Practical Polygraph: Is There a Lower Age Limit for Polygraph with Juveniles

Raymond Nelson[1]

The APA Board of Directors recently approved an update to the Model Policy for the Evaluation of Examinee Suitability for Polygraph Testing. The updated model policy is, in many ways, similar to the previous version, but with important improvements based on years of experience since the publication of the previous version in 2012. Prior to the 2012 model policy standard guidance on examinee suitability was only that examiners had to evaluate each person's suitability at the time of the examination. This left examiners with a kind of experimental and circular approach to suitability questions – wherein conducting the polygraph test is the answer to the question about whether a person is unsuitable for polygraph testing. The model policy supports a more ethical, and therefore more preferable, approach in which we have a reasonable list of criteria, ideally based in evidence, that allows professions to make a realistic conclusion, prior to the onset testing, that polygraph testing is likely to work as intended. Standard guidance for examinee suitability was included in the 2009 PCSOT model policy, but was removed from the updated 2021 version of that document with the approval of the model policy on examinee suitability.

The updated document can be obtained online at:

https://www.polygraph.org/assets/docs/Misc.Docs/Model%20Policy%20for%20Examinee%20Suitability%20Sep%209%202021.pdf

The updated model policy on examinee suitability is an improvement on the previous version. One of the notable changes in the new (2021) version of the Model Policy for the Evaluation of Examinee Suitability for Polygraph Testing, compared to the

[1] Raymond Nelson is a research specialist with Lafayette Instrument Company, a past president of the APA and an elected member of the Board of Directors. The views and opinion expressed herein are those of the author and not necessarily the APA. Lafayette Instrument Company or any other entity.

previous (2012) versions is the absence of a lower limit for chronological age at which polygraph testing is not recommended. The previous (2012) version of the model policy included a chronological threshold of age 12, along with an advisement that functional and social maturity is a more important consideration than chronological age. It can be viewed as a point of idealistic and optimistic compassion to try to assume that young persons are never referred for polygraph testing, or that polygraph testing is never done with juveniles. However, practical reality often differs from our ideals, and many professionals have encountered situations in which it appeared useful to refer a young person for polygraph testing.

The committee – which included professionals from clinical mental health, psychiatry, law, law enforcement and government – that reviewed and edited the revised model policy for examinee suitability discussed the potential value of a chronological lower limit age threshold at length. Committee members ultimately came to a consensus that there is insufficient published evidence to support the publication of an APA policy recommendation for chronological age at this time. However, this does not imply that nothing is known about age and suitability for polygraph testing. The updated model policy does include descriptive criteria that would indicate a person is suitable for polygraph testing, and also includes descriptive criteria that would indicate unsuitability for testing. Like the previous version, the updated model policy also provides guidance around the handling of referrals for polygraph testing of persons with medical problems, mental health problems and developmental disorders.

There will, no doubt, be those who are disappointed at the lack of a chronological lower limit age guideline for evaluating suitability for polygraph testing. Chronological thresholds offer the advantage of practical convenience for a number of important social and legal considerations. For example: driving, voting, purchasing alcohol or cigarettes, purchasing firearms, serving in the military, consent for sexual activities, and the legal statutes under which an accused person may be prosecuted. A disadvantage of chronological age policies is that they are often very blunt, and can be so simplistic that they neglect individual differences that are sometimes important. Put simply, not all persons of a certain age will function similarly. It is inevitable that in any population or subgroup there may be individuals with exceptionalities or special needs.

For many normal functioning persons there is little need to question their suitability for polygraph testing, as long as it can be clearly established that they are not suffering an acute injury or illness at the time of testing. The Model Policy for the Evaluation of Examinee Suitability for Polygraph Testing exists mainly to provide guidance and information for discussion and decision-making around referral for polygraph testing of persons whose functional characteristics may be outside the normal range – those who may not be represented in published polygraph research, or those for whom published studies may indicated compromised or reduced effect sizes.

One inherent difficult with the formulation and publication of evidence based standards for polygraph field practice with persons with special needs or exceptionalities is that it will be quite difficult to obtain approval from the ethics committees, those that review research with human subjects, when seeking to do polygraph research with persons with medical, psychological or developmental problems. Related to this is the fact that the amount of polygraph research in total is quite small, and there are many remaining areas of needed research with persons uncomplicated by medical, psychological and developmental problems. And, at this time, based on research in the past, we can anticipate that there may be reduced effect sizes for polygraph testing with persons from some special needs groups.

Studies in the 1970s showed reduced effect sizes for young children, persons with schizophrenia, and those with intellectual disability. More recent research with the comparison question test (Craig, Raskin & Kircher, 2011) with 84 children aged 9-15 found no effect for age, and showed a significant effect for guilty status, with classification accuracy at .74, which was lower than previously reported for adults, using a function derived from the juvenile cases. With this information in view it is not surprising, when reviewing the model policy criteria for suitability and unsuitability, to note that many of the criteria are loaded around ***executive functions*** and *abstract reasoning*. Executive functions are cognitive skills involving working memory, attention, planning, cognitive flexibility, behavioral inhibition and related abilities such as systematic problem solving and deductive reasoning. Abstract thinking can be thought of generally as the ability to work easily with information out of context. It is the ability to engage with conceptual information that we cannot directly see or touch, including the ability to effectively model and manipulate the interaction of various sources of information solely in one's attention and working memory.

