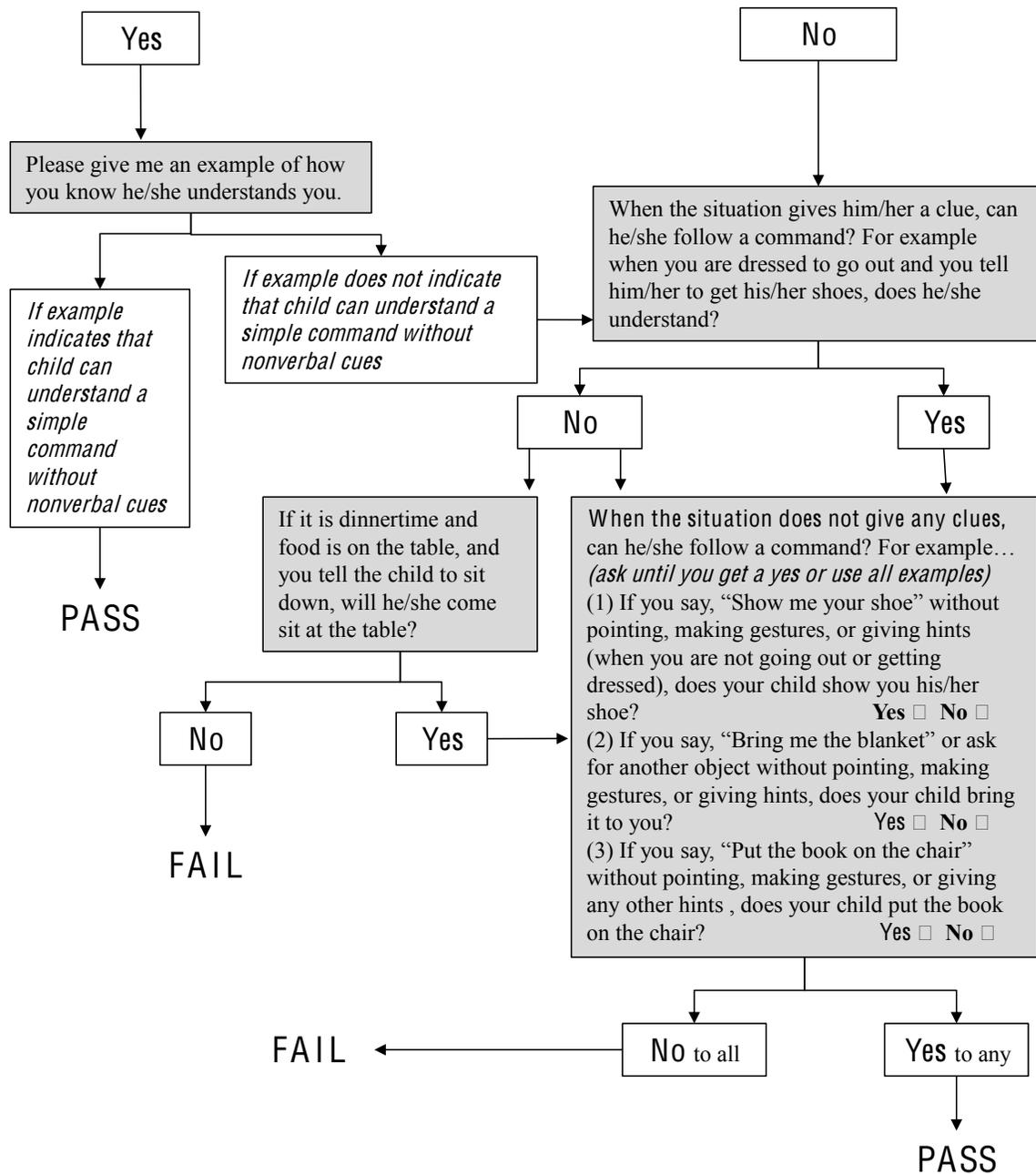
17. Does _____ try to get you to watch him/her?



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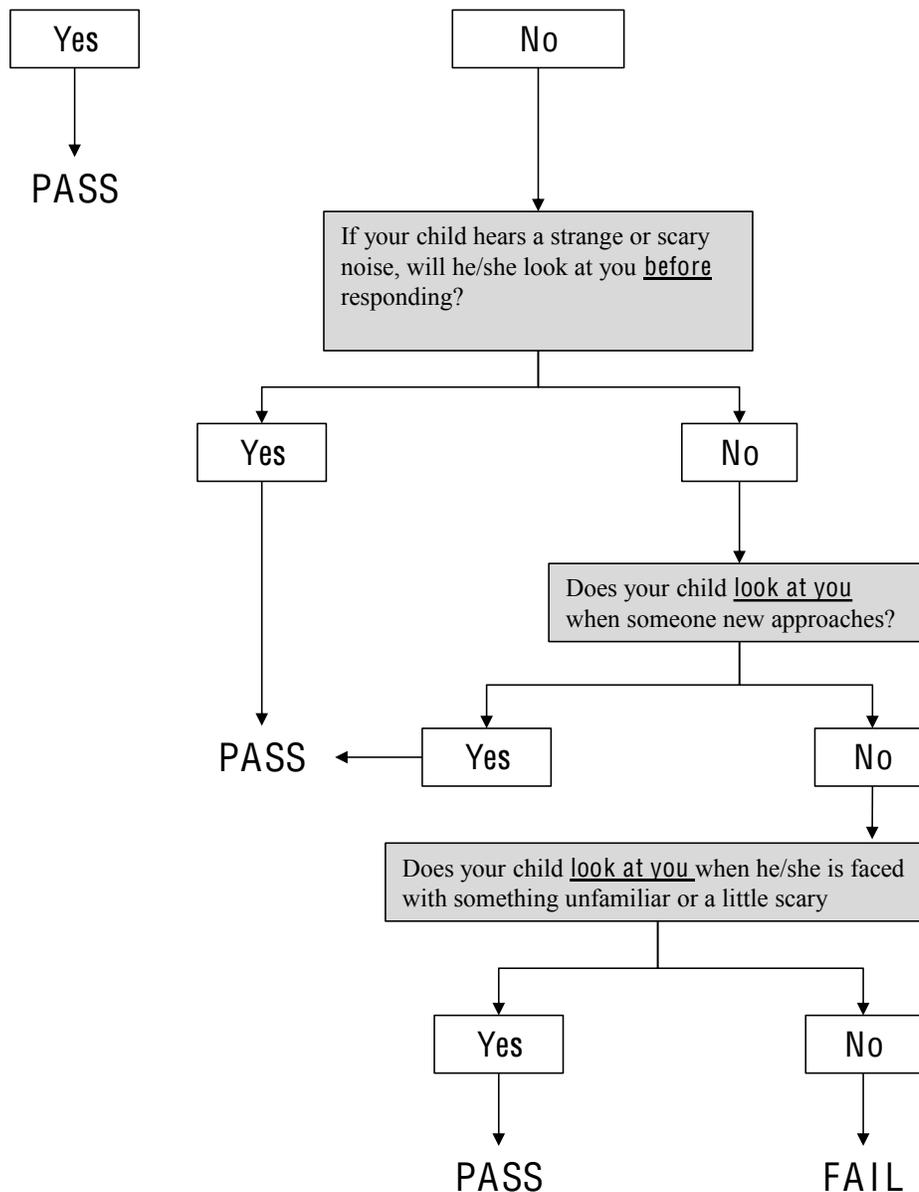
18. Does _____ understand when you tell him/her to do something?



