History of Psychology
2014, Vol. 17, No. 4, 312–324

1093-4510/14/$12.00 http://dx.doi.org/10.1037/a0037325

LITTLE ALBERT'S ALLEGED NEUROLOGICAL IMPAIRMENT
Watson, Rayner, and Historical Revision

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In 2012, Fridlund, Beck, Goldie, and Irons (2012) announced that "Little Albert"—the infant that Watson and Rayner used in their 1920 study of conditioned fear (Watson & Rayner, 1920)—was not the healthy child the researchers described him to be, but was neurologically impaired almost from birth. Fridlund et al. also alleged that Watson had committed serious ethical breaches in regard to this research. Our article reexamines the evidentiary bases for these claims and arrives at an alternative interpretation of Albert as a normal infant. In order to set the stage for our interpretation, we first briefly describe the historical context for the Albert study, as well as how the study has been construed and revised since 1920. We then discuss the evidentiary issues in some detail, focusing on Fridlund et al.'s analysis of the film footage of Albert, and on the context within which Watson and Rayner conducted their study. In closing, we return to historical matters to speculate about why historiographical disputes matter and what the story of neurologically impaired Albert might be telling us about the discipline of psychology today.

Keywords: John B. Watson, Little Albert, ethics, history of behaviorism

Historians of psychology know Albert B. (also called "Little Albert") as the 11-month-old infant who Watson and Rayner (1920) tried to condition to fear a white rat and other animals and objects. In 2009, Beck, Levinson, and Irons (Beck, Levinson, & Irons, 2009) announced that they had used census and other records to find a baby, Douglas Merritte, whose age and mother's occupation matched Watson and Rayner's description of Albert. They also reported that the world would never know whether Albert (Douglas) had grown up with a fear of furry animals because he died a few years after the experiment. According to Beck et al. (2009), "the robust child shown in Watson's [1923] film became sickly" (p. 613), developing hydrocephalus in 1922 and dying in 1925.

Then, in 2012, Fridlund, Beck, Goldie, and Irons (2012) announced a new twist to the Albert story—that he had been neurologically impaired almost from birth. They reported the discovery of previously overlooked signs of neurological impairment in the film sequences of Albert (Watson, 1923), which were seemingly confirmed by Douglas's medical file—discovered at Johns Hopkins University (JHU) in 2010—which revealed that he had been diagnosed with hydrocephalus soon after birth. Thus, Albert was not the healthy child that Watson and Rayner (1920) had claimed him to be, but was instead a severely ill child during the time of Watson and Rayner's research. Fridlund et al. also alleged that Watson likely knew of Douglas's illness when selecting him for the study, and then deliberately hid this fact in published accounts of the case.

Needless to say, this new revelation, if accurate, calls for a rewriting of the Watson and

This article was published Online First July 28, 2014.

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We thank Hugh McKenzie, Nicole Anderson, Anna Pham, and staff at the Alan M. Chesney Medical Archives for their assistance in our investigation. We also thank Gary Irons for allowing us to access Douglas Merritte's medical file. Finally, we are grateful to the participants at the 2013 Cheiron and Association for Applied Behavioral Analysis International conferences for providing helpful feedback on presentations related to this research.

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Rayner (1920) study, its significance to the field of psychology, and its importance to the history of science and medicine. An alternative conclusion, however, is that the neurologically impaired Douglas was not Little Albert. But Fridlund et al. (2012) rejected this possibility, a major reason being "the absence of an alternative candidate meeting even a subset of the [Albert] criteria" (p. 317) in the way that Douglas Merritte does.

Recently, we located another infant—Albert Barger—whose age and parentage match the Little Albert story as well as Douglas Merritte does (Powell, Digdon, Harris, & Smithson, in press). Like Douglas Merritte, Albert Barger was 8 months 26 days old at the time the study likely began in early December 1919; in fact, his birth certificate indicates that he was born on March 9, 1919 (Health Department City of Baltimore, Certificate of Birth, 1919), the same day that Douglas Merritte was born (Beck et al., 2009). Albert Barger's patient file at the Alan Chesney Medical Archives at JHU confirms that his mother (Pearl Barger), like Little Albert's mother, worked as a wet nurse at the hospital at the time of the Albert study (Barger Medical File [BMF], May 14, 1919, to March 31, 1920).

