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Evidence of Potentially Harmful Psychological Treatments for Children and Adolescents

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Abstract This paper applies the concept of potentially harmful psychotherapies (PHTs; Lilienfeld, Perspectives on Psychological Science 2(1):53–70, 2007) to concerns about potentially harmful treatments for children and adolescents (PHTCs). I propose that such treatments can be identified by methods derived from the Adverse Childhood Experiences (ACE) Study and from the NIS-4 study of abuse and neglect, as well as by their plausibility or congruence with established child development theory and research. Five psychological treatments for children and adolescents that have been reported as harmful are examined, using evidence from published materials, journalists' reports, legal documents and Internet sites. Details of treatment and outcomes are compared to relevant ACE and NIS-4 criteria and to plausibility, and empirical support for the treatments is examined. The examined treatments use methods that would be considered adverse childhood experiences or abusive or neglectful care events if they occurred outside a therapeutic setting. Most, but not all, lack empirical support of effectiveness and are incongruent with established information about child development. Risks associated with PHTCs can thus be identified through close examination before children are exposed to them and harmed. Prevention or reduction of PHTC use may be possible. Public and professional education about PHTCs are essential parts of child protection in this context and are arguably an ethical obligation of both social workers and psychologists.

Keywords Potentially harmful treatments · Child and adolescent mental health · Child abuse · Professional ethics

Although the principle of nonmaleficence has been enshrined in ethics codes for some years (e.g., American Psychological Association 2010), there has been little practical attention to potentially harmful mental health interventions until rather recently. The present paper is intended to open discussion of the potential for harm of some psychotherapies for children, and will work toward this by outlining some special concerns about children and by describing some child treatments that appear to be possible causes of harm, either because harm has been demonstrated for some children or because methods have inherent potential for harm.

Concerns about potential harms done to children by certain mental health interventions have been stated periodically over the last 40 years, often on the basis of news reports but also because of systematic studies of adverse effects. Here are some examples of these concerns. In 1973, the Transactional Analysis proponent Jacqui Schiff was implicated in the scalding death of a teenager in treatment with her (Marlan 2000). Koocher (1976) described in a letter to a journal harmful side effects of aversive conditioning using electric shock, and such physical risks, including burns to the skin as well as more serious effects on the heart, received enough attention for alternative aversives to be developed (e.g., Linscheid et al. 1990). Lipsey (1992) noted that 29% of a large number of trials of treatments of problem adolescent behavior showed some harmful effects. James (1994) expressed concern about the use of holding therapy. Dishion, McCord, and Poulin (1999) reported in a detailed review that group interventions for delinquent behavior

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were associated with worsened outcomes. Attention was called to the potential harm, including child death, associated with Attachment Therapy (Mercer 2001), and a joint American Professional Society on Abuse of Children/American Psychological Association (APSAC/APA Division 37) task force issued a caution about the use of this method (Chaffin et al. 2006). Studies of the Scared Straight program for combating delinquency reported that the program was associated with increased criminal behavior (Petrosino et al. 2005). Norcross, Koocher, and Garofalo (2006), in their investigation of treatments that a panel of psychologists considered to be discredited, included relatively few treatments for children, but holding therapy, conversion/reparative therapy, reparenting therapies, Scared Straight, and the DARE drug abuse program were included and rated as discredited.

Concerns about the potential harmfulness of some child mental health treatments grew along with a more general awareness of the possible iatrogenic effects of both physical treatments and psychotherapies. Lilienfeld (2007) considered both adult and child interventions as they might fit into the category of potentially harmful treatments (PHTs). Lilienfeld (2007) suggested this term, PHT, for psychological interventions that were known to have caused or been associated with adverse events, or for treatments that might logically be expected to cause adverse events in some cases. Lilienfeld (2007) operationalized treatments as PHTs when they met three criteria: (1) demonstrated psychological or physical harm to clients or others, (2) enduring harmful effects, and (3) replicated evidence of harmful effects by independent research groups.

Dimidjian and Hollon (2010) pursued these issues in a paper that discussed the concept of harm in psychotherapy and offered a distinction between treatments that are harmful and those that are simply unhelpful. Dimidjian and Hollon noted that a treatment may worsen outcomes both for the target problem and for other domains (including the creation of new problems), that a treatment can have both helpful and harmful effects (again, with the possible creation of new problems), that an outcome can be considered helpful or harmful in different ways when seen from different perspectives, that outcomes may be initially harmful and later beneficial or the other way around, that outcomes of a treatment may be harmful for some patients but not all, that misuse of a beneficial treatment may cause harm, and that errors about benefits and risks may cause harm by preventing the use of a beneficial treatment. Although Dimidjian and Hollon did not comment on this, it may be added that in the case of mental health interventions for children, even an "unhelpful" treatment may also cause indirect harm by wasting family resources to the detriment of other family members as well as of the treated child.

Special Concerns About Child Psychotherapies

To date, there has been no effort to apply the PHT concept specifically to potentially harmful treatments for children (PHTCs). Because of the developmentally-determined physical and psychological vulnerability of infants, child, and adolescents, there is a special urgency with respect to such application. In a comment relevant to potentially harmful treatments for children, Dimidjian and Hollon noted that "[h]arm is more likely to be missed when the natural course of the disorder changes over time" (Dimidjian and Hollon 2010, p. 25). In fact, the younger the child, the more rapidly changes the course not only of the disorder but of all domains. Times of rapid change are unusually vulnerable to environmental influences, both beneficial and harmful, a fact that is behind the emphasis on early intervention for all problematic childhood psychological and physical conditions. This suggests that PHTCs may do more serious harm than PHTs for adults do, a possibility underlined by the reports of treatment-related child deaths and injuries that will be discussed later in this paper.

A sense of urgency with respect to the identification of PHTCs also derives from the fiduciary responsibilities of both professionals and parents for protection of children. Unlike adults, children (and even some adolescents) are only to a limited extent allowed to make their own choices of treatment. Although there are guidelines for informed consent by the young, on the whole the consent of parents and guardians can override a child's opinion, especially if the target problem is seen as oppositionality or defiance of adults, or if the child's behavior is seen as dangerous.

Unlike adult clients, children in therapy are often handled physically in ways that range from affectionate guidance to methods that may cause physical injury. Children are also much more likely than adults to be subjected to aversive treatments or to have aspects of life like eating, drinking, and toilet use completely controlled by therapists or other authority figures. These factors increase the potential for some child psychotherapies to cause physical injury or death, as well as to create emotional burdens and the possibility of psychological injuries such as PTSD and depression.

In addition to concerns about physical interventions, psychotherapies for children have other features that differ from those of adult therapies and that provide occasions for adverse effects. Treatment is likely to be sought by parents, not by children, and parent reports may play a major role in diagnosis. Parents have the first decision about identification of problems, may exaggerate or minimize features of mood and behavior in ways that reflect their beliefs about child development and child mental health, and may seek or avoid therapists on the basis of their agreement with the parents' assumptions about diagnosis and treatment.

Parents also decide whether they themselves will seek treatment or participate in treatment along with the children. Parents' decisions may lead to adverse events, especially when, as is the case in some treatments to be discussed later, parents act as therapists.

The present paper argues that identification of PHTCs needs to use somewhat different approaches than those proposed by Lilienfeld (2007), and proposes a method for identification of these treatments. The following reasons support the need for a different method for identification of PHTCs than of adult PHTs. First, in the treatments to be discussed in this paper, psychological and physical harms have sometimes been so serious that legal steps have been taken in response, suggesting that the requirement of replicated evidence may be inappropriate. Even a single child death in the course of a mental health intervention, whether or not the death is directly caused by some aspect of the intervention, is enough to raise real questions about the treatment, however many children may survive treatment and however idiosyncratic the event may appear. Second, such serious effects are by definition enduring ones. Third, in very few cases is there research evidence other than the public record for the occurrence of harmful effects, and if research evidence did exist, the harms shown would presumably be more subtle than death, physical injury, or suicidal behavior. Fourth, it is unlikely that institutional review boards would approve research on treatments with a record of harm to children, so a requirement of independent RCTs is not likely to be complied with. Finally, it seems doubtful that practitioners of some PHTCs will do or publish empirical research that meets established criteria (e.g., those recommended by American Psychological Association Presidential Task Force on Evidence-based Practice 2006); in any case, to date no publications about the treatments to be discussed in this paper have met those criteria.