Abstract and systematic thinking play an important role in social perspective taking, and the ability to formulate and evaluate different hypotheses or scenarios. These abilities are related to the stage of *formal operations* in the developmental theory of Jean Piaget, characterized by systematic problem solving strategies, meta-cognition, and abstraction skills that permit the formation and evaluation of different possible outcomes to a scenario. These abilities are thought to begin to emerge generally after age 12, and continue to develop into the third decade of life. In contrast, an earlier stage of cognitive development, characteristic of younger children, is that of *concrete operations* – characterized by less abstract and hypothetical problem solving and learning abilities. Concrete thinking is characterized by a dependence on information that one can see and touch, though it may involve a variety of physical senses. Information out of context is more easily considered through metaphorical examples, that may be mistakenly taken literally.

Persons who function at this earlier level will benefit from assistance from others in perspective taking and from careful in-

struction as to the logic of their situations and solutions. With practice and experience, gained as a function of normal activities and adult guidance, young children can be observed to develop more mature and powerful cognitive abilities as they transition to more formal and less concrete thinking. Adolescents whose developmental trajectories are trending within the normal range are thought to be more capable of deductive reasoning, which invokes executive functions, in which conclusions or inferences are drawn logically from a series of more general observations. In contrast, younger children are thought to engage a more inductive reasoning process which general inferences are drawn from discrete situations, and transductive reasoning in which associations may be drawn from coincidental information.

Awareness and understanding of inductive vs deductive reasoning, and abstract vs concrete thinking, can be applied not only to questions about examinee suitability for polygraph testing, but also to professional thinking about examinee suitability for polygraph testing. In other words, some professionals may prefer a concrete chronological lower-limit age threshold for examinee suitability for polygraph testing vs a set of abstract characteristics to be evaluated within a set of abstract principles. It is likely that some professionals will view the absence of a chronological age limit as an oversight or loss. In terms of consistent field practice and expediency, there may be important value for polygraph agencies to formalize their own local standard-operating-proce dure around a chronological threshold for polygraph referrals.

When considering a chronological age threshold for polygraph referrals, the important consideration is this: *what might be the chronological lower limit age that reasonably assures that a young person will possess the cognitive and social abilities important to one's suitability for polygraph testing?* At this time the available information, from developmental psychology and from early polygraph studies, seems to converge around a lower age limit of 12 years for normal functioning persons. The difficulty with this is that normal functioning children are most often not found in situations that might lead to a referral for polygraph testing, though there is some obvious difficulty with causality in this discussion. A study of the comparison question test (Craig, Raskin & Kircher, 2011) with 84 children aged 9-15 showed a significant effect for guilty status, with classification accuracy at .74, using a function derived from the juvenile cases.

Taking a different, more inquisitive view, is it possible that young persons with cognitive, social and developmental difficulties might be over-represented in the group of young persons for whom it might be viewed as potentially useful to consider a referral for polygraph testing? If so, might this contribute to more erroneous decision-making as to examinee suitability for testing? As a point of hypothetical exercise, and working for the moment with the notion of a chronological lower age limit of 12 years, how might field polygraph professionals evaluate polygraph

referrals to ensure accurate decisions about suitability?

Two field practice questions might prove very useful here. Firstly, a polygraph examiner could ask the referring professional directly *"Is this a normal functioning young person?"* Very often, a direct question of this type will yield a direct answer, either in the affirmative (e.g., some version of *"Yes, why do you ask?"*) or negative (e.g., a variant of *"well, this is kind of an unusual kiddo..."*). It can also occur that a referring professional has not considered this matter and has no useful information for the examiner. Most importantly, when young persons have serious or profound, cognitive, social, developmental or functional limitations it will tend to be obvious. Polygraph examiners who are open to and seek this information can easily consider this information when making decisions about accepting or rejecting a referral for polygraph testing.

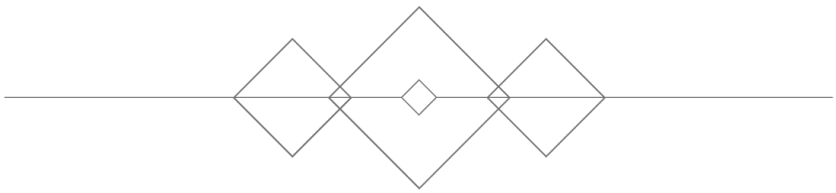
Secondly, a very useful question to ask of any professional who is considering referring a youth for polygraph testing is this: *"Is this young person in special education or being educated under an individual education plan (IEP) in school?"* Quite often, some adult connected with the young person will know the answer to this question. Schools in the U.S. are obligated under federal law to identify and work with functional and developmental limitations that interfere with a child's ability to participate in school and gain an education. All persons in special education programs will have been evaluated by both teachers and school psychologists, and there will be some information to document and describe the nature of the young person's difficulties. Young persons with obvious or serious difficulties in school are often easily identified by observant adults. This information may be helpful to a polygraph examiners faced with the need to make a decision about the suitability of a young person for polygraph testing. However, access to other professionals may be an inherent potential difficulty for some polygraph field practitioners.