In addition to his age and mother's occupation, however, Albert Barger, but not Douglas Merritte, matches several other characteristics of Little Albert. Albert Barger's name is consistent with "Albert B.," which is the name Watson and Rayner (1920) called Little Albert. Albert Barger was also very well developed and in excellent health when he was admitted to the hospital ("the child has always been well and is considered a healthy infant"; BMF, May 14, 1919), which is consistent with Watson and Rayner's (1920) assertion that Albert B. was "one of the best developed youngsters ever brought to the hospital" (p. 1). Additionally, Albert Barger was removed from the hospital at the age of 1 year 21 days (BMF, March 31, 1920), which is exactly the age that Little Albert was reported to have been when he left the hospital on the final day of the study (Watson & Rayner, 1920). By contrast, Douglas Merritte was discharged from the hospital at only 1 year 15 days of age (Merritte Medical File [MMF], March 24, 1920).[1]

Another point of comparison is bodyweight. Albert Barger weighed 21 pounds 15 ounces when he was 8 months 25 days old (BMF, December 5, 1919), which is notable because it is a reasonable approximation to Little Albert's reported weight of 21 pounds at 9 months of age (Watson & Rayner, 1920). Moreover, Albert Barger's weight is heavy compared with other 9-month-olds in that era, whose average weight was 17.5 pounds (Faber, 1920), and is at about the 75th percentile of modern growth charts (World Health Organization, 2006). It is also consistent with Little Albert's chubby appearance (see Figures 1, 2, and 3). By contrast, Douglas Merritte weighed 14 pounds 15 ounces at that age (MMF, December 5, 1919), which was below what was regarded as a minimum healthy weight of 16 pounds in that era (Faber, 1920), and at only the 1st percentile of modern growth charts (World Health Organization, 2006). Douglas's extremely low body weight is a major discrepancy with Little Albert's chubby appearance in the film, making it highly unlikely that Douglas was Albert.[2]

On the other hand, if Fridlund et al. (2012) are correct that Little Albert was neurologically impaired, then Albert Barger could not have been Little Albert either, despite the many similarities between the two Alberts. Thus, our article examines the data and arguments presented by Fridlund et al. We argue that the evidence does not stand up to scrutiny. But before looking at these evidentiary issues, we first provide a brief discussion of the historical context in which the Little Albert study occurred, as well as how the study has been received and construed since its publication in 1920. Today, the Little Albert study is sometimes considered one of the classic studies in psychology, but beliefs about its scholarly significance, as well as its narrative, have not been timeless (Harris, 1979; Samelson, 1980). The

[1] Gary Irons, Douglas Merritte's next of kin, provided a letter to the Johns Hopkins Hospital Board granting permission for the second author of this article to view and take notes from Douglas's medical file. In accordance with Mr. Iron's request, we hereby acknowledge that his granting us access to the file does not mean that he either concurs or disagrees with any statements or conclusions we make in publications utilizing this information.

[2] Douglas was notably underweight during his entire hospital stay and never reached 21 pounds (MMF, April 17, 1919, to March 20, 1920). Fridlund et al. (2012) did not report Douglas's weight, although it is readily available in the medical file's nursing notes, feeding charts, and graphs showing how his weight fluctuated over time.

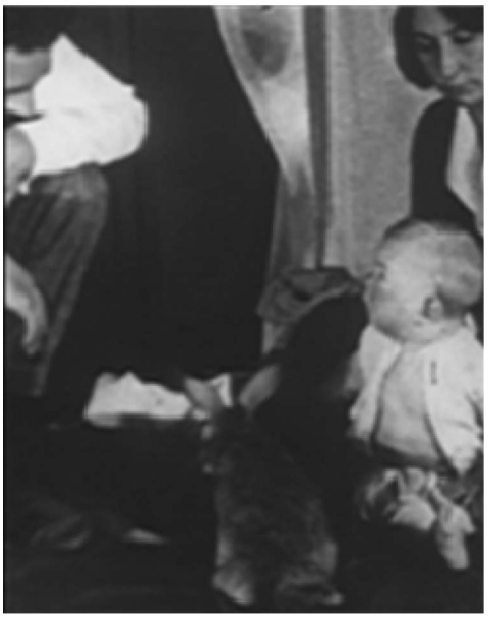

Figure 1. Albert appears to be making eye contact with Watson in a manner that could be construed as social referencing (source: Watson, 1923).

story of a neurologically impaired Albert joins the ranks of various other revisions to Albert's story. We speculate about how the zeitgeist of the time might influence which version of Albert's story gains traction. In the closing section of the article, we return to historical matters and speculate about why historiographical disputes matter—and why they can be enlightening. We also ask what the story of a neurologically impaired Albert might be telling us about the discipline of psychology today.

Background Information

The Little Albert study was set in the late progressive era when Americans were keen to apply scientific psychology for the public good. Americans were optimistic that scientific psychology could be used to shape reforms in social welfare, education, child rearing, criminal justice, and mental hygiene—just as science had already improved efficiency and profits in private business through the adoption of scientific management (see Jansz & van Drunen, 2004, for reviews). During the early 1900s, G. Stanley Hall's child study movement aimed to furnish a scientific understanding of children (including their fears) that could serve as the foundation for reforms (White, 1992). This research, however, was mostly based on surveys and other nonexperimental methods, and lacked the strong theoretical focus needed to guide application. It thus failed to inspire much in the way of reform, which led to the movement's demise around 1910 (Davidson & Benjamin, 1987). But societal appetite for a scientific understanding of children remained, and Watson and Rayner's (1920) study likely fed into this unsatisfied hunger.