Suggested Criteria for Identification of PHTCs

Dimidjian and Hollon pointed out that, however unsystematic, "anecdotal evidence presents the first line of defense" against PHTs. For the reasons given in the previous section, this is likely to be particularly true for defense against PHTCs; indeed, anecdotal evidence in the form of journalists' reports of harm may be the only evidence available. Media reports of harm resulting from a childhood mental health intervention are important "red flags" that can alert attentive practitioners to potential problems. When such reports appear and need to be examined, manuals or other descriptions may be found to show at least some of the actions associated with a treatment, and these can be considered for their potential for harm. Manuals and descriptions generally include some discussion of the rationale for treatment methods and the belief system it derives from; the belief system can be examined for plausibility in terms both of internal logic and of congruence with what is known about child development. These types of information can be accessed when RCTs are not possible, but would also provide a foundation for planning a RCT if that could be done. Unfortunately, media reports almost invariably focus on physical harm and do not mention adverse psychological events, which may not be evident until later life.

Three types of criteria are proposed for a method of identifying PHTCs on the basis of available information when no well-designed outcome research exists. Two of these were chosen because they involve established protocols for categorizing experiences known to be associated with harm to children's development. The third is based on accepted theory and research about development and about the possibilities these offer for evaluating rationales for forms of treatment. These criteria are suggested for application by clinicians as they choose interventions or assess the effects of previous interventions; most parents will not have the time or resources to consider whether an intervention meets these criteria, but clinicians could use the criteria for parent education about choices.

The first set of criteria is derived from the ongoing Adverse Childhood Experiences study (ACE; "The Adverse Childhood Experiences Study", n.d.). Adverse childhood experiences have been shown to have long-term effects on depressive mood (Chapman et al. 2004) and on physical health (Bethell et al. 2014) and so provide objective criteria for the potential harmfulness of an intervention. Much of the research on ACEs involves retrospective studies of adults' early experiences, but the effects during childhood and the use of ACEs for decision-making have received some attention. Iacbini, Petiwala, and DeHart (2016) considered ACEs scores of ninth-graders as a factor in preventing school dropout; Marie-Mitchell, Struder, and O'Connor (2016) suggested ACEs screening by age 3 years as a way pediatricians may help prevent child mental health problems.

The ACE questionnaire involves ten questions about experiences before the age of 18; these focus on the behavior of adults in the household toward a child, but if the behavior of therapists is included, four of the ten questions can be applied to identification of a treatment as a PHTC (see Table 1). When a child psychological intervention includes features that would lead to positive answers to these questions, I propose that the treatment should be considered to involve adverse childhood experiences and therefore to be a PHTC.

The second list of criteria for an intervention's potential harmfulness is drawn from the Fourth National Incidence Study of Child Abuse and Neglect (NIS-4; Sedlak et al. 2010, p. A-19; see Table 2). [A possible addition

Table 1 Proposed criteria for PHTCs, drawn from the adverse childhood experiences questionnaire (revised to include experiences with therapists)

1. A parent, another adult in the household, or a therapist often or very often swore at the child, insulted the child, put the child down, or humiliated the child, OR acted in a way that made the child afraid that he or she might be physically hurt
2. A parent, another adult in the household, or a therapist often or very often pushed, grabbed, slapped, or threw something at the child, OR at some time hit the child so hard that he or she had marks or was injured
3. The child often or very often felt that no one in the family loved him or her, and that no one, including the therapist, thought him or her important or special
4. The child often or very often felt that he or she didn't have enough to eat, had to wear dirty clothes, and had no adult protector

Table 2 Proposed criteria for PHTCs drawn from the fourth national incidence study of abuse and neglect (Sedlak et al. 2010)

Behaviors coded as physical neglect	Behaviors coded as physical abuse
Refusal to allow needed care for diagnosed	Hit with hand
condition or impairment	Hit with object
Unwarranted delay or failure to seek needed care	Push, grab, drag, pull
Refusal of custody/abandonment	
Illegal transfers of custody	
Inadequate nutrition	
Inadequate personal hygiene	
Inadequate clothing	
Inadequate shelter	
Behaviors coded as educational neglect	**Behaviors coded as emotional abuse**
Permitted chronic truancy	Close confinement: tying, binding
Failure to register or enroll	Close confinement: other
Other refusal to allow or provide needed attention to diagnosed educational need	Verbal assaults and emotional abuse Threats of other maltreatment
Behaviors coded as emotional neglect	
Inadequate nurturance/affection	Exposure to maladaptive behaviors and environments
Other inattention to developmental/emotional needs	

to this list may be the idea suggested by Linden (2013)] that unpleasant experiences as part of psychotherapy may constitute an "emotional burden" for the client which is in itself an adverse event, unless clear benefits also exist.) Fallon, Trocme, and MacLaurin (2011) have pointed out that the NIS studies provide both a harm standard (when maltreatment occurs with demonstrated harmful effects) and an endangerment standard (when maltreatment is occurring with risk of harm rather than documented harm; e.g., children are living with alcoholism, drug abuse, or prostitution). The harm standard provides information that can be used in examining the outcomes of PHTCs, but the endangerment standard is relevant to predicting and preventing harm. When a child psychological intervention includes features that would be coded as abusive or neglectful under NIS-4 criteria, I suggest that the treatment should be considered to be a PHTC, as presumably a mental health intervention should not be abusive except in conceivable rare cases where the empirically established benefits of the treatment may balance a high degree of risk.

The plausibility of an intervention may be evaluated by parsing the internal logic of rationales for the treatment and by considering whether the theory behind the treatment is congruent with relevant conventional theory and research evidence. For example, a system based on the belief that attachment occurs prenatally, or that attachment in the toddler period or later can be created by re-enactment of early infant care patterns, would be recognizably implausible. Evidence exists that attachment behavior and preference for familiar caregivers does not occur until the later part of the first year. Attachment behavior and autonomous behavior change with age, so that older children are likely to be repelled by rather than attached to adults who act as if the children are infants. When the rationale for a therapy appears implausible, this is not necessarily an indication that the treatment will cause direct harm, but it suggests that the treatment is likely to be at least "unhelpful" (to use

Dimidjian and Hollon's term) and should be investigated as a possible PHTC.

Some Examples of Potentially Harmful Psychological Treatments for Children

Proponents of PHTCs rarely publish research reports in peer-reviewed journals, although they may present reports in weakly-reviewed book forms. To find information about these treatments, one must examine websites, Internet publications and self-published materials, closed Facebook groups, lawsuits, journalists' reports, and the occasional victim memoir, as well professional journals. These sources, of course, involve various biases. Advocates' websites post strongly favorable material and may cite testimonials from pleased parents; where research is noted, it too may focus on parent approval. Lawsuits usually result from serious adverse events that may not reflect the usual impact of a treatment, as is also the case for journalists' reports. Memoirs including material about psychotherapy in childhood are likely to emphasize either the beneficence of the treatment or the adverse events associated with it. A balanced view is difficult to achieve, but it is possible to reach the more modest goal of identifying PHTCs on the basis of a range of materials.

Some examples of child psychotherapies that appear to be potentially harmful will be described in the next section. For some of these treatments, actual physical or psychological harm to children has been documented; in others, such harm seems to be predictable on the basis of the criteria proposed earlier in this paper. (Table 3 summarizes demonstrated adverse events associated with these treatments; Table 4 shows the extent to which each treatment meets proposed criteria.) In all cases, of course, if non-evidence-based, these interventions may possibly create indirect harm by wasting family resources and by delaying or preventing use of effective treatments.