Another inherent difficulty is that some young persons have real difficulties that are not at all obvious. Youths with less pervasive difficulties will often function normally in most or nearly all functional domains, and may have difficulties in only one or two skill areas. These youths are, in fact, normal functioning – though they may benefit from assistance in specific areas of difficulty. These youths may sometimes be described as having a specific learning disorder – which does not imply global cognitive deficits, but for some persons may include mild delays in functional or social maturity. For obvious social and psychological reasons people with specific areas of difficulty may learn to try to hide or mask their limitations. And adults, including professionals, can sometimes overlook or neglect that these youths are functioning with some identifiable limitation or learning difficulty, assuming simplistically that these youths are just less motivated or more immature than others in terms of judgment and impulse control. Fortunately for most of these youths it is not common that a specific learning disorder would result in a social maturity delay of more than one or two years when compared the chronological peer group.

By adulthood most differences are largely outgrown and mitigated.

A very simple solution to avoid problems in the evaluation of polygraph referrals of young persons who may have cognitive, functional and social maturity differences compared to their chronological peers, would be to use age 14 as a chronological threshold for polygraph referrals. In this way, observant professional can still easily identify young persons with more serious and obvious difficulties, while those with subtle and specific learning difficulties are still likely to exhibit or possess all of the functional characteristics necessary for effective polygraph testing.

Although there is obvious no simple solution, and no one-size-fits-all solution to the question of chronological or functional maturity for polygraph testing, the APA Model Policy for the Evaluation of Examinee Suitability for Polygraph Testing can be a useful and important source of guidance and information on this matter, even though it does not provide a suggestion for a chronological lower limit age for polygraph testing. For those who desire the convenience of a more concrete and tangible solution, it is hoped that the suggestions in this manuscript are of some usefulness, despite the brevity of treatment of such a complex and important area of discussion.



Reading List

Abrams, S. (1974). The validity of the polygraph with schizophrenics. *Polygraph, 3*, 328-337.

Abrams, S. (1975). The validity of the polygraph technique with children. *Journal of Police Science and Administration, 3*, 310-311.

Abrams, S. , & Weinstein, E. (1974). The validity of the polygraph with retardates. *Journal of Plolice Science and Administration, 2*, 11-14.

American Polygraph Association (2021). *Model Policy for the Evaluation of Examinee Suitability for Polygraph Testing*. [Electronic version] Retrieved Sep. 26, 2021, from http://www.polygraph.org.

Beilin, H. (1992). Piaget's enduring contribution to developmental psychology. *Developmental Psychology. 28*(2), 191–204.

Craig, R. A., Raskin, D. C. & Kircher, J. A. (2011). The use of physiological measures to detect deception in juveniles. *Polygraph, 40*(2), 86-99.

Ferguson, H. J., Brunsdon, V. E. A. & Bradford, E. E. F. (2021). The developmental trajectories of executive function from adolescence to old age. *Nature: Scientific Reports, 11*, 1382.

Gerber P. J. (2012). The impact of learning disabilities on adulthood: a review of the evidenced-based literature for research and practice in adult education. *Journal of Learning Disabilities 45*(1), 31–46.

Lewis, M. (Ed.). (2002). Child and Adolescent Psychiatry: *A Comprehensive Textbook (3rd ed.)*. Lippincott Williams & Wilkins

Mayer, S. (2005). The early evolution of Jean Piaget's clinical method. *History of Psychology. 8(4)*, 362–382.

Sahoo M. K., Biswas, H. &. Padhy, S. K. (2015) Psychological co-morbidity in children with specific learning disorders. J*ournal of Family Medicine Primary Care, 4*, 21–5.

Prior, M., Smart, D., Sanson, A. & Oberklaid, F. (1999). Relationships between learning difficulties and psychological problems in preadolescent children from a longitu-

dinal sample. *Journal of the American Academy of Child and Adolescent Psychiatry, 38*, 429–436.

[2] Note that this manuscript title would today be considered offensive. In the history of psychological discussion a convenient intuition or heuristic was to compare the intellectual capacity of a low functioning adult individual to the abilities of developing children. Terms such as "idiot," "imbecile" and "moron" were denoted as referring to persons whose levels of cognitive development were equivalent to those of of a 2-year-old child, or to children age 2-7 or age 7-12 respectively. Today the term "persons with intellectual disability" is preferred as attempts describe the condition while avoid the replacement of personhood with a label.