The Little Albert research was the first to attempt to systematically manipulate a child's fears. As such, it could potentially isolate conditions under which a child's fears appear and disappear. In fact, Watson and Rayner's goals for the study were both to condition the occurrence of fear and then later remove it, although Albert and his mother left the hospital before the latter goal could be attempted. As a result, the study served mostly to validate Watson's (1919) theory of emotional development. Watson theorized that only three emotions were innate—fear, love, and rage—each of which

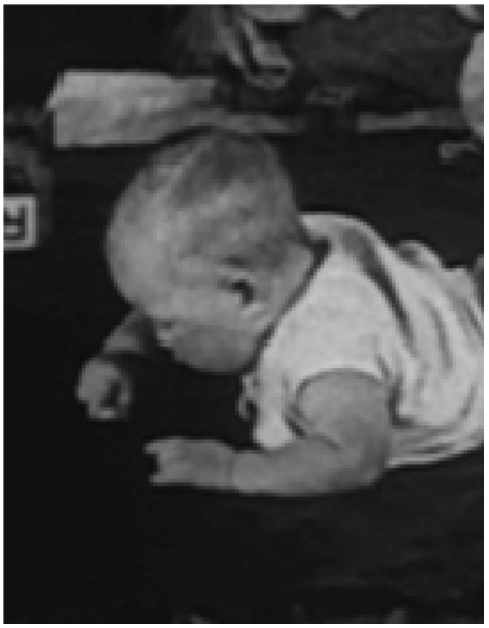

Figure 2. Albert, at age 8 months 26 days, is using a pincer grasp to pick up a marble, securing it between his thumb and forefinger (source: Watson, 1923).

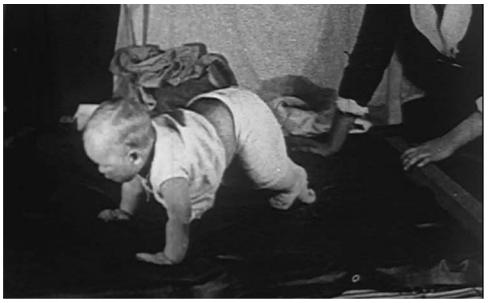

Figure 3. This clip from the baseline session shows Albert's ability to creep on his hands and feet, also known as "bear walking," which is a transitional stage between crawling and walking that occurs in some infants (source: Watson, 1923).

was elicited by a limited number of stimuli. For instance, Watson believed that loud noise and falling were the only stimuli that naturally elicited fear, with all other fear eliciting stimuli being the result of conditioning. In order to test this theory, Watson and Rayner (1920) chose "Albert B." deliberately because of his young age, controlled upbringing in the hospital (which ensured that he had no prior experiences with the stimuli used in the study, such as a rat), and phlegmatic disposition (which, in their view, made him more resilient and less likely to suffer significant harm).

The study began with a baseline session when Albert was 8 months 26 days old. The baseline showed that Albert was not afraid of such stimuli as a white rat, a dog, a rabbit, or fire, but was afraid of a loud noise. This meant that a loud noise could be used as an unconditioned stimulus in the conditioning of a fear response to other stimuli. The conditioning session—which occurred when Albert was 11 months 3 days—consisted of pairing the loud noise with the presentation of the rat. According to Watson and Rayner (1920), after two such pairings, Albert began to display a fear response to the rat. Subsequent sessions with Albert, which sometimes included additional conditioning trials, assessed the persistence of Albert's fear of the rat, as well as the extent to which the fear had generalized to other furry objects and animals. Albert's age during these later sessions ranged from 11 months 10 days to 12 months 21 days.[3]

Although some contemporary psychologists view Little Albert as Watson's most famous research (see Beck et al., 2009), early scholars did not regard it as pivotal. For instance, Edwin Boring's (1929/1957) history of experimental psychology devotes 12 pages to behaviorism, and cites several of Watson's publications, but not the Little Albert study. The same is true of Edna Heidbreder's (1933/1961) book on seven psychologies, which has a 53-page chapter on behaviorism. Nevertheless, Heidbreder notes that Watson "is not content merely to observe children's fears and to note the conditions in which they are acquired and lost; he sees most of those fears as avoidable mishaps, and he seeks ways and means of removing them" (p. 257). Heidbreder's impression likely came from Watson's writings after 1920, including his best-selling book, *Psychological Care of Infant and Child* (published in 1928), and Watson's numerous magazine articles and radio interviews. As Harris (1984) noted,

> by the end of the decade [1929], millions had heard about the new, behavioristic view of child rearing, marriage and family life. Regardless of whether the public completely believed these popularized concepts of Watson, his writings were soon required reading for the middle classes—rivaling psychoanalysis as the popular psychology of the moment. (p. 127)

Two researchers who did cite the Little Albert study—Bregman (1934) and Valentine (1930)—were unable to replicate Watson and Rayner's (1920) results and pointed out methodological flaws in the study. Most importantly, they disagreed with Watson's theory that innate fears were limited to loud sounds and falling. Valentine, for example, argued that other innate fears are not necessarily expressed at birth, but may emerge later because of maturation rather than conditioning.