It should be noted that this discussion is not an effort to provide a complete list of PHTCs, but is simply a demonstration of ways to think about identifying these treatments. Just as a treatment presently considered evidence-based

Table 3 Adverse events reported for five child psychotherapies

Treatment	Type of harm	Information source
Attachment therapy/holding therapy (AT/HT)	Some child deaths; emotional burden	Mercer, Sarner, and Rosa (2003), Lilienfeld (2007), Thyer and Pignotti (2015)
AT/HT adjuvant methods	Child weight loss; educational losses; suicidality; emotional burden	Mercer et al. (2003), "In the matter of Debra [Kali] Miller, Ph.D." (2012)
Aversive conditioning/operant punishment methods using severe or noncontingent electric shock	Burns, anxiety	FDA executive summary (2014)
Conversion therapy	Anxiety, depression; suicidality; substance abuse; emotional burden	APA task force (2009)
Festhaltetherapie	Anxiety, depression	Benz (2013a, 2013b)

Table 4 PHTC criteria met by five child psychotherapies

Treatment	Attachment/ holding therapy	AT/HT adjuvant	Severe electric shock methods	Conversion therapy	*Festhaltetherapie*
Criteria from ACE					
Insult, humiliation, fear	Yes	Yes	Yes	Yes	Yes
Physical attack	Yes	Yes	Yes	Yes	Yes
Unloved	Yes	Yes	Possible	Possible	Yes
No protector; insufficient food etc	Yes	Yes	Possible	Possible	Possible
Criteria from NIS-4					
Behaviors coded as physical neglect	Yes	Yes	No	No	No
Behaviors coded as physical abuse	Yes	Yes	Yes	Yes	Yes
Behaviors coded as educational neglect	Possible	Yes	No	No	No
Behaviors coded as emotional abuse	Yes	Yes	Yes	Yes	Yes
Plausibility criteria	Implausible	Implausible	Plausible	Implausible	Implausible

may through further research lose that status, or as a non-evidence-based treatment may accumulate evidentiary support, child mental health interventions that presently show no evidence of doing harm may in the future be revealed as harmful. In line with these facts, this discussion will provide some historical background as well as current information, with the intention of showing how some treatments which have had adverse effects have been fine-tuned by their proponents because of safety concerns.

Aversive Conditioning/Operant Punishment

Aversive conditioning is a treatment involving an operant punishment paradigm in which unpleasant events occur contingent on unwanted behavior (Schopler 2012). Conceived as an aspect of behavior modification in the mid-twentieth century, aversive conditioning was intended to treat two types of child behavior problems: (1) self-injurious behaviors (SIBs) and (2) behaviors like staying close to a room's walls that interfered with a child's finding positive reinforcement by approaching people or toys. It may also be used to treat aggressive behavior.

In his early work on applied behavior analysis (ABA), Lovaas (1987) used slapping as a punishment for unwanted behaviors, but dropped this method (McKeachin et al. 1993) because it appeared ineffective and its intensity was difficult to regulate. Electric shock was sometimes also used by Lovaas' group, a point reported by journalists without apparent criticism (Bowman and Baker 2014).

Koocher (1976) expressed serious concern about the use of electric shock to treat either autism spectrum disorder (ASD)-related behaviors or SIBs. In a letter to a journal, he pointed out that rather than the mild shocks from wires in the floor used by Lovaas, aversive conditioning was being done by means of instruments like cattle prods. Koocher questioned the use of such treatments in cases where no outside reviewer had looked at a treatment plan, but parents and therapists had made the treatment decisions, and noted the lack of relevant ethical guidelines. To support his argument against too easy acceptance of electric shock in aversive conditioning, Koocher cited a published case in which a seriously self-injurious boy "was treated to a program in which nondestructive behavior was praised and self-injury earned him a painful electric shock on the right leg delivered by a cattle prod device. The authors report that this procedure resulted in the complete elimination of self-destructive acts after *167 days of treatment* [italics *sic*]" (Koocher 1976, p. 95). Koocher went on to say that "One American company currently manufactures a radio-operated 'Remote Shocker', which it has displayed at annual meetings of the American Psychological Association. The company in question boasts that this device 'Can deliver a painful shock from up to 300 feet away'. The products are readily available to those willing to pay, and are touted as useful in stopping such unseemly behavior as 'spitting, projectile vomiting, and public toileting [*sic*]' " (Koocher 1976, p. 95).

Butterfield (1975) discussed safety questions with respect to current amplitude and the possibility of harmful transthoracic current when electric shock was used for aversive conditioning. Linscheid et al. (1990) compared the shock they used to standards recommended by various authors, and argued that electric shock had advantages over other aversives in that "response-contingent electrical stimulation is potentially superior to and safer than a number of currently used punishment techniques… the technical parameters of shock, unlike those involving physical contact between therapist and client (e.g., contingent restraint, facial screening, over-correction) can be precisely quantified and regulated, thereby eliminating the use of subjective criteria in defining the appropriate level of stimulation or its upper limits. Second, shock can be delivered quickly and sometimes remotely, reducing the likelihood that the punishing event will be delayed (e.g., as in the application of aversive tastes), or that treatment will be compromised through inadvertent pairing of punishment with reinforcement in the form of social interaction between therapist and client… Third, the procedure does not interfere with the client's ongoing activities… Fourth, electrical stimulation is a highly discrete event that does not pose problems associated with other stimuli (e.g., tabasco sauce, lemon juice, water mist, etc.) that linger for an unknown amount of time after the behavior has ceased. Finally, … it is possible to select a level of stimulation that poses no physical risk" (Linscheid et al. 1990, pp. 54–55).

The physical risks associated with electric shock include burns to the skin as well as the more serious effects on the heart avoided by methods like that of Linscheid et al. (1990). Because of this, proponents of aversive conditioning have sought other forms of aversive stimulation that would share the advantages of electric shock mentioned in the preceding paragraph—quick and remote delivery and discrete, non-lingering effects. Noting that pain and excessive anxiety may also result from electric shock used for aversive conditioning, especially in the elderly, children, or persons with disabilities, Neumann and Waters (2006) suggested that a loud (100 db) sound could be an effective aversive. Subsequently, Neumann, Waters, and Westbury (2008) showed that an unpleasant (but not loud) sound made an effective aversive in a research context. Salvy, Mulick, Butter, Bartlett, and Linscheid (2004), using the method developed by Linscheid et al. (1990), concluded that for effective treatment of SIB, aversive conditioning was necessary but not sufficient, and should be combined with a program of positive reinforcement.

In spite of ongoing discussion and preferences for mild shock or other aversives, aversive conditioning using more severe shock has continued in a limited way in the United States. An investigation of the Judge Rotenberg Center treatment facility in Canton, Massachusetts revealed staff use of electric shock, for both children and adults, that did not comply with guidelines requiring that aversives occur immediately during or after unwanted behavior. Kaufman (2007) reported that electric shock treatment was supported by parents of some Judge Rotenberg clients; one approving parent was quoted as saying that her daughter had not been permanently scarred. The investigation was triggered after a prank call in which a former Judge Rotenberg client pretended to be a school official and ordered counselors to shock two students. One of the children was shocked 77 times in 3 h, and one suffered first-degree burns from shocks provided through a backpack connected to electrodes on the body or limbs. Burkholder (2014) reported the testimony of a girl diagnosed with ASD who had been shocked while tied to a restraint board before her release from Judge Rotenberg in 2009; this use of shock was presumably noncontingent. Parental and court permission were required before electric shock was used.

In 2014 and 2015, the U.S. Food and Drug Administration (FDA) heard evidence related to a decision about a ban on the device used at the Judge Rotenberg Center (JRC; Burkholder 2014; FDA Executive Summary: Electrical Stimulation Devices for Aversive Conditioning, 2014). Evidence included reports from the New York State Education Department and the Massachusetts Department of Developmental Services, complaints made to the Massachusetts Disabled Persons Protection Committee, and interviews with former JRC clients and their parents; a review of journal articles, including a positive report on the effectiveness of aversives by Israel, Blenkush, von Heyn, and Rivera (2008) and a statement about the absence of unwanted side effects by van Oorsouw, Israel, von Heyn, and Duker (2007) was also included. The Autistic Self Advocacy Network (ASAN), in a letter to the FDA Commissioner Stephen Ostroff (ASAN, 2015), noted that the FDA may ban a device if it is found that "the continued marketing of the device presents a substantial deception or an unreasonable and substantial risk of illness or injury". The ASAN letter stated that the Judge Rotenberg Center was the only organization in the U.S. to use the backpack-type shock device. As of the time of this writing, the FDA has proposed a ban on the type of device used at JRC ("FDA proposes ban on electrical stimulation devices intended to treat self-injurious or aggressive behavior", 2016) and has posted the proposed ban for public comment, but the docket remains open (FDA-2016-N-1111, 2016).

