

Science vs. Silliness for Parents: Debunking the Myths of Child Psychology

Parents and students struggle to distinguish between pseudoscience and evidence-based ideas in child psychology. This study sampled the beliefs of 163 students and 205 parents on topics related to parenting and development.

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Many ideas in child psychology have been largely discredited (Koocher et al. 2014). Unfortunately, parents and college students often have a hard time distinguishing between research-supported ideas and discredited myths. For example, in recent research, college students believed that Facilitated Communication (a pseudoscientific intervention) was more effective than Applied Behavior Analysis (a well-established intervention) as a treatment for autism (Hupp et al. 2012; Hupp et al. 2013).

While there is emerging literature on beliefs about child-focused myths, the existing research base continues to have limitations. First, many popular myths of childhood have never been examined with opinion surveys. Second, published opinion surveys are largely limited to focusing on ineffective *interventions* even though there are many other myths in child psychology such as those related to etiology (cause), typical development, assessment, and basic parenting approaches. Finally, previous opinion surveys primarily included college students. Although it is valuable to know the beliefs of students, it may be even more informative to gather information regarding parents' beliefs. The purpose of this study was to assess the beliefs of both students and parents on a wide range of myths related to child

psychology, and this is the first study to collect data regarding beliefs for the majority of these myths.

Method

This study includes two different samples of participants. First, 163 consenting undergraduate students were given a paper survey at the beginning of a child psychology course at a midsized midwestern university. All students in the course received a small amount of credit for this activity regardless of whether or not they consented to being in the study. The mean age of the students was 19.9 years old ($SD = 2.0$). Students were mostly female (83.4 percent), with 13.5 percent indicating they were male, and 3.1 percent leaving this item blank. The sample was primar-

ily Caucasian (66.9 percent), followed by African American (17.8 percent), Hispanic/Latino (3.1 percent), and Asian (1.2 percent); 6.7 percent of participants were biracial, and 4.3 percent did not classify themselves. The sample included freshmen (32.5 percent), sophomores (25.2 percent), juniors (28.2 percent), and seniors (11.0 percent), with 3.1 percent of participants leaving this item blank.

The second group of participants consisted of parents. Specifically, 205 parents took part in an online study using Amazon's Mechanical Turk. Although Mechanical Turk is a relatively new tool for data collection, research shows that high-quality data from a diverse population can be collected in this manner, and it helps compensate for limitations inherent in studying college students alone (Buhrmester et al. 2011). Only parents living in America could take the survey, and they completed the survey anonymously. Participants received 25 cents worth of credit to be used at Amazon.com. The mean age of the parents was 33.2 years old ($SD = 8.4$), and the mean age of their oldest child was 8.6 years old ($SD = 6.8$). Regarding gender, 52.7 percent of parents were female, 45.9 percent were male, and 1.5 percent left the item blank. The sample was primar-

ily Caucasian (69.8 percent) followed by African American (10.2 percent), Asian (9.8 percent), Hispanic/Latino (4.9 percent), and American Indian or Alaska Native (0.5 percent); 2.9 percent of participants were biracial, and 2.0 percent did not classify themselves into any category.

Both students and parents completed a survey that was designed for this study. The Opinions About Kids Scale (OAKS) includes twenty-six statements that are myths related to child psychology, development, and parenting. Research debunking each of these myths is thoroughly described in the book *Great Myths of Child Development* (Hupp and Jewell 2015). The myth statements are interspersed with another twenty-six statements that are supported by research.

Participants responded on a four-point Likert scale for each statement (3 = “agree,” 2 = “somewhat agree,” 1 = “somewhat disagree,” 0 = “disagree.”). For the purposes of this study, responses of “agree” and “somewhat agree” were combined to indicate that the participant believed the statement. Results are reported in terms of the percentage of college students and the percentage of parents that believed each statement.

Results and Discussion

Results for the myths are presented in Table 1, and results of research-supported statements are in Table 2. Overall, college students (with a paper survey) and parents (with an online survey) responded similarly across most items. That is, college students and parents differed by less than 10 percentage points for a large majority of the items (i.e., forty-one of fifty-two statements), and they differed by less than 5 percentage points for half of the items (i.e., twenty-six of fifty-two statements). Thus, this data indicates that college students and parents hold similar beliefs as measured by these different data collection methods.

The highest-ranked myth overall involved Attachment Parenting: 88.4 percent of students and 83.0 percent of parents believed that “The Attachment Parenting approach strengthens

Table 1. Percent of College Students and Parents that Believe Child-Focused Myths