Although the Watson and Rayner (1920) article did not fare particularly well in terms of its scholarly impact, it did become a regular feature in undergraduate textbooks, beginning in 1921 (see Todd, 1994, for a review). Within a few years, it was firmly rooted in the canon of the

[3] In addition to the 1920 report in *Journal of Experimental Psychology*, Watson and Rayner described the Albert study in a 1921 issue of the popular journal *Scientific Monthly* (Watson and Watson, 1921). Interestingly, Watson cites only this nonacademic source when referring to Albert in his later publications (cf. Watson, 1924, 1930), perhaps because of his estrangement from academic psychology by that time (see Buckley, 1994).

introductory psychology curriculum and was a frequent topic in other courses such as abnormal psychology (LeUnes, 1983). Within this venue, as the Little Albert story was told and retold, it mutated into several versions. Harris (1979) found that textbook authors often improved the narrative or made the story more sensational. Some authors also bolstered the study's method and interpretability, perhaps reflecting psychologists' general belief in methodological rigor as the hallmark of science, although some viewed this focus as excessive (see Köhler, 1959). As Samelson (1980) noted, the Little Albert study

> could not have become enshrined as the paradigm for human conditioning on the basis of its hard scientific evidence . . . The extraordinary appeal of the Albert story must have come from the fact that it was, especially in streamlined presentation, a beautiful illustration of an idea already congenial to its audience. (p. 621)

Accordingly, some textbook authors cast Little Albert as a pioneer in the history of psychology. For instance, Krech, Crutchfield, Livson, Wilson, and Parducci (1982) claimed that Little Albert bestowed upon Watson an important honor: "Watson had conditioned the first experimentally induced human neurosis!" (p. 215), and that Watson's writings on removing fear laid the basis for the behavior therapies of the 1950s and 1960s. Yet the pioneering behavior therapist Arnold Lazarus (1991) asserts that the use of Little Albert's case as the proof for the "radical behavioristic notion that 'avoidance behavior' is conditioned and maintained entirely by overt consequences, has retarded clinical progress" (p. 446). Similarly, Wolpe credits Pavlov, not Watson, as the inspiration for the later development of treatments to eliminate conditioned fears (see Wolpe & Plaud, 1997). As well, Watson and Rayner's recommended technique for removing fears—"by showing objects calling out fear responses (visual) and simultaneously stimulating the erogenous zones (tactual). We should try first the lips, then the nipples and as a final resort the sex organs" (Watson & Rayner, 1920, p. 7)—bears little resemblance to later behavior therapies.

Another significant change to the Little Albert story can be traced to the mid-1970s, when psychologists started to view the study through a new lens—that of the unethical experiment that prioritized researchers' goals over rights of research participants. In the words of Resnick (1974), "Watson and Raynor's [sic] work surely does stand as a monument to the experimental ingenuity and unsound ethical judgment of early American psychology. Possibly, the two go hand in hand" (p.112). This new construal of the Albert study conformed to an emerging concern. Since World War II, psychologists had been confronted with a seemingly endless number of past (and current) studies in which research participants had been mistreated, beginning with the tragedies that inspired the Nuremberg Code (see Kimmel, 2007, for a review). In 1968, the American Psychological Association (APA) commissioned the so-called Cook Committee to survey over 9,000 APA members about their awareness of unethical research practices, which would be used to inform upcoming revisions to the APA's code of ethics (Stark, 2010). Within this context, it is not surprising that the Little Albert study—which had flown under the "ethics radar" for several decades—was now reinterpreted as a violation of Albert's rights. These concerns about Albert's plight mirrored psychology's broader quest to protect the rights of all research participants, who were no longer seen as mere research "subjects."

Given the growing concern about ethics in the 1970s, it is perhaps not surprising that it coincided with the first published account of a psychologist's search for Albert's real identity (Murray, 1973). As a victim of unethical research, Albert's fate was perhaps now more relevant—did he suffer permanent harm from the study? Although Murray's attempt to locate Albert was unsuccessful, Resnick (1974) commented "that a continued search [for Albert's identity] is essential if we are to provide any sense of closure for our students with respect to outcomes of psychological experiments" (p. 112). Nevertheless, Albert's identity remained a mystery until Beck and colleagues (2009) revealed that Albert was Douglas Merritte. Beck et al.'s revelation seemed to be a major breakthrough and was met with much excitement and fanfare. The APA's *Monitor on Psychology* ran the featured story, "Little Albert Regains His Identity," proclaiming that "one of psychology's greatest mysteries appears to have been solved" (DeAngelis, 2010)—though some scholars remained skeptical (Harris, 2011; Powell, 2010, 2011; Reese, 2010).