Is Aversive Conditioning a PHTC?

Only one of the four ACE criteria ("The Adverse Childhood Experiences Study", n.d.; see Tables 1, 4) is directly relevant to discussion of aversive conditioning using severe, noncontingent electric shock as a PHTC. Children subjected to electric shock may experience the event as analogous to being hit, and may be fearful of injury.

Recognizing that in some SIB cases aversive conditioning, even that using electric shock, may provide a better outcome than that resulting from continuing SIB, it is nevertheless clear that aversive conditioning in some forms can resemble features of the NIS-4 physical and emotional abuse codes (Sedlak et al. 2010; see Tables 2, 4). Using severe electric shock is parallel to hitting with an object. When restraint boards are used, as mentioned in discussion of the Judge Rotenberg Center, tying/binding can be part of the procedure. Children subjected to electric shock in aversive conditioning can be regarded as being threatened by future shocking. When children are shocked in the ways described earlier in this paper, with shocks noncontingent on present behavior, they may be considered to be terrorized. These facts suggest that at least when electric shock is used, aversive conditioning may be regarded as a PHTC; however, interventions that use an unpleasant sound or mild shock as the aversive would not be included in this.

The "emotional burden" suggested by Linden (2013) can be a result of aversive conditioning with electric shock when shock is given noncontingently or at the hands of ill-trained, unsupervised, or ill-intentioned persons. Aversive conditioning in some of its forms can thus be considered a PHTC, but in other forms does not appear to have the potential to do harm.

It should be noted that aversive conditioning is and has been highly plausible in terms of the extensive research on learning [for an example, see the discussion by Kazdin (1990) in a "handbook" chapter]. Waschbusch et al. (2016), in discussing the use of contingency-based reinforcers with children with conduct problems, pointed out that most studies on this group have used removal of a positive stimulus rather than aversives as punishment, and the different effects of the two need to be explored further. It is notable that proponents of aversive conditioning/operant punishment techniques have responded constructively to concerns and criticisms and have many ongoing research programs, and that the changes in this form of treatment provide a model by which other potentially harmful approaches may come into compliance with ethical guidelines.

Holding Therapy/Attachment Therapy and Diagnosis

Holding Therapy/Attachment Therapy (HT/AT) is the child mental health intervention most frequently associated with adverse events, including some child deaths (Mercer et al. 2003). Discussion of this method can be confusing because of various changes in nomenclature over the years. From its inception in the 1970s (Zaslow and Menta 1975), the term Holding Therapy (HT) was applied to an intervention that employed physical restraint and intrusive poking and tickling to treat both children and adults for a range of problems including autism. Robert M. Zaslow's California psychology license was revoked following physical injury to an adult patient; an adult death and a serious injury were reported after similar methods were used by other practitioners ("Trial set in malpractice suit", 1971). In the 1980s, HT was advanced as a treatment for childhood mental health problems by the Colorado physician Foster Cline, who subsequently surrendered his license following an injury to a child. The death of 10-year-old Candace Newmaker in 2000 called attention to adverse events associated with HT, and proponents of the treatment began to refer to their methods as Attachment Therapy (AT), stressing their claim that childhood psychological disorders are a result of problems of attachment and focusing on adopted children as needing their services. (It is notable that two of the therapists in the Newmaker case were MSWs; neither was licensed, and both were practicing under the license of a third MSW, whose license was revoked some years later.) This paper will use the term HT/AT for continuity and to distinguish this technique from a different holding method, *Festhaltetherapie*, to be discussed later in this paper.

It should be noted that HT/AT has been conflated with the practice of "rebirthing", notably by Lilienfeld (2007) and Barlow (2010). Candace Newmaker's death by suffocation occurred during a "rebirthing" session conducted by HT/AT therapists. "Rebirthing", in which an individual goes through a pretense of birth, often crawling through the legs of the designated "mother" or traversing some narrow path to emerge near another person, usually lasts only a few minutes (according to testimony at the trial of Newmaker's therapists). The practice has not been associated with other injuries or deaths, and was chosen by Newmaker's therapists as a "break" from the daily HT/AT sessions the girl had been undergoing. The indirect cause of the child's death was probably the commitment of the therapists to the tenet of HT/AT theory that all child claims of inability, or involuntary physical events like vomiting or defecation, must be treated as forms of resistance and overcome by authority and force (Reber 1996). Because of this commitment, the therapists extended the intervention into a 70-min session during which the child begged for release, vomited, defecated, said she could not breathe, and was not heard to speak for the last 30 min. The therapists' actions may be seen as what Dimidjian and Hollon called "incompetent application of a treatment" (Dimidjian and Hollon 2010, p. 23) and may not indicate that "rebirthing" itself is directly harmful (as opposed to being unhelpful).

Proponents of HT/AT created an idiosyncratic diagnostic category for which their intervention was recommended. As attachment theory (Bowlby 1982) increased in popularity, HT/AT proponents adopted the term Reactive Attachment Disorder (or simply Attachment Disorder) to describe a syndrome they believed characterized adopted children. This group of symptoms, which has little or no overlap with either past descriptions of Reactive Attachment Disorder or the present DSM-5 categories of Reactive Attachment Disorder and Disinhibited Social Engagement Disorder (American Psychiatric Association 2013), included violent behavior, a love of blood and gore, and "crazy lying" in which a child maintained an untrue statement in spite of obvious contradiction. Children with the claimed disorder were said to attack pets and smaller children and to be potentially dangerous to adults. It is notable that the HT/AT version of the Reactive Attachment Disorder diagnosis was followed in a textbook for social workers (Forbes and Dziegielewski 2002; eliminated in a second edition of the book) and by Jongsma, Peterson, McInnis, and Bruce (2014), who used the HT/AT term "attachment disorder" in their *Child psychotherapy treatment planner* but did not recommend HT/AT methods.

Holding Therapy/Attachment Therapy (HT/AT)

HT/AT, in the original form associated with the deaths of Candace Newmaker and several other children (Mercer et al. 2003; Stryker 2010), involved physical restraint of the child (usually aged between 5 and 12 years) by two or more adults. Generally, the child lay across the lap of one therapist, who supported the child's head with one arm and used the free hand to grab the child's face and to prod painfully into the torso and armpits. One of the child's arms was behind the holding therapist, who might sit on it if the child fought; the other hand was held by an assistant. In therapy sessions lasting 2 or 3 h, the therapist covered an emotional spectrum by alternating friendly and kind commiseration with the child's problems, and periods of shouting, grasping the child's face, demanding that the child maintain eye contact, and requiring the child to shout repeated statements about hating and wanting to kill his or her mother (see "Attachment therapist Neil Feinberg terrorizes adopted child", n.d.). At intervals, the child might be required to kick his or her feet alternately or to do push-ups. Children were told that if they did not cooperate and work hard, their

adoptive parents would give up and abandon them, or that they were likely in the future to kill someone and be sent to prison. HT/AT was often carried out in the form of "intensives", in which families would bring children to treatment facilities and stay nearby while the children had daily treatment sessions over the course of 2 weeks.

Some versions of HT/AT have used a compression form of restraint in which therapists or parents lie prone on a supine child's body (see "CBS 48 Hours: 'Afraid of our children' ", n.d.). One therapist, Neil Feinberg, had his Colorado social work license revoked because of a complaint that he had done this and licked the child's face as he lay on top of her (Thyer and Pignotti 2015, p. 94; "Attachment therapist Neil Feinberg terrorizes adopted child", n.d.).