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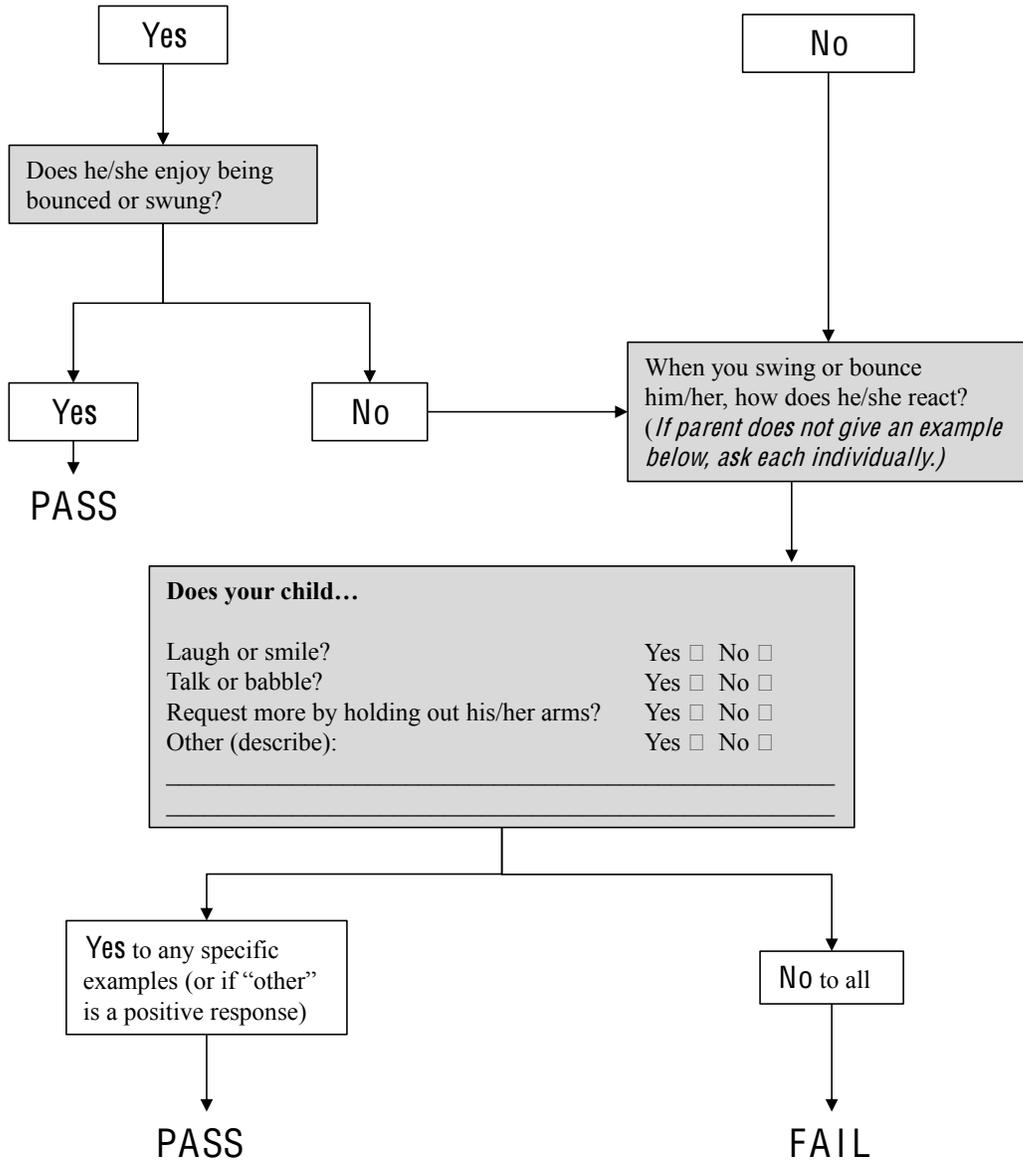
19. If something new happens, does _____ look at your face to see how you feel about it?



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20. Does _____ like movement activities?



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Handout VIII: M-CHAT-R Follow-Up Interview for Matthew

M-CHAT-R Follow-Up™ Scoring Sheet

MATTHEW

Please note: Yes/No has been replaced with Pass/Fail

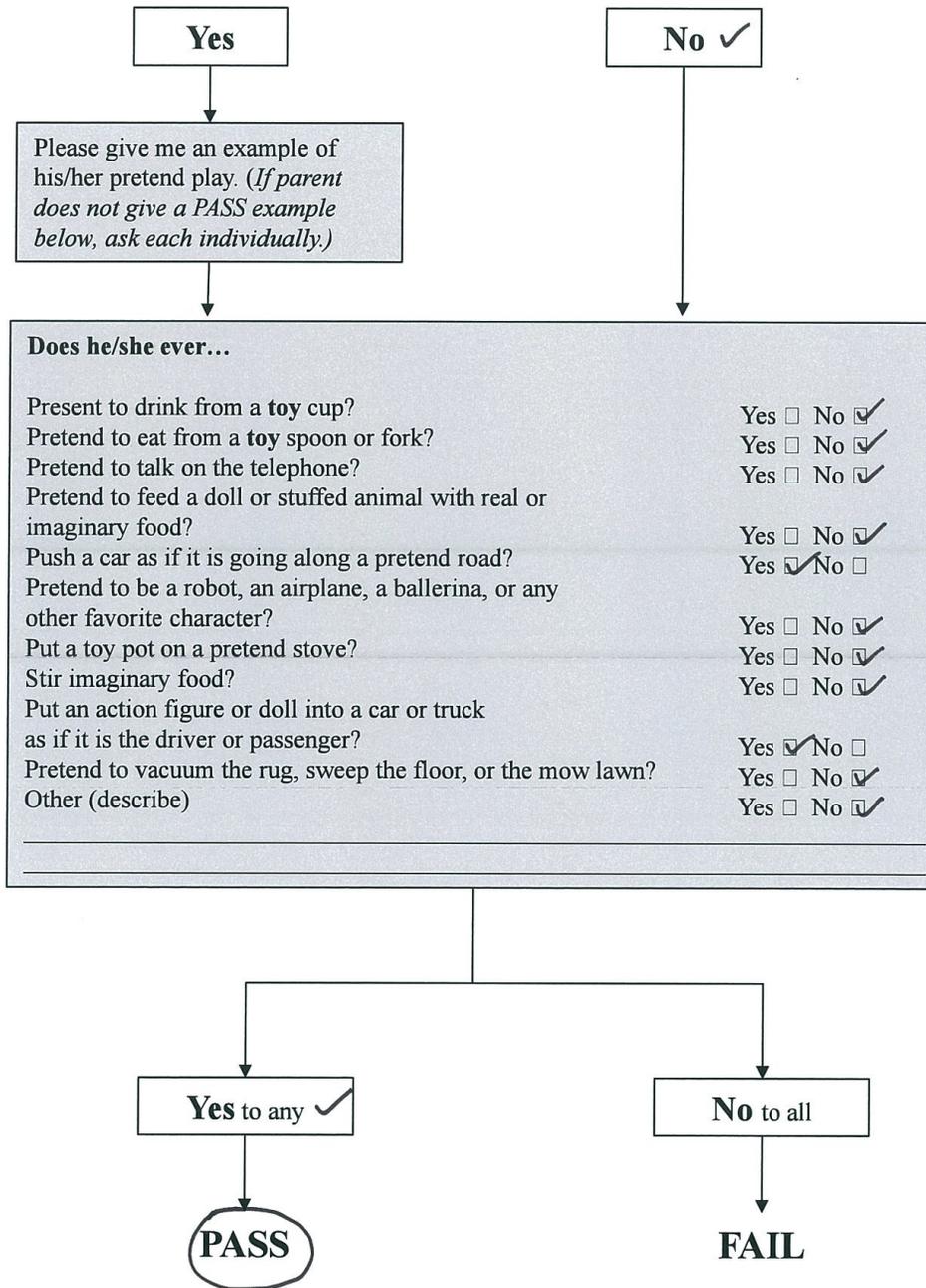
- | | | |
|--|------|------|
| 1. If you point at something across the room, does your child look at it?
(FOR EXAMPLE, if you point at a toy or an animal, does your child look at the toy or animal?) | Pass | Fail |
| 2. Have you ever wondered if your child might be deaf? | Pass | Fail |
| ③ Does your child play pretend or make-believe? <i>(originally failed)</i>
(FOR EXAMPLE, pretend to drink from an empty cup, pretend to talk on a phone, or pretend to feed a doll or stuffed animal) | Pass | Fail |
| 4. Does your child like climbing on things?
(FOR EXAMPLE, furniture, playground equipment, or stairs) | Pass | Fail |
| 5. Does your child make <u>unusual</u> finger movements near his or her eyes?
(FOR EXAMPLE, does your child wiggle his or her fingers close to his or her eyes?) | Pass | Fail |
| 6. Does your child point with one finger to ask for something or to get help?
(FOR EXAMPLE, pointing to a snack or toy that is out of reach) | Pass | Fail |
| 7. Does your child point with one finger to show you something interesting?
(FOR EXAMPLE, pointing to an airplane in the sky or a big truck in the road) | Pass | Fail |
| 8. Is your child interested in other children?
(FOR EXAMPLE, does your child watch other children, smile at them, or go to them?) | Pass | Fail |
| 9. Does your child show you things by bringing them to you or holding them up for you to see – not to get help, but just to share?
(FOR EXAMPLE, showing you a flower, a stuffed animal, or a toy truck) | Pass | Fail |
| 10. Does your child respond when you call his or her name?
(FOR EXAMPLE, does he or she look up, talk or babble, or stop what he or she is doing when you call his or her name?) | Pass | Fail |
| 11. When you smile at your child, does he or she smile back at you? | Pass | Fail |
| 12. Does your child get upset by everyday noises?
(FOR EXAMPLE, a vacuum cleaner or loud music) | Pass | Fail |
| 13. Does your child walk? | Pass | Fail |
| ⑭ Does your child look you in the eye when you are talking to him or her, playing with him or her, or dressing him or her? <i>(originally failed)</i> | Pass | Fail |
| 15. Does your child try to copy what you do?
(FOR EXAMPLE, wave bye-bye, clap, or make a funny noise when you do) | Pass | Fail |
| 16. If you turn your head to look at something, does your child look around to see what you are looking at? | Pass | Fail |
| 17. Does your child try to get you to watch him or her?
(FOR EXAMPLE, does your child look at you for praise, or say “look” or “watch me”) | Pass | Fail |
| 18. Does your child understand when you tell him or her to do something?
(FOR EXAMPLE, if you don’t point, can your child understand “put the book on the chair” or “bring me the blanket”) | Pass | Fail |
| ⑰ If something new happens, does your child look at your face to see how you feel about it?
(FOR EXAMPLE, if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?) <i>(originally failed)</i> | Pass | Fail |
| 20. Does your child like movement activities?
(FOR EXAMPLE, being swung or bounced on your knee) | Pass | Fail |

Matthew screens negative on Follow-Up because he does not fail 2 items or more.