It was against this backdrop, that Fridlund et al. (2012) proposed that Douglas/Albert had contracted hydrocephalus at a much younger age than previously assumed, and had been the victim of extremely unethical behavior on the part of Watson. Needless to say, this created even more of a stir than the Beck et al. (2009) discovery of Douglas. *The Chronicle of Higher Education* ran the feature story, "A New Twist in the Sad Saga of Little Albert," announcing that "if Fridlund is right, the story of Little Albert will become even sadder and the legacy of Watson significantly more tattered" (Bartlett, 2012). Albert's neurological status and its ethical implications had now become the central detail in this latest retelling of the Albert story. Accordingly, in the next section of this article, we reexamine Fridlund et al.'s evidence for Albert's neurological impairment.

Film Analysis and Diagnosis of Little Albert's Neurological Status

Fridlund et al. (2012) claimed that Little Albert was neurologically impaired because he appeared to have serious behavioral deficits in Watson's (1923) film, *Experimental Investigation of Babies*. Powell et al. (in press) argue that this evidence suffers from numerous weaknesses, several of which are outlined here.

The first major weakness is that the film's portrayal of Albert is extremely limited. The film is silent, shot from a single camera angle, and somewhat blurry. Albert appears for a total of 5 min, and this footage is comprised of 34 brief clips, varying in duration from 2 to 31 s ($M = 9$ s, $SD = 6$ s). The clips are spliced together into longer segments. They focus on Albert's reactions to the animals and objects he was being shown, which was the stated purpose of the study (Watson & Rayner, 1920). Thus, off-task behaviors were most likely omitted from the film—which, given the choppiness of the film, may have been frequent. The film also contains no footage of Albert's normal behavior outside the laboratory setting. The film should therefore not be regarded as a representative sampling of Albert's normal behavior, without which, any appraisal of deficits in Albert's behavior is, at best, highly speculative.

Powell et al. (in press) contend that the selective nature of the film clips may account for Fridlund et al.'s (2012) observation that Albert was unusually "stimulus bound," focused only on the stimuli in front of him, with little or no awareness of the people around him. If the clips were selected to show Albert's reactions to the stimuli presented to him rather than to people, his behavior would naturally appear stimulus bound. This, in turn, means that Fridlund et al.'s conclusion that Albert displays no evidence of social referencing—which is an infant's tendency to look toward adults when confronted with a novel or feared stimulus (Campos & Stenberg, 1981)—is unjustified, given the nature of the film. Additionally, Fridlund et al.'s contention that certain instances in the film in which Albert does appear to look at Watson should be dismissed because "no evidence is provided of mutual gaze, or that Albert sees Watson" (p. 307) also seems unjustified. As shown in Figure 1, however, one could just as easily argue that Albert does see Watson and that social referencing is occurring.

Fridlund et al. (2012) also claimed that the film reveals deficits in Albert's motor skill development, especially his handling of objects: "He [Albert] scooped at the [play] block. . . . very primitive scooping, normally there's pincer midline play by 8 months'" (Goldie quote, p. 309); "Albert's movements and responses suggest neurological abnormality [including] hand-scooping in lieu of pincer-grasp movements" (p. 310). But Fridlund et al. failed to mention that the film also portrays Albert using a variety of age-appropriate grasps, including a well-formed pincer grasp when handling a small marble (see Figure 2). Related to this, another film clip shows Albert crawling on hands and feet (see Figure 3), which suggests that he was on the cusp of walking. The fact that Albert was mobile by 9 months is difficult to reconcile with Fridlund et al.'s report that Douglas Merritte never learned to walk.

Fridlund et al. (2012) concluded that Albert was significantly language delayed because there was no sign of him using language in the silent film, and because Watson and Rayner (1920) mentioned only a single instance of him talking. Powell et al., however, point out that both the film and Watson and Rayner's report were intended to document Albert's reactions to stimuli; thus, there would have been little or no reason to document language use, which is a largely social behavior. Add to this the difficulties of assessing language use from a silent

film—which Fridlund et al. acknowledged—and the evidence for Albert's lack of language development appears highly questionable. Furthermore, the criteria that Fridlund et al. used for normal language development—that Albert, by that age, should have been "chattering and already possess a several word vocabulary" (p. 307)—seems far too stringent when compared with Gesell's (1925) language norms for that era,[4] as well as with Bridges' (1933) study of language development in institutionally raised infants.