In addition to Candace Newmaker's death, there have been other deaths related to HT/AT that have occurred at the hands of parents who were instructed to use various restraint methods at home. For example, in 1996, the Utah adoptive father Donald Tibbets followed the instructions of an adoption caseworker and lay down on top of his preschool adopted daughter Krystal when she was noncompliant. Krystal, who on another occasion had stopped breathing briefly under this treatment, was asphyxiated, and Tibbets went to prison (see Mercer et al. 2003).

Presumably, numbers of children have been treated with HT/AT methods without being killed, but the possibility of death or serious injury remains when parents are taught to use potentially harmful methods. In one self-published manual, for instance, parents are advised to restrain noncompliant adopted children in the prone position and to sit or lie across the child in ways that can impede breathing (Federici 2005), although the evidence is clear that prone restraint is associated with asphyxiation (Morrison et al. 2002).

Is HT/AT a PHTC?

The four relevant ACE criteria ("The Adverse Childhood Experiences Study", n.d.; see Tables 1, 4) would all receive positive answers when applied to the experience of HT/AT treatment. Children in HT/AT are insulted, humiliated, and ordered to state that they wish to kill people, and have reason to be afraid they will be physically hurt. They are grabbed and pushed. They are told they are unimportant and threatened with abandonment. As will be shown in the next section of this paper, they may or may not have enough to eat or be kept clean. These positive answers suggest that HT/AT should be classified as a PHTC.

Examination of HT/AT in terms of the NIS-4 abuse and neglect codes (Sedlak et al. 2010; see Tables 2, 4) also supports a classification of this intervention as a PHTC. Children are pushed, grabbed, dragged, and pulled, forced to sit in a cramped position, and may be compressed painfully by adult physical pressure, with asphyxia a demonstrated outcome in a few cases. They experience close confinement during holding sessions. Verbal assaults and emotional abuse characterize treatment episodes. Threats of abandonment by parents and of later crime and imprisonment are used to terrorize the child. Unspecified disregard to the child's physical needs and safety is indicated by a much-referenced paper (Reber 1996) claiming that children in HT/AT may vomit or defecate voluntarily and that they characteristically claim that they cannot breathe or are dying, and that these behaviors should be defined as resistance and ignored. The "emotional burden" criterion (Linden 2013) is also met by HT/AT. Practitioners intentionally create distress in children by frightening them or verbally abusing them, by threatening them with abandonment, and by making food, drink, and toilet use contingent on therapist decisions.

Finally, HT/AT is implausible when considered with reference to established child development research and theory, although no single manual can be cited as evidence for thois statement. HT/AT is based on a theoretical "attachment cycle" (Grebenik 2016), in which the child is thought to form an attachment as a result of recognition of the power and authority of an adult, who can provide food and safety but who can also block an uncooperative child's access to needed help. In reality, attachment in early life appears to result from pleasant social interactions with an adult, and its continuing development in the preschool period and middle childhood results from continuing pleasant interactions and from negotiation (Bowlby 1982).

HT/AT Adjuvant Treatments

The potentially harmful physical restraint methods used in HT/AT have been deplored by a range of commentators, and the organization ATTACh (Association for Treatment and Training of Attachment in Children; http://www.attach.org), previously supportive of HT/AT, has made a point of stating that children in treatment for attachment problems are not to be restrained or held without their consent ("ATTACh Position Statement Against Coercive Treatment", 2006). However, little attention has been paid to potentially harmful adjuvant methods used alone or in conjunction with HT/AT, either in "therapeutic foster homes" where children undergoing HT/AT intensives stay except when in a treatment session, or by parents in efforts to change child behavior. These methods have been associated with child deaths; for example, Cassandra Killpack, a 4-year-old adopted by a Utah family, died of hyponatremia when forced to drink a large quantity of water as "consequence" for taking a drink without asking permission (Falk 2012). Cassandra had been in treatment with an

organization that favored HT/AT. These adjuvant methods are not usually employed by HT/AT therapists themselves, but parents or "therapeutic foster parents" may be directed to use them. Alternatively, parents may decide to use these techniques on their own, sometimes as a result of attendance at a HT/AT-influenced "parenting" program.

Adjuvant treatments associated with HT/AT were formulated primarily by Nancy Thomas (Thomas 2000), a former dog trainer and foster parent who has established a lecture circuit, a series of training programs, and a group of "bonding camps" for mothers and children. Thomas' recommendations for adjuvant treatment, as given in an edited book published by Academic Press (Thomas 2000), emphasize child compliance with the authority of parents, particularly that of mothers. As is generally the case in HT/AT circles, obedience is seen as evidence of attachment. To foster compliance, adopted or foster children are required to ask for anything they need, food, drink, or toilet use, and adults may refuse requests. It is suggested that children's bedrooms be stripped of all furniture but a bed, that no lights be available, and that alarms on the bedroom door and on refrigerators and cupboards warn parents of disobedience. Children are required to do "strong sitting", sitting tailor-fashion without moving or speaking for periods of minutes equal to their age in years (the clock restarts if the child moves or speaks). Serious noncompliance may be treated by "takedown" methods. Tedious physical jobs like moving stones from one side of the yard to the other, then back again, are done daily, and there may be little school attendance or homeschooling. Children's diets may be limited if they are seen as noncompliant; at one time, Thomas stated that peanut butter sandwiches and milk would be an adequate diet for weeks on end. Children are not allowed to ask for attention, information, or hugs, but at the adult's discretion a child may be rocked in the lap and hand-fed with sweets or milk in a baby bottle, these actions being claimed to cause emotional attachment.

Similar restrictions on activity and diet were suggested by Federici (2005). That author advised adoptive parents Paul and Debbie Salvetti in North Carolina, who were concerned about the behavior of 13-year-old "Pesha", adopted from Russia some years before. "Pesha" was locked in a bedroom whose windows were painted so that he could not see out, and fed a limited diet. After 3 months, "Pesha" managed to escape from the house, went to a nearby park where he hid overnight, and then made his way to his old school for help. He was hospitalized and gained 10 pounds in a week. The Salvettis pled guilty to felony child abuse including starvation and intentionally inflicting physical injury and went to prison (State of North Carolina v. Paul Joseph Salvetti, 2010).

In a 2015 decision, the Oregon Board of Professional License Examiners revoked the psychology license of Debra "Kali" Miller following a suicide attempt by an 11-year-old boy whom Miller had diagnosed with Reactive Attachment Disorder and whose parents had been told to use the adjuvant methods recommended by Nancy Thomas ("Portland therapist loses license after prescribing bottle feeding, confinement for 11-year-old boy", 2015; "In the matter of Debra [Kali] Miller, Ph.D.", 2012). Miller had advised the boy's father to hold him in his lap and feed him with a baby bottle, but also to confine him to a room with a door alarm and to have him sit cross-legged for periods of time. The boy was told to crawl like a baby and given small food treats by hand. Although it became apparent that the parents were using these treatment methods as punishments, Miller did not change her recommendations. Following her license revocation, Miller became a parent coach in a program sponsored by Nancy Thomas ("Advanced parenting for challenging children: Meet Kali", n.d.).

One young woman who is currently bringing a civil suit against a residential treatment center stated that she was denied food and toilet use for many hours at a time until she, then a minor, falsely confessed that her father had molested her (Amended Complaint 2014).

Are HT/AT Adjuvant Methods PHTCs?

All four of the relevant ACE criteria (see Tables 1, 4) would be answered positively with respect to HT/AT adjuvant methods. Children receiving this treatment are insulted and humiliated, and they have reason to fear being hurt. They may be grabbed, pushed, and restrained by "takedown" methods, as well as being required to sit in a cramped position for periods of time. Children are told that they are unimportant and refused information about seeing their parents (Thomas 2000). Withholding food, drink, and toilet access are features of this approach. These facts suggest that HT/AT adjuvant methods are a PHTC.