Total Score: 0

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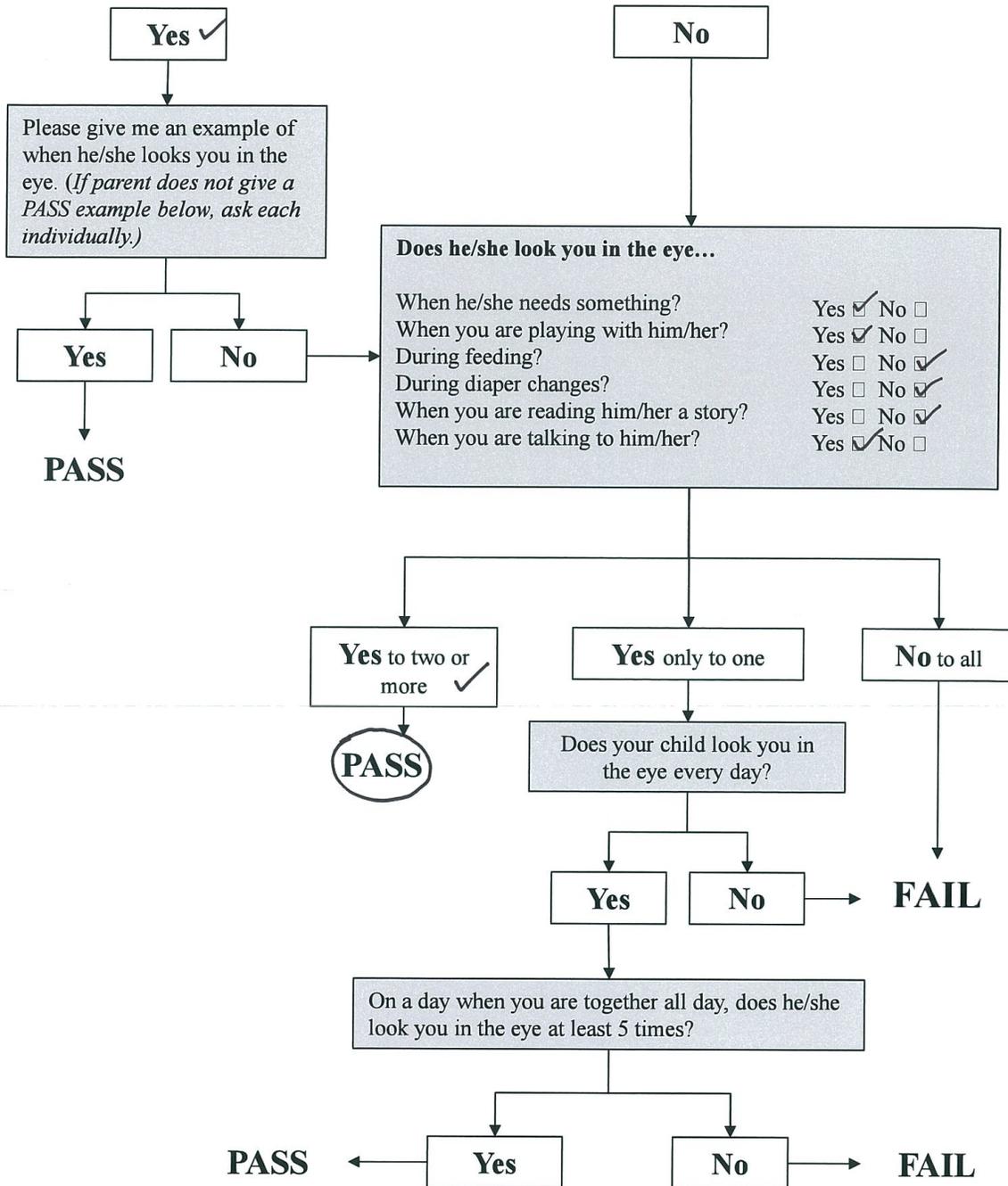
3. Does MATTHEW play pretend or make- believe



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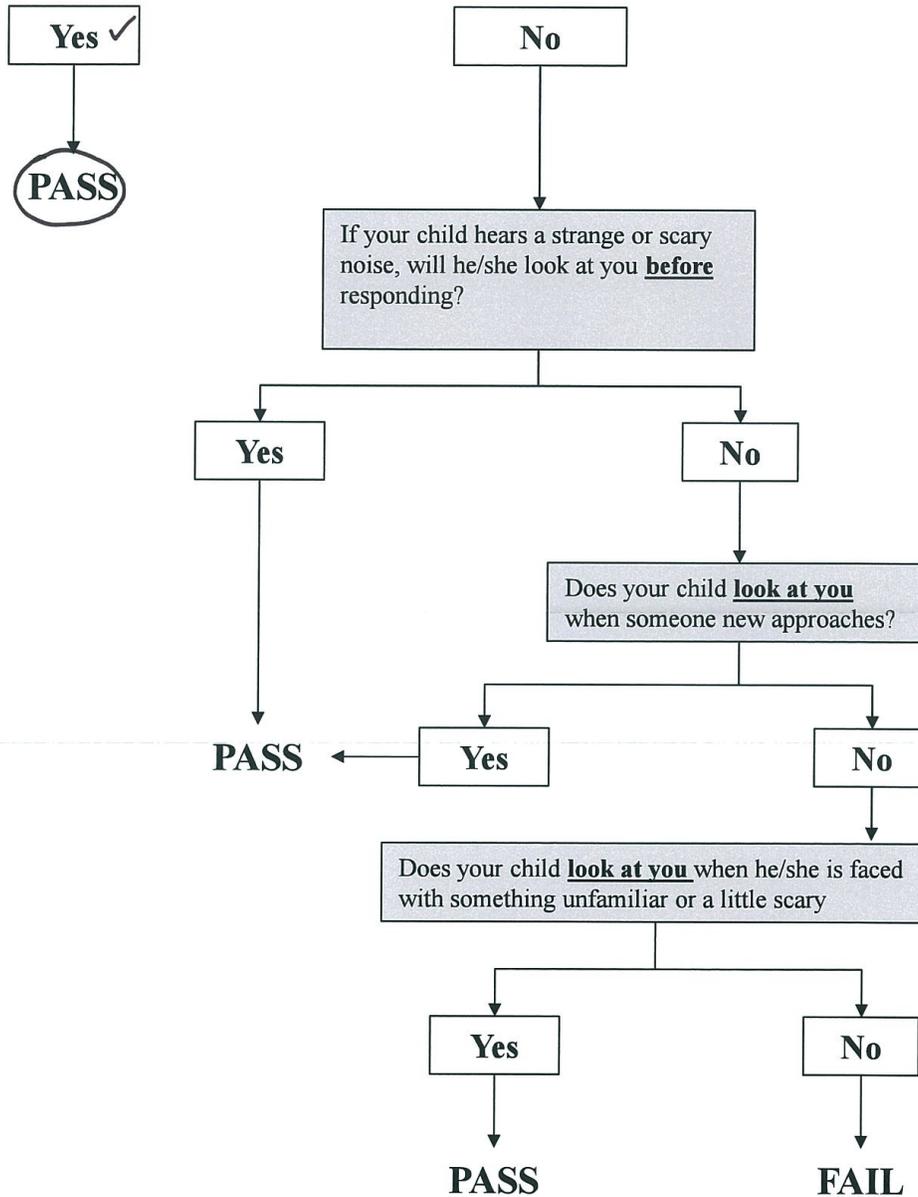
14. Does MATTHEW look you in the eye when you are talking to him/her, playing with him/her, or changing him/her?



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19. If something new happens, does MATTHEW look at your face to see how you feel about it?