In addition to doing his analysis of the film, Fridlund asked his coauthor, Goldie (who is a pediatric neurologist), as well as Waterman (who is a clinical psychologist, cited in Endnote 5) to do blind analyses of the film, knowing only that the infant was a 9-month-old "whose cognitive and neurological status was uncertain" (Fridlund et al., 2012, p. 309). Both perceived Albert to be unusually passive, showing "no startle to animals" (Goldie quote, p. 309) and being "less reactive to both the flame and the dog than you'd expect" (Waterman quote, p. 322). But Powell et al. (in press) argue that the significance of Albert's passivity would be difficult to assess without knowing that he had lived at the hospital almost since birth and had never before seen the animals and other stimuli. Watson and Watson (1921) write that other normal infants living at JHU hospital around the same time as Albert—all children of wet nurses—were also noticeably unresponsive to novel objects and animals: "Our results seem to show conclusively that when children are brought up in an extremely sheltered environment . . . fears are not present" for a rat, rabbit, bird, or dog, "no matter how close the dog was made to come" (p. 509; see also Watson, 1919). Thus, Albert's muted reactions to stimuli were typical of other infants in his cohort, and in comparison with them, would be considered normal.

Following his observation of the film, Goldie speculated that "his [Albert's] condition could be anything" (Fridlund et al., 2012, p. 309), and he tentatively diagnosed Albert as having autism, retardation, or "leukodystrophy (a deterioration of myelin in the brain)" (p. 309). Powell et al. (in press) note that false-positive diagnoses can be a major problem when assessing the behavior and neurological status of young infants (see Valentine, 1965; Werner, Dawson, Osterling, & Dinno, 2000). In the Werner et al. (2000) study, for example, a pediatrician with expertise in developmental disabilities viewed films of children at 8 to 10 months of age, and on this basis, judged whether they had autism. Although the pediatrician accurately detected autism in 14 of 15 children later diagnosed with it, she also had a high false-positive rate, incorrectly diagnosing autism in 8 of 15 normal children. Werner et al. cautioned that

> the period between 9 and 12 months is a time when many new behaviors are just beginning to develop. Many complex behaviors related to social, emotional, and communicative functioning begin to emerge around 8–9 months, but these behaviors, such as advanced use of joint attention and communicative vocalizations are not solidly in place until at least age 1. There may still be significant variation in the development of these skills in the normal population at this time, making it more difficult to detect group differences. (p. 161)

Likewise, the *Diagnostic and Statistical Manual of Mental Disorders* (4th ed., text rev.; American Psychiatric Association, 2000) cautions that autism is difficult to diagnose in infants because "manifestations of this disorder in infancy are more subtle and difficult to define than those seen after age 2 years" (p. 73). The conditions under which Goldie evaluated Little Albert's behavior—from a choppy, poor-quality silent film, and with no knowledge of Albert's sheltered upbringing—may have particularly exacerbated these diagnostic difficulties.

Circumstances at JHU Hospital

We next consider the context and conditions at the hospital under which Watson and Rayner conducted their research. As noted by Fridlund et al. (2012), the JHU campus was small, and the Phipps Clinic where Watson conducted his research was located next to the building that housed the wet nurses and their babies (i.e., the Harriet Lane Home for Invalid Children). Fridlund et al. speculated that Watson likely knew

[4] Gesell expressed the norms as letter ratings that corresponded to percentile ranges: A+ = 1% to 19%; A = 20% to 49%; B+ = 50% to 64%; B = 65% to 84%; and C = 85% to 100%. Using this scoring system, vocalization at 4 months is a B. "Saying 'mama,' 'dada' or the equivalent syllables" (p. 62) is an A+ at 6 months and a B at 9 months (i.e., Albert's approximate age at baseline). Moreover, infants were scored an A if they could say one word at 9 months, and A+ if they could say two words.

of Douglas's impairment when he selected Albert B. for the study:

> It strains credulity to suggest that no one would have mentioned Albert's health problems, especially since Watson and Rayner (1920) report that their initial impressions of Albert's responses "were confirmed by the casual observations of the mother and hospital attendants." (p. 319)

In our opinion, however, it also strains credulity to imagine a scenario whereby Watson could have chosen Douglas for the study, and then fraudulently describe him as the healthy, well-developed "Albert B." This ruse would have had to occur while in close proximity to many other professionals,[5] at least some of whom would likely have been familiar with both Douglas and Albert Barger. Watson's laboratory was reportedly open to colleagues and visitors that Watson wanted to impress. "Although sentimentalists sometimes feel while visiting our laboratory that our work may be a little hard on the infant[s] . . . ," Watson explained, "it is done under the constant supervision of physicians" (Watson & Watson, 1921, p. 496). Surely it would have been extremely difficult for Watson to have tested Douglas surreptitiously, especially because Watson filmed the study. Not only is there is no evidence that other professionals at JHU criticized Watson's alleged deception concerning Albert, but no historian has unearthed correspondence or other unpublished material in which such criticism can be found.

In particular, the head of the Phipps Clinic, Adolf Meyer, would likely have exposed any such misconduct in Watson's research, as he did with Watson's extramarital affair with Rayner, which led to Watson's forced resignation from JHU (Buckley, 1994). Meyer would also have taken a great deal of interest in Watson's film because of his progressive-era belief that childhood experiences contributed to adult psychiatric conditions (Double, 2008; Dreyer, 1976). And given his reputation for paying close attention to day-to-day activities in the Phipps Clinic (Scull & Schulkin, 2009), he would almost certainly have noticed if Watson had used the neurologically impaired Douglas as an example of a normal, well-developed child.