Examining the NIS-4 abuse and neglect codes (Sedlak et al. 2010; see Tables 2, 4), we see physical neglect as part of the adjuvant treatments, in the form of illegal custody changes, inadequate nutrition, personal hygiene, clothing, and shelter, and unspecified disregard of the child's physical needs and safety. Physical abuse occurs in the form of restraint and in demands for tedious physical labor. With respect to educational neglect, children may not be registered or enrolled in school, and homeschooling efforts may be minimal. Emotional abuse is present in confinement to unlit, sparsely-furnished rooms with door alarms, verbal assaults, and threatening the child with abandonment. Emotional neglect appears in the form of rejecting children's requests for nurturance, but insisting on physical closeness on the adult's terms. These points all suggest that these methods should be termed PHTCs. The "emotional

burdens" placed on children subjected to HT/AT adjuvant methods are self-evident, and the fact that these methods are carried out by parents who may be angry or frustrated increases the likelihood of distress and suggests, again, that these methods should be classed as PHTCs.

As was the case for HT/AT treatment methods, the adjuvant methods are implausible with respect to established thinking about the nature of attachment (Bowlby 1982). Material by Thomas (2000) shows various statements that are incongruent with established research and theory about emotional deveopment.

Festhaltetherapie (Holding Time, Prolonged Parent–Child Embrace)

HT/AT methods share the use of physical restraint with another group of holding interventions, but there are major differences between the two types of treatments. To avoid confusion, this second group of holding treatments will be given the name *Festhaltetherapie* (German: "holding therapy"). An important difference between the two groups is that AT/HT holding is sometimes done by therapists and sometimes done by parents, but *Festhaltetherapie* is always done by parents (usually mothers) who may be coached by therapists during the restraint session. *Festhaltetherapie* is not known to have been associated with the adjuvant treatments often used together with HT/AT. *Festhaltetherapie* has generally targeted autism spectrum disorders, which its proponents have attributed to problematic early interactions between mother and child (see Tinbergen and Tinbergen 1983).

Festhaltetherapie and related treatments have been used in the United States, Germany, the Czech Republic, and elsewhere for about 35 years. They appear to have originated with the work of Welch (1989), a psychiatrist who is currently associated with Columbia University. Welch visited proponents of HT/AT in Colorado, but proposed that instead of their methods child treatment should be done by daily forced *ventre-a'-ventre* contact between mother and child. Such contact was to be done for toddlers and preschoolers with the mother seated and the child straddling her lap, facing her and held in place by the mother's tight embrace. Older children were to lie supine while the mother lay prone on top of them, supporting herself to some extent on her elbows. In both cases, mother and child were to express both positive and negative feelings freely to one another, although in the case of younger children this usually amounted to a period of wild crying and fighting against restraint, followed by exhausted yielding and cuddling. Welch originally proposed what she called "holding time" both for autism and for prevention of parent–child relationship problems (Welch 1989; "Martha Welch 'Mothering Center' Clip", n.d.). *Festaltetherapie*, the method of the Czech-German practitioner Jirina Prekopova, closely resembles Welch's "holding time" and similarly is proposed for treatment of autism and oppositional behavior.

Welch et al. (2006) altered the name of her intervention to Prolonged Parent–Child Embrace (PPCE) and offered it as a treatment for oppositional behavior and for Reactive Attachment Disorder. Welch continues to practice in the New York-Connecticut area at the time of this writing. After many years in Germany Prekopova returned to the Czech Republic in about 2000, where in spite of recent poor health she has established a number of clinics and training programs. She has published several books and has co-authored with the German family constellation therapist Bert Hellinger, whose stress on family hierarchy includes the demand that children who have been sexually abused by an older relative must apologize to the abuser (Prekop 2006; Prekop and Hellinger 2010 [note that Prekop is the German form of the Czech name]; "STOP Jirina Prekopova Attachment Therapy", n.d.).

No reports of physical or psychological injury are known to have been associated with Welch's "holding time" or PPCE. At least one Czech psychologist has spoken to individuals who were subjected to *Festhaltetherapie* and recall it with distress, but are not willing to come forward with reports; a 2013 conference of APLA, a branch of Autism Europe, focused on the inappropriateness of *Festhaltetherapie* (Katerina Thorova 2013, personal communication; Mercer 2013).

A German-language edited book (Benz 2013a) described problems occurring for families who became involved with *Festhaltetherapie* and noted that few professionals working with children knew that such methods were used. Benz (2013b) commented on the pathological consequences of traumatizing children through the use of physical force in the guise of therapy. Benz (2013b) noted that parents are warned that when they are going to do holding, they should close windows so the children's screams will not result in the police being called (p. 127). Positions that will avoid bruising are advised. The child's hands are crossed in a "strait jacket" posture while he or she straddles the adult's lap and has the head pressed into the crook of the adult's neck. The child is not to be released, no matter whether he begs, fusses, screams, or cries desperately, even if he needs to go to the toilet, needs his nose wiped, or is nauseated, or whether he is bathed in sweat or trembles with stress or is hungry or thirsty. All these are to be regarded as typical childish evasive maneuvers, and they must be ignored in order to make the child tractable, as shown in making eye contact, caressing the mother, or saying "I love you" (p. 128; present author's translation). Benz (2013b) described a number of cases of psychological disturbance

of children following years of *Festhaltetherapie*, including anxiety and disturbance of self-worth.

Is *Festhaltetherapie* a PHTC?

All four of the relevant ACE questions (see Tables 1, 4) can be answered affirmatively with respect to *Festhaltetherapie*. Children receiving this treatment experience physical pain and therefore are afraid they will be hurt. They are grabbed and pushed into the holding position and restrained there. Although the mother is to accompany holding with expressions of both love and anger, it is difficult to imagine that a child interprets the treatment as indicating love. Finally, as the painful and frightening treatment is done by one of the people the child might expect to have as a protector, it would be reasonable for him or her to feel that there is no protector during the holding session. These facts suggest that *Festhaltetherapie* should be regarded as a PHTC.

In terms of NIS-4 codes (see Tables 2, 4), *Festhaltetherapie* closely resembles HT/AT and thus appears to be a PHTC. Similarly, descriptions of *Festhaltetherapie*, referring to predictable crying and screaming, and warning parents to avoid the attention of authorities, make it clear that children receiving this treatment experience an "emotional burden" (Linden 2013).

As a treatment for autism, *Festhaltetherapie* is implausible with respect to modern knowledge of the genetic origins of these disorders (Beaudet 2012). Even if *Festhaltetherapie* were able to improve attachment relationships, attachment among children with ASD is not atypical to begin with (Grzadzinski et al. 2014). The Welch volume *Holding time* (1989) and portions of the Tinbergen and Tinbergen (1983) book are sources that allow comparison of these principles and practices to established information about attachment and about ASD.

Conversion Therapy

Conversion therapy [Reparative therapy, Sexual Orientation Change Efforts (SOCE)] is a treatment aimed at altering same-sex attraction and related sexual behavior. It is most often used with male clients, and although adults may be treated, for the purposes of this paper adolescents whose behavior suggests same-sex attraction are the usual clients. These teenagers do not seek conversion therapy spontaneously, on the whole, but are persuaded or coerced into treatment by parents or clergypersons who believe that homosexuality is sinful and also leads to a lifetime of unhappiness and physical danger.

Proponents of conversion therapy attribute same-sex attraction to childhood experiences with domineering mothers and weak or distant fathers, or to some form of trauma associated with sexuality, including hearing general criticism of maleness or the parents' stated wish that they had had a daughter. Same-sex attraction of males is also said to be associated with a failure of attachment to the father and to be correctable by strengthening this attachment (Cohen 2006).

Discussion prior to legislation prohibiting conversion therapy has generally focused on the impossibility of changing sexual orientation and the distress of boys subjected to pressure to change in order to gratify their families. Public debate and peer-reviewed publications have paid little attention to methods used in conversion therapy, which are described primarily in one or two proponents' books and by journalists. Schlanger (2015) described the treatment experienced by a young man she interviewed, who had been involved with JONAH (a Jewish gay conversion group), as including a range of pseudoscientific methods including "rebirthing" while nude, having pillow fights, showering with a group of other men, and beating a pillow with a tennis racket while screaming "Mom!". Schlanger's interviewee was over 18 when he went into this treatment, and it is not clear whether methods used with younger boys are the same. Cohen (2006) stated that he worked with adolescents and that he used holding therapy as done by Welch (1989; discussed earlier in this paper) to cure "hetero-emotional wounds". He also employed "bioenergetic" techniques, memory healing by recovery of repressed memories of sexual abuse, role-play, and psychodrama, and stated his approval of the hierarchical family therapy methods of Bert Hellinger, noted earlier in this paper as a colleague of the *Festhaltetherapie* specialist Jirina Prekopova.