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Handout IX: M-CHAT-R Follow-Up Interview for Claudia

M-CHAT-R Follow-Up™ Scoring Sheet

CLAUDIA

Please note: Yes/No has been replaced with Pass/Fail

- | | | |
|--|------|------|
| 1. If you point at something across the room, does your child look at it?
(FOR EXAMPLE, if you point at a toy or an animal, does your child look at the toy or animal?) | Pass | Fail |
| 2. Have you ever wondered if your child might be deaf? <i>(originally unsure)</i> | Pass | Fail |
| 3. Does your child play pretend or make-believe? <i>(originally failed)</i>
(FOR EXAMPLE, pretend to drink from an empty cup, pretend to talk on a phone, or pretend to feed a doll or stuffed animal) | Pass | Fail |
| 4. Does your child like climbing on things?
(FOR EXAMPLE, furniture, playground equipment, or stairs) | Pass | Fail |
| 5. Does your child make unusual finger movements near his or her eyes?
(FOR EXAMPLE, does your child wiggle his or her fingers close to his or her eyes?) | Pass | Fail |
| 6. Does your child point with one finger to ask for something or to get help?
(FOR EXAMPLE, pointing to a snack or toy that is out of reach) <i>(originally failed)</i> | Pass | Fail |
| 7. Does your child point with one finger to show you something interesting? <i>(originally failed)</i>
(FOR EXAMPLE, pointing to an airplane in the sky or a big truck in the road) | Pass | Fail |
| 8. Is your child interested in other children? <i>(originally failed)</i>
(FOR EXAMPLE, does your child watch other children, smile at them, or go to them?) | Pass | Fail |
| 9. Does your child show you things by bringing them to you or holding them up for you to see – not to get help, but just to share? <i>(originally failed)</i>
(FOR EXAMPLE, showing you a flower, a stuffed animal, or a toy truck) | Pass | Fail |
| 10. Does your child respond when you call his or her name? <i>(originally failed)</i>
(FOR EXAMPLE, does he or she look up, talk or babble, or stop what he or she is doing when you call his or her name?) | Pass | Fail |
| 11. When you smile at your child, does he or she smile back at you? | Pass | Fail |
| 12. Does your child get upset by everyday noises?
(FOR EXAMPLE, a vacuum cleaner or loud music) | Pass | Fail |
| 13. Does your child walk? | Pass | Fail |
| 14. Does your child look you in the eye when you are talking to him or her, playing with him or her, or dressing him or her? <i>(originally failed)</i> | Pass | Fail |
| 15. Does your child try to copy what you do? <i>(originally failed)</i>
(FOR EXAMPLE, wave bye-bye, clap, or make a funny noise when you do) | Pass | Fail |
| 16. If you turn your head to look at something, does your child look around to see what you are looking at? | Pass | Fail |
| 17. Does your child try to get you to watch him or her?
(FOR EXAMPLE, does your child look at you for praise, or say "look" or "watch me") | Pass | Fail |
| 18. Does your child understand when you tell him or her to do something?
(FOR EXAMPLE, if you don't point, can your child understand "put the book on the chair" or "bring me the blanket") <i>(originally failed)</i> | Pass | Fail |
| 19. If something new happens, does your child look at your face to see how you feel about it?
(FOR EXAMPLE, if he or she hears a strange or funny noise, or sees a new toy, will he or she look at your face?) <i>(originally unsure)</i> | Pass | Fail |
| 20. Does your child like movement activities?
(FOR EXAMPLE, being swung or bounced on your knee) | Pass | Fail |

Claudia screens positive on Follow-Up because she fails 2 items or more.

Total Score: 10

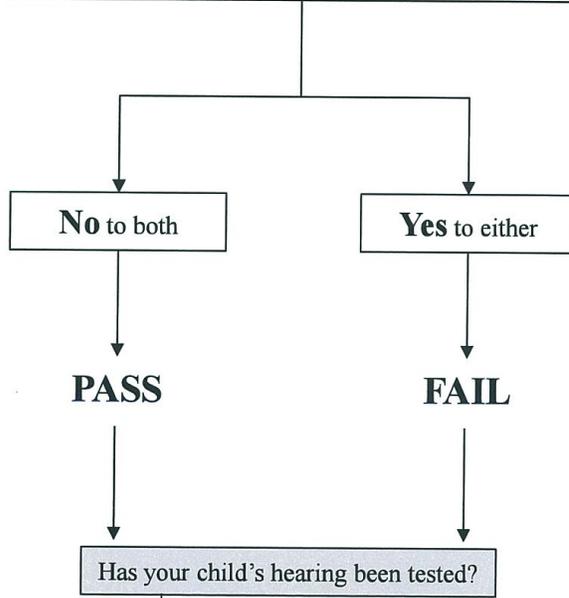
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2. You reported that you have wondered if your child is deaf. What led you to wonder that?

Does he/she...

often ignore sounds? Yes No

often ignore people? Yes No



ALSO ASK FOR ALL CHILDREN:

Yes

No

What were the results of the hearing test? *(choose one)*:

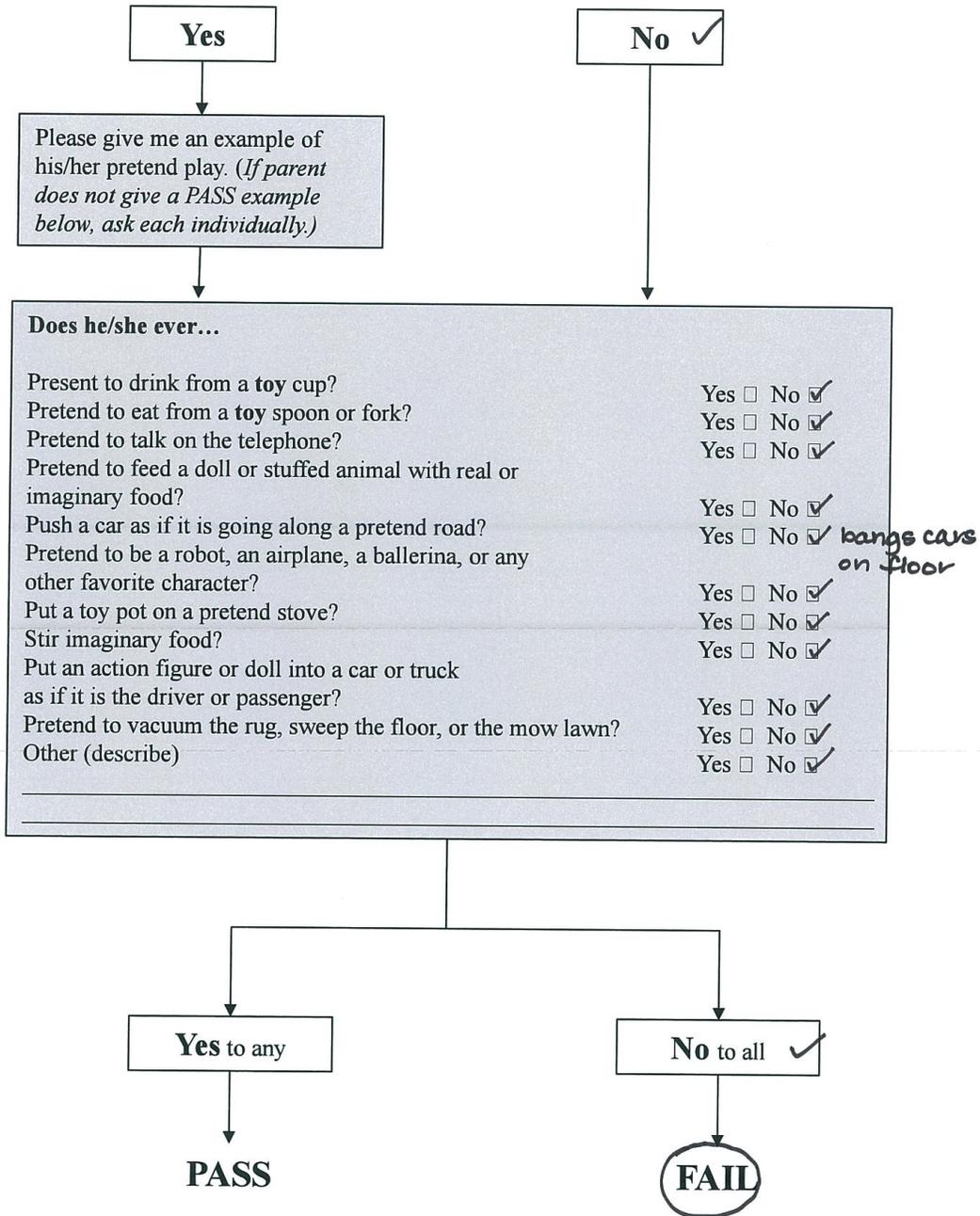
Hearing in normal range

Hearing below normal

Results inconclusive or not definitive

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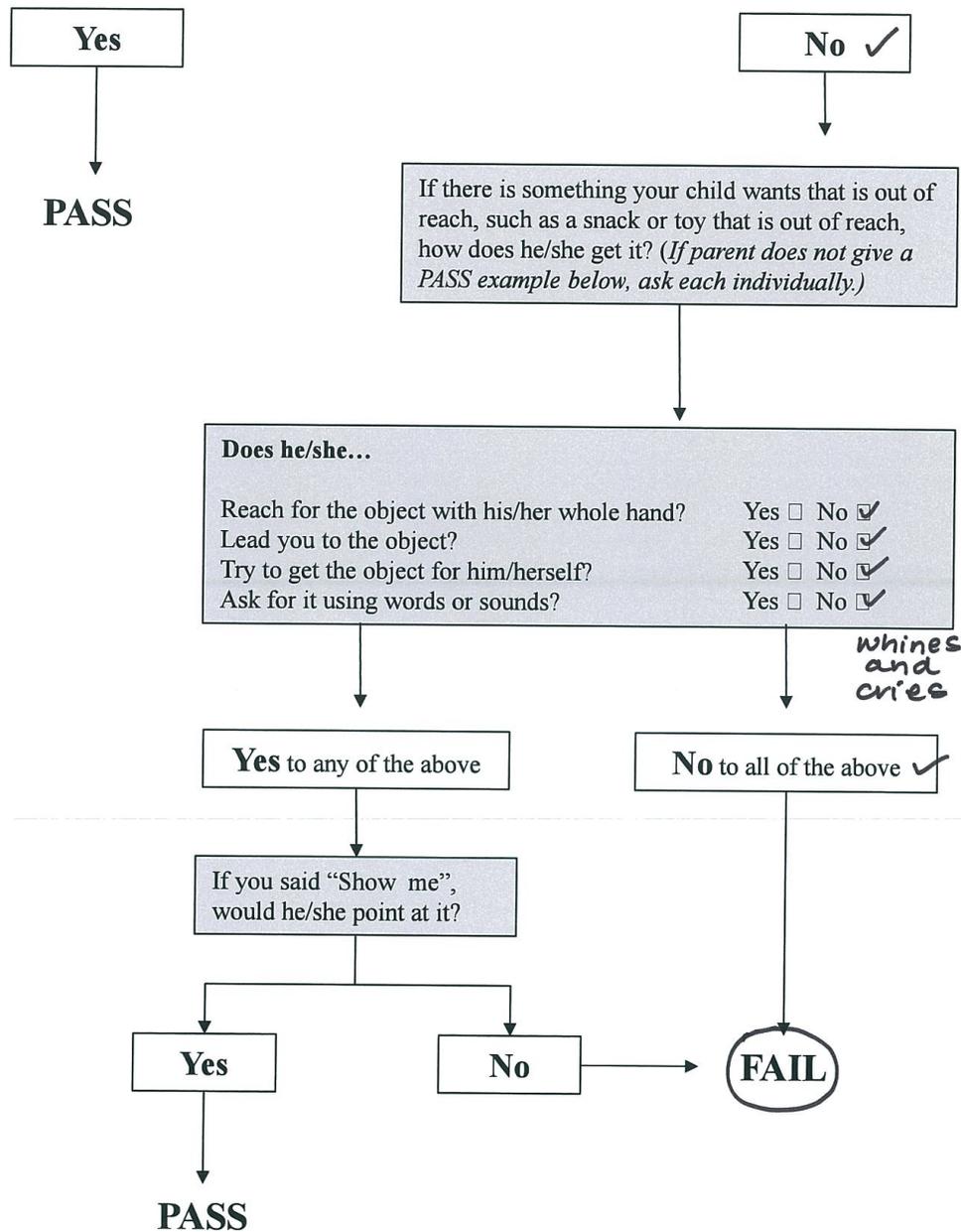
3. Does CLAUDIA play pretend or make-believe



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Screening for Autism Spectrum Disorder

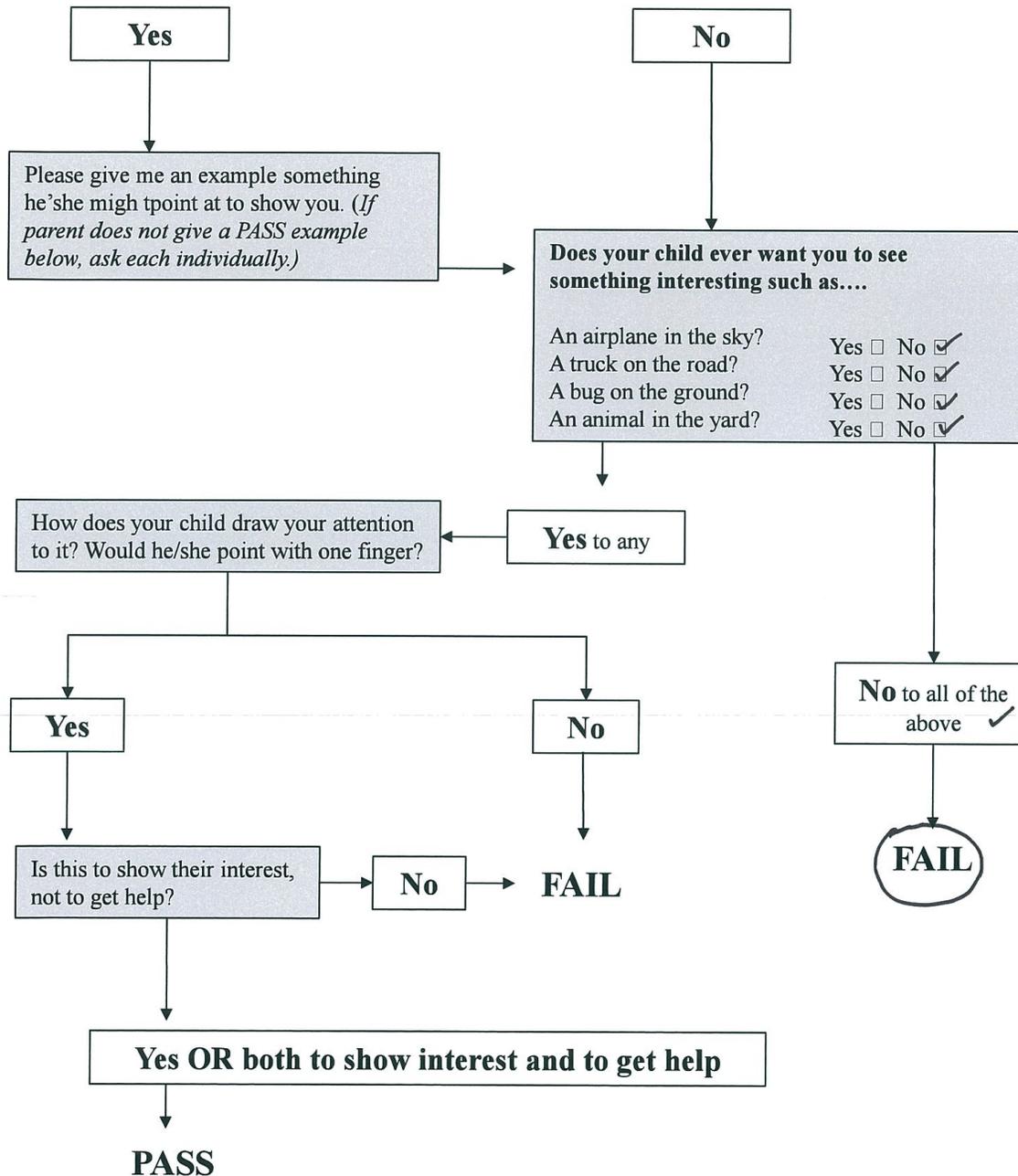
6. Does your child point with one finger to ask for something or to get help?