Fridlund et al. (2012) claimed that Douglas was deliberately chosen for the study because he was considered more expendable than a normal child. They further speculated that Douglas's mother, Arvilla, may have been unable to refuse the experimentation upon Douglas because it would have jeopardized her employment and Douglas's free medical care. Although we agree that Arvilla's wet-nursing job at the hospital was likely her best employment option, Douglas's medical file shows that Arvilla removed him from the hospital at 12 months 15 days of age against advice: "Child has a temperature today, examination shows nothing abnormal in respiratory system. Mother took child away against advice. . . . The child was to have been discharged in a week's time" (MMF, March 24, 1920). This behavior seems inconsistent with Fridlund et al.'s characterization of her as a passive victim. The timing of Douglas's discharge is also problematic because it occurred a week before the Little Albert study ended (Watson & Rayner, 1920). This means that Arvilla would have had to bring Douglas back to the hospital for the final week of the study, and yet not resume his medical care at the hospital until about five months later (MMF, August 27, 1920), as is indicated by the absence of any entries in the medical file between March 25 and August 26. It seems implausible that Arvilla would have returned for the study without also getting Douglas medical care. The chronology of entries in Douglas's medical file shows that the hospital resumed Douglas's treatment when Arvilla brought him back to the hospital several months later, which suggests that Arvilla and Douglas were more likely the recipients of the hospital's charity rather than victims of exploitation, as suggested by Fridlund et al.

Why This Should Matter to Historians of Psychology

Little Albert is sometimes considered one of psychology's classic studies, but Watson and Rayner's (1920) original account of him has not been timeless. Psychologists have generated many versions of Albert's story, as discussed earlier in this article and elsewhere (Harris,

[5] In his autobiography, Watson notes that Dr. John Howland, Dr. J. Whitridge Williams, and the resident psychiatrist, Dr. Leslie B. Hohman, facilitated the infant research. Watson also used Dr. Curt Richter as a sounding board for ideas about future infant studies.

1979; Samelson, 1980; Todd, 1994). What then are the implications of the latest revision in which Albert is cast as a neurologically impaired child? Since its publication, it has been widely disseminated both within and outside the discipline, especially through the Internet. It is also making its way into introductory textbooks (see Kalat, 2014), and is perhaps destined to become another of the many myths about Albert (see Harris, 1979; Samelson, 1980). But why has this particular version of Albert's story been embraced at this particular time, and what might it be telling us about contemporary psychology?

Earlier in this article, we argued that Fridlund et al.'s (2012) evidence for Albert being neurologically impaired is actually weak and does not stand up to scrutiny: Watson's film was an inadequate measure of Albert's neurological status, and circumstances at JHU hospital were not conducive to Watson carrying out the alleged deception with impunity. We wonder why these weaknesses were overlooked, especially because it goes against the grain of psychologists' typical skepticism concerning novel claims that lack solid empirical evidence.

Could it be because ethical concerns drew attention away from evidentiary weaknesses? We live in an age where concerns about ethics are salient and pervasive. As ethicist Margaret Somerville (2000) argued,

> Recently the search for ethics seems to have been everywhere. One only has to pick up the daily newspapers to see the perceived relevance of "ethics talk" to much of what goes on in our lives as individuals and communities. . . . This widespread search for ethics can be seen as a turn-of-the-millennium revolution in conscience and consciousness, in the sense of awareness of the need to ask the question "Is it right?" (p. 1)

Indeed, contemporary psychologists continue to confront ethical quandaries in professional practice and research. A sensationalized example is the role psychologists played in the tortuous interrogation of detainees at the American prison in Guantanamo (see Joyce & Rankin, 2010). There have also been recent outcries about psychologists making public pronouncements or expert testimonies that are not grounded in relevant psychological science (see Edens et al., 2012; Ferguson, 2013). Another example is that the use of the Internet to conduct studies, instead of in person, may present new ethical challenges in ensuring that research participants have given informed consent and have been adequately debriefed (see Pittenger, 2003). There are even ethical concerns about the use of new complex statistical techniques because of the possibility that psychologists who lack a thorough understanding may misapply them, or perpetrate other irregularities in data analysis that lead to erroneous conclusions (see Wasserman, 2013). We have highlighted only a few examples in order to demonstrate the pervasiveness of ethical concerns in contemporary psychology, and the possibility that today's "ethics mindset" might be coloring our interpretations of the Little Albert study.

Fridlund et al.'s (2012) interpretation of the Albert study implies egregious ethical violations, assumes that Douglas's congenital hydrocephalus made him vulnerable to harm, and that Watson and Rayner's misreporting was "a violation of the norm of faithful and complete reporting in science" (p. 320). In fact, ethical issues were enough of a focus for the term "ethics" to be one of the manuscript's keywords, and they are the dominant theme in the many websites that reported Fridlund et al.'s article.