Hicks (1999) referred to the use of electric shock therapy, "chemical aversive therapy", and hormone treatment, for "conversion" purposes, and stated that the treatment "frequently results in nervous breakdowns and feelings of guilt; some patients have witnessed others in their programs commit suicide and mutilate their genitals" (p. 515), but the cited source does not make it clear how frequent or how well-substantiated these reports were. Hicks compared teenagers' experiences of conversion therapy with events following which parents were convicted of abuse or neglect under New York State law and concluded that conversion therapy should be considered abusive. Young (2006) rejected this view, noting that there was no evidence either that conversion therapy was effective or that it was harmful.

The APA Task Force on Appropriate Therapeutic Responses to Sexual Orientation described the risks to clients receiving conversion therapy as including "confusion, depression, guilt, helplessness, hopelessness, shame, social withdrawal, suicidality, substance abuse, stress, disappointment, self-blame" and many other adverse effects (American Psychological Association Task Force on Appropriate Therapeutic Responses to Sexual Orientation 2009), but

noted that there was little empirical research on the effects of conversion therapy on children or adolescents. The Task Force report also compared conversion therapy to coercive treatments that employ threats of future harm predicted to result from noncompliance; these threats can include loss of love, rejection or abandonment by family, and feelings of guilt or obligation.

Adverse effects of conversion therapy for adolescents are in fact weakly documented except anecdotally, and published work on harms resulting from the treatment often fails to distinguish between effects on teenagers and on adults (e.g., Haldeman 2003). Although testimony from young men at legislative hearings emphasized their distress at being pressed to change, the concern in most cases appeared to be about rejection by their families rather than about the specifics of the treatment. A 2015 report on the need to end conversion therapy stated that there have been "no studies on the effects of conversion therapy on children, though adults' retrospective accounts of their experiences of conversion therapy during childhood or adolescence suggests that many were harmed…" (Substance Abuse and Mental Health Services Administration 2015, p. 24). The same report argued that interventions "that are involuntary, especially those in inpatient or residential settings, are especially harmful and inappropriate" (p. 27), although no data on harms were reported. Support for prohibition of conversion therapy crystallized around the suicide of Leelah Alcorn, a transgender teenager who had been coerced into treatment by her parents (Gray 2015), and suicide appears to be the most feared possible adverse outcome of conversion therapy.

Is Conversion Therapy a PHTC?

The "emotional burden" (Linden 2013) for clients in conversion therapy appears to be a powerful one. In addition, the ACE questions (see Table 1) about feeling no one loves the child and no one, including the therapist, protects him would be answered in the affirmative with respect to conversion therapy. When holding therapy (Cohen 2006) is used for treatment, the child is grabbed and pushed; when aversive treatments are used, the child is justly afraid of being physically hurt. These facts suggest that conversion therapy should be classified as a PHTC in spite of the lack of empirical work on adverse events.

Comparison to the NIS-4 codes for abuse and neglect (see Tables 2, 4) also suggests that conversion therapy should be considered a PHTC. Physical abuse in the form of restraint or aversive treatments may be present. Emotional abuse in the form of verbal assaults and threats is likely, as conversion therapists attempt to persuade the young client of his errors. Inattention to developmental and emotional needs is present almost by definition, as the child or adolescent is not in fact capable of doing what is demanded and suffers as a result of this inability to meet the demands.

Conversion therapy is implausible in that it is based on the assumption that sexual orientation results from experience and learning in the course of development, and is therefore reversible by appropriate experiences. On the contrary, current thinking about sexual and gender identity holds that strong biological components determine these aspects of individuality (Substance Abuse and Mental Health Services Administration 2015). There is no published source that can act as a general "manual" for all conversion therapy principles and practices, but Cohen (2006) can be used to provide comparison to relevant established research.

Is It Possible for a PHTC to Be Empirically Supported ?

It is conceivable that an intervention associated with potential or demonstrated harm to some children could also be an efficacious treatment in other cases, as Dimidjian and Hollon (2010) pointed out. As was noted early in this paper, some forms of aversive conditioning have been associated with harms, but benefits have also been demonstrated (Neumann et al. 2008). When possible, both risks and benefits need to be weighed, and it is appropriate to discuss evidence for the possible benefits of the treatments identified as PHTCs in this paper. None of the evidence is at a higher level than "experimental treatments", however.

The treatments HT/AT, HT/AT adjuvant treatments, *Festhaltetherapie*, and conversion therapy were searched on PsycINFO, Academic Search Complete, and Google, as well as in materials gathered in a hand search ongoing since 2000. Eight research reports were found, only one of which had a randomized design. All of the studies found used parent reports, with their possible biases, to assess child mental health, and all enrolled small numbers of participants. The majority of children in these studies were school age or in early adolescence.

HT/AT was reported to improve child problems by Lester (1997) in a pre/post study. Myeroff, Mertlich, and Gross (1999) compared parents' reports of child changes for a group whose parents had brought them to a treatment facility for an "intensive" during which parents and children were separated most of the time, to parents' reports for a group of children whose parents had applied to bring them for treatment but did not do so; improvement was reported by parents of the treated group. Sudbery, Shardlow, and Huntington (2010) surveyed opinions of caregivers and concluded that HT/AT was beneficial. These studies were

concerned with oppositional or aggressive children whose diagnosis was given as Reactive Attachment Disorder.

Festhaltetherapie was reported to be an effective treatment for autism by a number of authors who assessed parent reports about changes in small numbers of children (Prekop 1983; Prekop and von Stosch n.d.; Burchard 1988). Rohmann and Hartmann (1985) used a randomized design in their study but enrolled only 14 children. Welch et al. (2006) used Welch's version of *Festhaltetherapie*, called Prolonged Parent–Child Embrace (PPCE), in a pre/post study of children diagnosed with oppositional behavior or Reactive Attachment Disorder and concluded that parent reports indicated improvement. Comparisons in these studies were to groups that did not appear for treatment or to normative data, and parents could not be blinded to treatment condition because they themselves performed the treatment, sometimes while coached by a therapist (see Mercer 2013, for further discussion).

Searches showed no published empirical work, including case studies, on either HT/AT adjuvant treatments or conversion therapy (see Serovich et al. 2008). Thus, although it is possible that a PHTC could be demonstrably effective for some children, such demonstration has not occurred for the treatments discussed in this paper.

The Practice of PHTCs

The PHTCs discussed in this paper may be practiced by a broad range of mental health professionals, including licensed psychologists and licensed clinical social workers. In addition, there may be contributions by foster parents, educators, and parents themselves. One organization, the Association for Treatment and Training of Attachment in Children (ATTACh), which advocates for some HT/AT beliefs and practices, offers its own certification to practitioners who are already licensed in their fields. HT/AT adjuvant methods are taught through presentations by Nancy Thomas (see "Seminars", 2015). Training on *Festhaltetherapie* is offered through European workshops sponsored by Jirina Prekopova (see Benz 2013a). Conversion therapy training tends to be associated with the "deliverance" (exorcism) practices of Charismatic Christian groups; however, the conversion therapist Richard Cohen's foundation, the International Healing Foundation, offered telecourses on the topic until a few years ago.

It is difficult to assess the numbers of practitioners involved in any of these methods. ATTACh claims about 600 members, but as it is a hybrid parent-professional group these would not all be practitioners. A Nancy Thomas-run website lists 227 recommended therapists, respite homes, and residential treatment facilities, as well as 57 "advanced parenting instructors" ("Find a therapist in your area", 2015); it is not clear exactly what methods these people use, but Thomas' history and role in the creation of HT/AT adjuvant methods would suggest that she would recommend HT/AT.