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Screening for Autism Spectrum Disorder

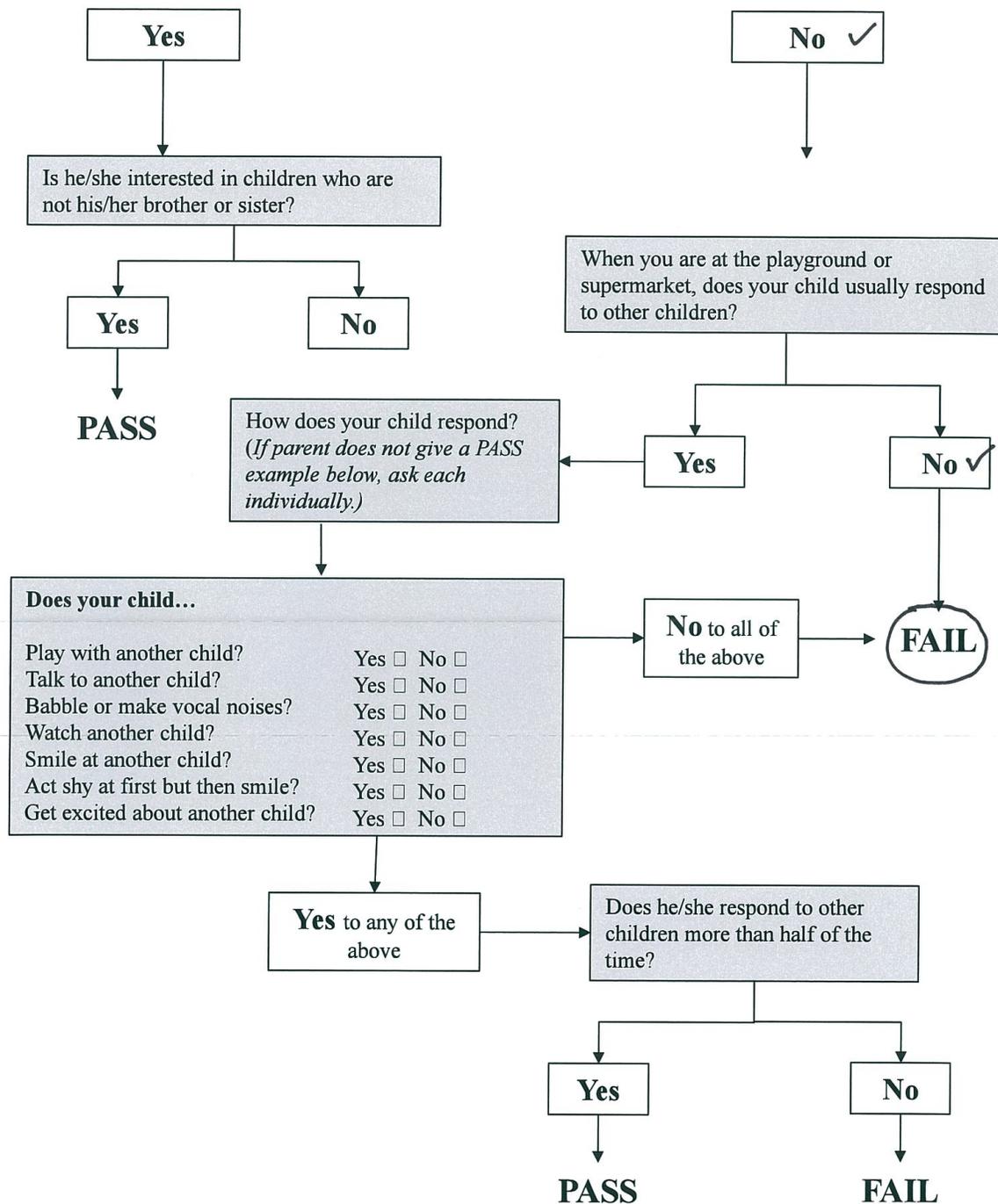
7. * If the interviewer just asked #6, begin here: We just talked about pointing to ask for something, ASK ALL → Does your child point with one finger just to show you something interesting?



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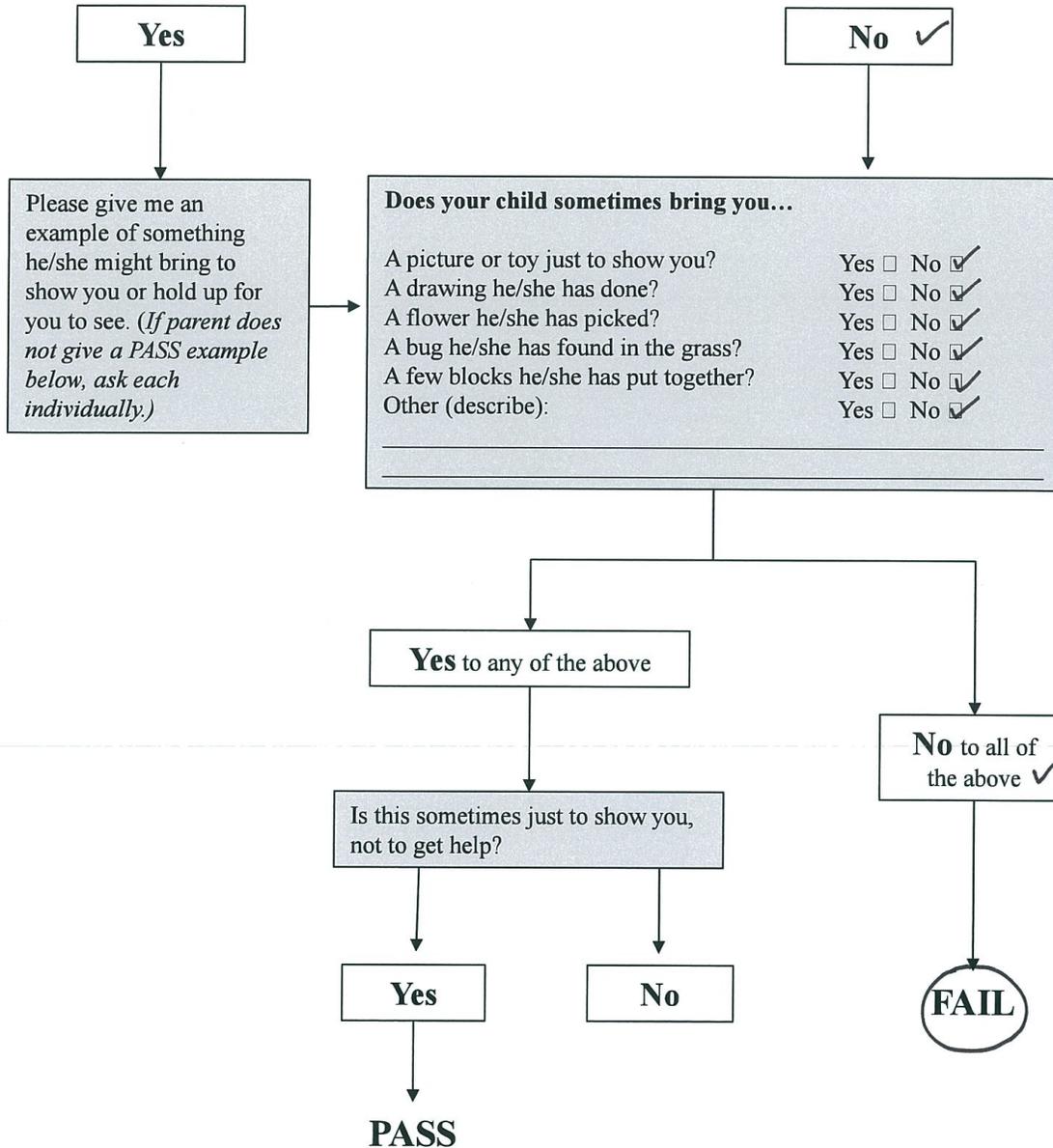
8. Is CLAUDIA interested in other children?



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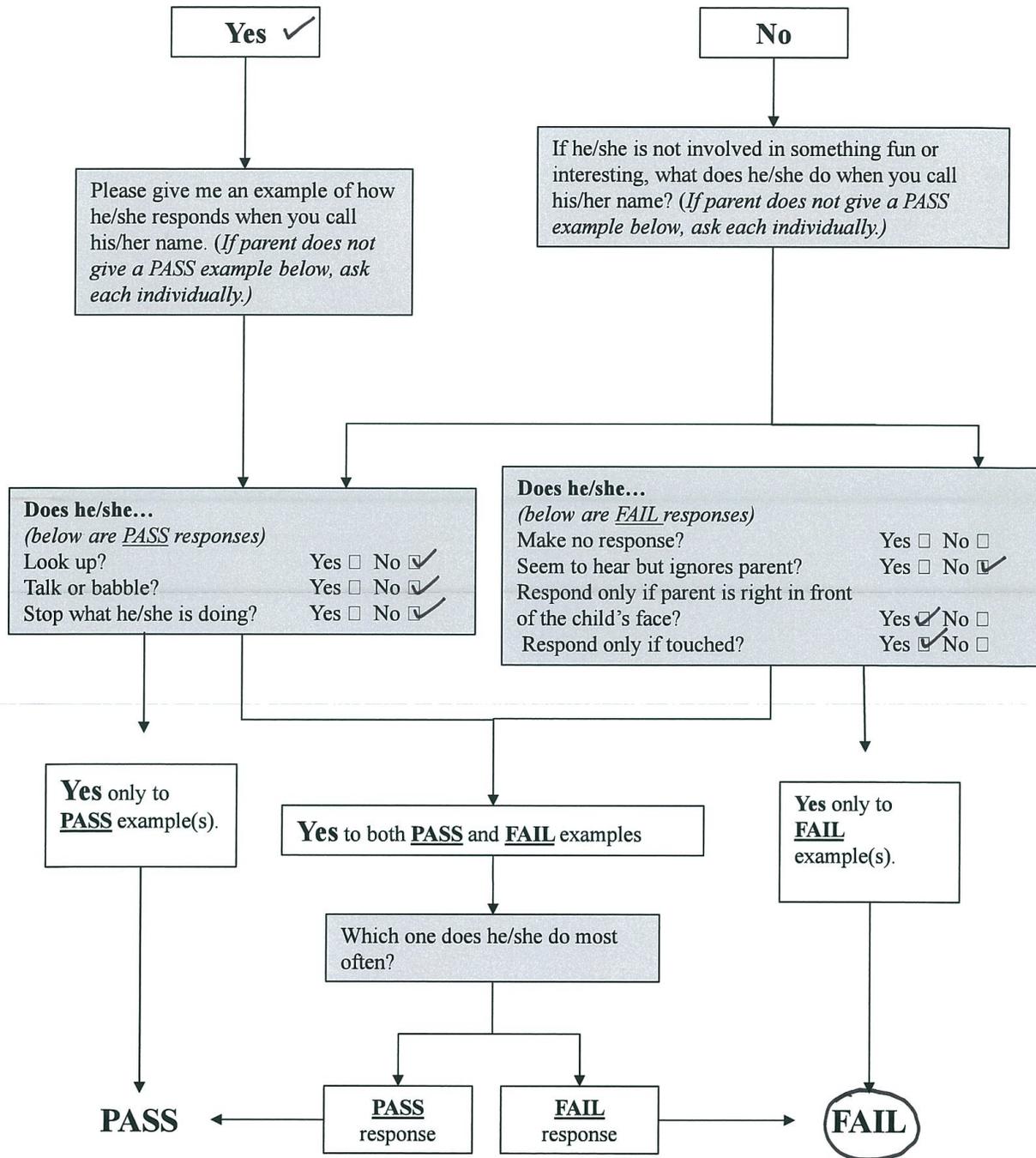
9. Does CLAUDIA show you things by bringing them to you or holding them up for you to see? Not just to get help, but to share?