To a popular audience, Fridlund et al.'s (2012) exposé of Watson's ethical violations and cover-up might serve to atone for Albert's alleged mistreatment, albeit symbolically. This version of Albert's story is consistent with contemporary zeitgeist in which the public becomes outraged over past scientists' bad behavior (see, e.g., Skloot, 2010). One result of this emphasis on ethical lapses is the pressure it places on the reader to accept Fridlund et al.'s version of the Albert story—to avoid turning a blind eye to a baby's mistreatment. That is, ethical concerns seem to have diverted attention away from an arguably more parsimonious conclusion—that Douglas Merritte's congenital hydrocephalus means that he was not the healthy Albert B. that Watson and Rayner (1920) described. Further, the well-intentioned goal of exposing ethical lapses may have inadvertently heightened the risk of confirmation bias. For instance, Fridlund et al.'s interpretation requires us to accept attributes of Albert that Douglas matches (i.e., sex, age at start of study, and mother's occupation), but to overlook characteristics that Douglas does not match (i.e., Albert's healthy status, heavy

bodyweight, and age when discharged from hospital).

The Albert-as-impaired story also has implications beyond the history of psychology, being relevant to the history of medicine and the treatment of the disabled. For instance, in the APA's *Monitor on Psychology*, Fridlund is quoted as saying that Albert's story "forces us to confront deeper, more disturbing issues like medical misogyny, the protection of the disabled and the likelihood of scientific fraud" (DeAngelis, 2012, p. 12). These sorts of comments may unfairly harm Watson's reputation as a scientist, as well as the reputations of his associates. They may also undermine public trust in psychology, science, and medicine. The flurry of online activity—including featured stories, Wikipedia entries, blog postings, and comments—suggests that this may have already happened. We refer again to the APA *Monitor on Psychology*, because of its wide circulation within psychology:

> The evidence so clearly supports Watson's cognizance of Albert's condition, the conclusion that he intentionally misrepresented it is nearly inescapable. . . . Yet in testing a neurologically impaired child, Watson may simply have embodied the mentality of researchers of the time . . . it was standard practice to use poor, sick infants and children as experimental subjects. (DeAngelis, 2012, p. 12)

Other websites have prominent presentist tones, suggesting that contemporary researchers are ethically superior, having transcended the unethical practices of their predecessors. For example, the website "About.com Psychology" noted that "By today's standards, the Little Albert experiment was both cruel and highly unethical. Such an experiment could never take place today even with a healthy child, let alone a child as vulnerable as Merritte" (Cherry, n.d.).

But judgments about the ethics of past research, such as the Little Albert study, are nuanced because, as Billig (2008) argues, "our behavior is socially and historically bounded" (p. 11). In Watson and Rayner's time, ideas about the proper treatment of children were different than ones favored today; for instance, disobedient children often received physical punishment (see Grant, 1994; Greven, 1990/1992; van Drunen & Jansz, 2004). Moreover, to Watson and Rayner's contemporaries, exposing infants to loud noises would likely have seemed no more dangerous than many events that occur in everyday life (i.e., what we now call "minimal risk" research). In fact, Watson and Watson (1928) noted many instances of children inadvertently acquiring "home-made" fears in a similar, but unintended fashion, such as by the slamming of a door, the dropping of a pot, or the crackling of thunder.

Interestingly, the Albert study was acceptable enough for Bregman (1934) and Valentine (1930) to conduct similar research without provoking published outcries about ethical violations. It was not the case that society lacked sensitivity to ethical violations in research: There had already been public condemnation of Watson's animal research, which entailed surgical removal of rats' sensory organs (see Dewsbury, 1990). But studies involving conditioned fears in infants did not attract this reaction. During the progressive era, there was a widely embraced shift in thinking away from family autonomy in raising children toward societal regulations and interventions to cultivate better children (see Chen, 2003). Experiments on infants might simply have been construed as a way to attain knowledge needed for this higher purpose.

We also speculate about the timing of the Little Albert study, coming on the heels of the recently ended Great War, in which Watson served. In his autobiography, Watson noted that he was in Paris "the day the big gun opened up, and was there in several Boche air raids and in London in an air raid. . . . The whole army experience is a nightmare to me-"(Watson, 1936/1961, p. 278). Similar to veterans traumatized with shell shock, sounds of war may have contributed to Watson's nightmare and the direction of his postwar research that targeted fear as an innate emotion (rather than love or rage) and loud noise as its natural stimulus. Watson and Rayner's (1920) goal of undoing noise-based fears, although unfulfilled, would likely have resonated with their contemporaries. Not surprisingly, Watson and Rayner's study failed to hit many, if any, "ethics nerves" in its day—in stark contrast to the outrage sparked by Fridlund et al.'s (2012) revision that casts Albert as a neurologically impaired infant.

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Received October 11, 2013
Revision received March 31, 2014
Accepted May 5, 2014 ■

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