A Google search for "conversion therapists for children" yielded no relevant results. Existing laws in California, Illinois, New Jersey, and New York prohibit licensed psychologists from carrying out conversion therapy with minors, but permit its use with adults. One website ("Finding a counselor or life coach", 2016) named 22 therapists who did conversion therapy, but did not mention its use for minors. It is notable that among Charismatic Christians, who believe that demons are responsible for homosexuality (Weaver 2015), all adult men are thought to have a capacity to transform homosexuality by exorcism, and this group may number about 100,000 people in the United States (based on figures in "Christian movements and denominations", 2011). Charismatics have a history of treating childhood mental illness by "deliverance" (exorcism; Hammond and Hammond 2010).

In the absence of clear information about practitioners of the treatments discussed in this paper, it may be useful to think about the prevalence of disorders that may be focuses of PHTC use. With respect to aversive conditioning, a study of more than 8000 children with ASD showed the prevalence of SIB to average 27.7% (Soke et al. 2016). Children in foster care, who may be treated with HT/AT or adjuvant treatments, have been reported to have 13–20% prevalence of mental disorders (Perou et al. 2013). Lehmann, Havik, Havik, and Heiervang (2013) stated that 19.4% of a group of foster children had Reactive Attachment Disorder. In another study of foster children, Conn, Szilyagi, Alpert-Gillis, and Baldwin (2016) reported that 45% had conduct problems, which might lead to treatment with HT/AT or adjuvant methods, or with aversive conditioning. ASD, symptoms of which might be treated with aversive conditioning, or which might be treated with *Festhaltetherapie*, was reported as seen in only 1.1% of children ages 3–17 years in the U.S. between 2005 and 2011 (Perou et al. 2013). Nock, Kazdin, Hiripi, and Kessler (2007) reported a lifetime prevalence of about 10% for Oppositional Defiant Disorder, with onset often before age 8 years. Same-sex sexual experience, which might be treated with conversion therapy, has been reported to occur in 11% of 15–21-year-old females and 4% of males of the same age, but with greater prevalence in persons who reported exclusive attraction to the same sex (McCabe et al. 2011). Proponents of HT/AT and adjuvant treatments claim that all adopted children have attachment problems that require treatment to prevent serious outcomes; about 2% of children in the U.S. are adopted (Vandiver and Malcolm 2009).The types of mental health problems that PHTCs claim to treat are thus fairly prevalent.

Discussion: What Follows Identification of PHTCs?

Because the criteria suggested in this paper reveal characteristics shared by a group of treatments associated with harm to children, but unshared by most child mental health interventions, it may be possible to identify additional PHTCs by the suggested criteria. Identification makes it possible to begin work to lessen or even prohibit the use of PHTCs (especially those that lack empirical support), in line with the ethical principle of nonmaleficence. The fiduciary responsibility of mental health professionals to minor clients requires that where there is evidence of demonstrated or potential harm, we must engage in this work.

Monitoring of Harmful Outcomes and Other Research Issues

In their general discussion of harm caused by psychotherapies, Dimidjian and Hollon (2010) noted that when an adverse event occurs, practitioners "may have a vested interest in not entertaining the possibility of a connection or even reporting an event" (2010, p. 25). [Indeed, minimization of harms is an issue for many types of treatment, including pharmaceutical methods (Schroll et al. 2016)] Events such as child death or serious physical injury are difficult to conceal, but minor injuries or psychological effects can easily go unreported or be attributed to a child's intransigence or the targeted diagnosis. However, information about adverse events may be found in the later lives of child clients. The few available memoirs and personal reports of childhood treatments suggest that children who experience the PHTCs discussed here are likely to return to some form of treatment, voluntarily or involuntarily, in adolescence or adulthood. Professionals who hear client stories about PHTC experiences can "walk back" those stories to find possible connections between later emotional problems and childhood PHTC events—provided, of course, that the practitioners are aware of PHTCs and can recognize the treatments described. Collection of such cases can begin to test the possibility of psychological harm such as post-traumatic stress disorders (PTSDs) from PHTCs, as well as the more obvious physical injuries. However, this approach to monitoring would need to be recognized as confounded by other early experiences such as adoption, and by the characteristics that initially caused parents to seek treatment for a child.

Identification of PHTCs could be facilitated if researchers followed the recommendation that they investigate both positive and negative effects of psychotherapy ("Recognition of psychotherapy effectiveness", 2012). In addition, attention needs to be paid to adverse events by the systematic reviews that are important sources of information for many practitioners. A useful "harms checklist" has recently been developed as an addition to PRISMA (Preferred Reporting Items for Systematic Reviews and Meta-Analyses; Zorzela et al. 2016). As the authors of that checklist commented, "Systematic reviews can present a misleading picture to readers if the lack of evidence of harm is presented as evidence of safety" (Zorzela et al. 2016, p. 15).

Improved Advice About Child Psychotherapies

Parents who choose interventions for their children are not likely to be aware of possible harm resulting from treatments. As of the time of this writing, it is unusual to see advice about child psychotherapy that mentions PHTCs. Altering this situation could be helpful.

As an example, the California Evidence Based Clearinghouse for Child Welfare (http://www.cebc4cw.org), funded by the California Department of Social Services' Office of Child Abuse Prevention, offers assessments of a range of therapies. For each treatment, a numerical assessment of the evidence basis ranges from one (well-supported by research evidence) to five (concerning practice). The assessments are based on information given by proponents of each of the treatments; in cases where no materials have been provided, the treatment is listed as non-responding (Walsh et al. 2015). A review of the listed programs shows that although many are listed as NR (Not Rated because of lack of evidence), none are said to be Level five (concerning practice). Included among NR programs are Corrective Attachment Therapy and Family Bonding Camp, each historically associated with potentially harmful treatment methods (HT/AT and HT/AT adjuvant methods). Increased use of the "concerning practice" category would be of value in warning professionals and parents about PHTCs, as would an increase in all public statements about both poor empirical foundations and adverse events associated with child psychotherapies.

Overseeing Scholarly and Educational Activities

The initial spread of HT/AT and HT/AT adjuvant practices was facilitated by state human services organizations. These paid for training of adoption caseworkers, including those who were involved in the Tibbets child death case (Mercer et al. 2003). Arizona, Georgia, New Mexico, and Pennsylvania have all paid for HT/AT training at various times (e,g., Wimmer et al. 2009). Where professionals are instrumental in assessing and approving of such plans, they need to bring an awareness of

PHTCs to their work; their tasks in the near future will be more difficult because some PHTCs have become familiar over the years and therefore seem acceptable to some psychotherapists.

Searches by the present author have shown that master's and doctoral degrees have been awarded for work with uncritically accepting views of HT/AT by the Union Institute, Capella University, and the University of Wisconsin at Stout. Professionals serving on dissertation committees, especially as outside readers, need to be aware of PHTCs and to question reference lists that uncritically include PHTC material. Professionals instructing undergraduates should also be aware that of relevant undergraduate term papers to be bought on the Internet, the majority are AT/HT-related (Mercer, 2015). Mental health professionals should be aware that PHTC proponents have been in the past been approved for APA continuing education (CE) credit (this approval is done by "approved providers" for APA, not by the organization itself). In 2013, Nancy Thomas, the HT/AT adjuvant treatments advocate, was scheduled for a presentation that a provider had approved for CE credits; only by chance did the receipt of a flyer for this presentation by the present author allow APA authorities to be alerted to the problem and to cancel the credits. Professional organizations need to consider consistent policies prohibiting CE credits for PHTC presentations.

In their 2006 article on discredited therapies, Norcross, Koocher, and Garofalo concluded, "We should take care not to threaten innovation and creativity in psychological practice by branding all nonresearched procedures as discredited. We must avoid hubris by remembering that contemporary treatments and tests may become discredited 50 years from now" (pp. 519–520). Although this is certainly true, when logic or empirical evidence show that a treatment may create more risks than benefits for children, it is our responsibility to pay attention and prevent harm.

Compliance with Ethical Standards

Conflict of interest Jean Mercer declares that she has no conflict of interest.

Ethical Approval This article does not contain any studies with human participants performed by the author.

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