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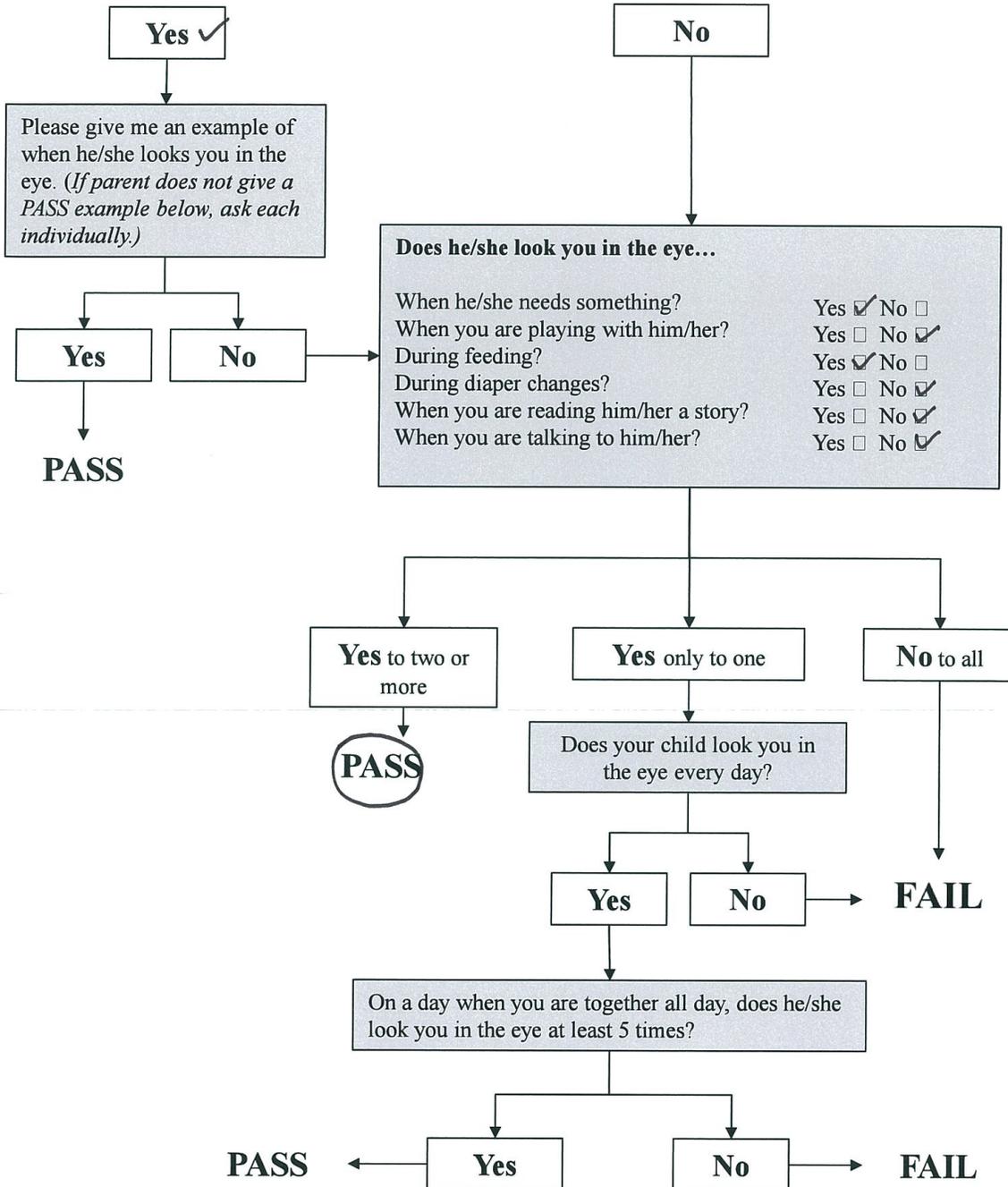
10. Does CLAUDIA respond when you call his/her name?



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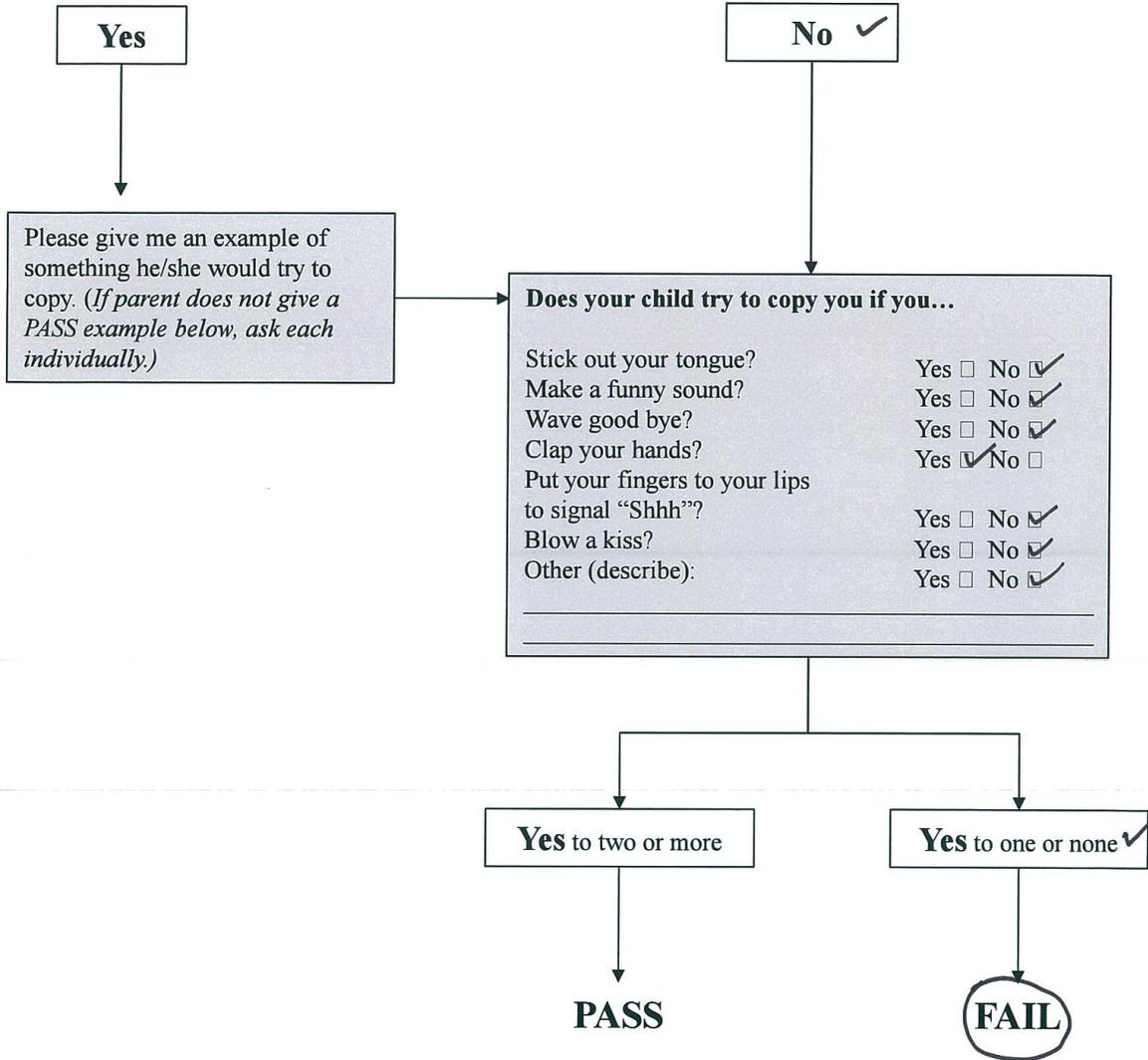
14. Does CLAUDIA look you in the eye when you are talking to him/her, playing with him/her, or changing him/her?



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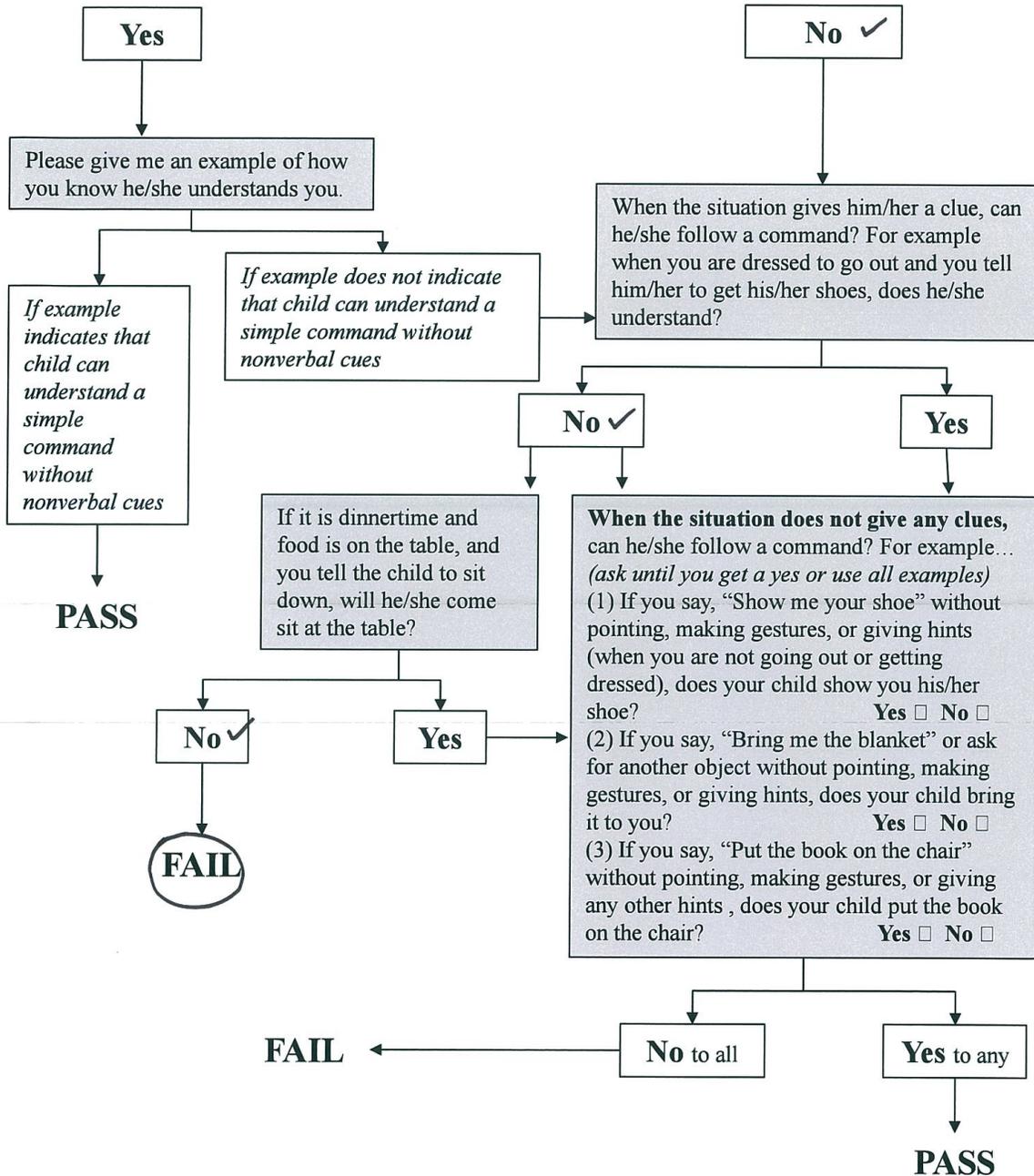
15. Does CLAUDIA try to copy what you do?



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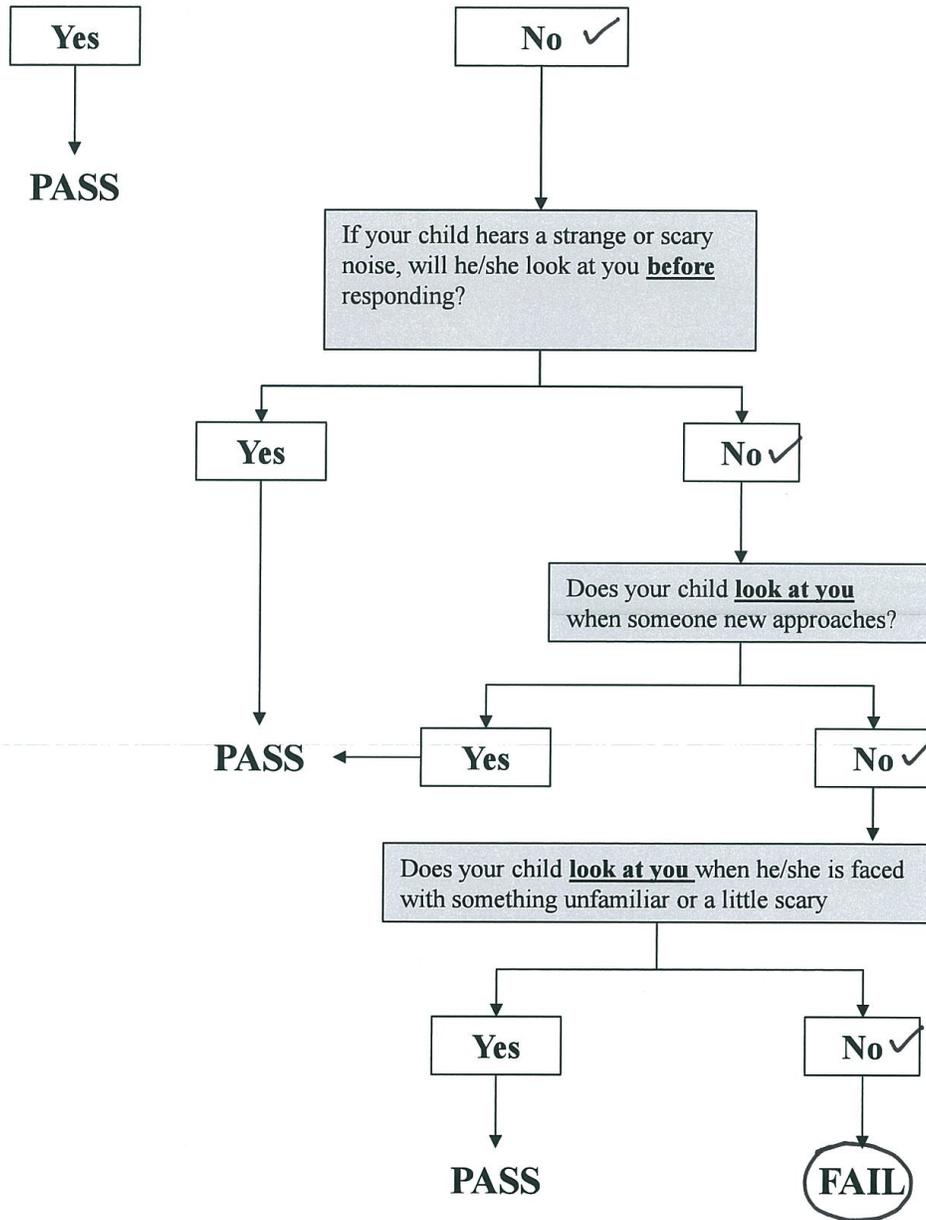
18. Does CLAUDIA understand when you tell him/her to do something?



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19. If something new happens, does CLAUDIA look at your face to see how you feel about it?



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