Myths of Child Psychology	Rank	College	Parents
The Attachment Parenting approach strengthens the mother-infant bond.....	1	88.4	83.0
Most toddlers go through a “terrible two’s” stage.....	2	84.7	83.4
A child’s drawings provide insight into the subconscious cause of their problems.....	3	87.0	79.1
Within about one hour after birth, babies need to bond with their mothers so that attachment is stronger over time.....	4	82.7	82.0
The sex chromosomes of all girls are XX and all boys are XY.....	5	82.4	79.1
Baby walkers help young children learn to walk.....	6*	77.8	75.6
Showing cognitively stimulating videos to infants boosts their intelligence.....	7*	84.7	68.7
Too much sugar causes most children to be hyperactive.....	8	81.6	70.3
Most antidepressants used for kids are approved by the Food & Drug Administration.....	9	68.1	67.8
Most “only children” (without siblings) are more likely to be selfish & spoiled..	10	79.0	54.2
Some identical twins can feel each other’s physical pain.....	11	56.4	76.1
Programs like Scared Straight help prevent youth from breaking the law.....	12	64.2	62.4
Having a baby sleep in the mother’s bed promotes the baby’s secure attachment.....	13	63.2	62.4
When Mozart’s music is played to infants the music boosts their intelligence...	14	59.9	58.0
Using “baby talk” with an infant delays their ability to speak normally.....	15	50.0	51.7
Breastfeeding a baby for more than two years helps strengthen the attachment between the mother and child.....	16	38.7	52.2
Divorce tends to ruin the lives of most children that have to go through it.....	17*	39.5	46.8
Children who frequently wet the bed usually have underlying emotional issues.....	18*	42.9	43.4
When kids are never spanked for their misbehavior they are likely to be spoiled.....	19	45.0	38.5
Being in daycare interferes with the attachment between children and their parents.....	20	35.1	39.1
If a child has an imaginary friend, the child is usually less sociable with real kids.....	21	41.7	32.2
Brief “time-outs” are too weak to help decrease real behavior problems in toddlers.....	22	41.1	32.2
Letting one-year-olds “cry it out” at bedtime hurts their emotional development.....	23	25.5	42.5
Couples that are struggling with fertility have an increased chance of getting pregnant after they adopt a child.....	24	29.6	35.6
The shape of the mother’s belly is one factor that can help doctors predict the sex of a fetus.....	25	31.3	20.4
Vaccines have been a common cause of autism.....	26	22.8	24.4

Note. Participants are reported to believe the statement if they marked “agree” or “somewhat agree.” Rank was determined by calculating the overall average between the college students and parents for each statement; in two cases there was a tie in rank (marked by asterisks), and greater weight was given to the parent rating because there were more parent participants.

the mother-infant bond.” This commonly held belief could be concerning to psychologists using evidence-based approaches, as a large part of Attachment Parenting is to warn parents of the cry-it-out method used for sleep problems with children even though the cry-it-out approach is supported by research when used as part of a larger sleep hygiene intervention (Kuhn and Elliott 2003). Fortunately, fewer of the participants (i.e., 25.5 percent of students and 42.5 percent of parents) reported believing the myth that

“Letting one-year-olds ‘cry it out’ at bedtime hurts their emotional development.” Other items from the survey queried about other components of Attachment Parenting. For example, 82.7 percent of students and 82.0 percent of parents believed that “Within about one hour after birth, babies need to bond with their mothers so that attachment is stronger over time,” and 63.2 percent of students and 62.4 percent of parents believed that “Having a baby sleep in the mother’s bed promotes the baby’s secure attachment.”

Table 2. Percent of College Students and Parents that Believe Research-Supported Statements

Research-Supported Statements	Rank	College	Parents
Daily physical activity is important for children's health.....	1	100	97.6
It is common for siblings to have disagreements with each other.....	2	99.4	96.1
Breastfeeding is a healthy way for babies to get nutrition.....	3	97.5	97.6
Physical abuse can be harmful to children's emotional development.....	4	98.8	95.6
It is important for mothers to eat a balanced diet while pregnant.....	5	99.4	94.6
Teachers should report a parent if they see the parent abuse a child.....	6	98.7	95.1
It is common for children to make grammatical mistakes when learning to talk.....	7	98.7	94.6
It is a good idea for parents to read every day with toddlers.....	8	98.1	94.6
Drug use during pregnancy can be harmful to the developing fetus.....	9	98.8	92.7
Most children need more sleep than adults.....	10	96.4	94.2
Fathers often have a big influence on their children's emotional developments.....	11	92.6	96.1
Most young babies can perceive different speech sounds.....	12*	92.6	94.7
Verbal teasing can be more harmful than physical bullying.....	13*	95.1	92.2
Cognitive-behavioral therapy can be helpful for children with clinical depression.....	14	92.0	92.2
It can be helpful for children who experience a lot of anger to see a therapist.....	15	93.8	88.3
Children sometimes need to learn how to "face their fears".....	16	93.9	87.3
Often a physical trait is influenced by more than one gene.....	17	91.4	89.7
Applied Behavior Analysis can be helpful for children with autism.....	18	87.7	88.8
Kids usually develop friendships with others that are similar to them in some way.....	19	91.9	84.4
Most people don't remember much before the age of about three years-old....	20	91.4	83.9
It is common for children who have been adopted to live happy and successful lives.....	21	82.2	91.2
When babies are born they already have many reflexes.....	22	81.5	86.8
Children can be diagnosed with clinical depression.....	23	77.3	88.3
The average boy tends to be more aggressive than the average girl.....	24	87.0	75.2
Intelligence is influenced by genes.....	25	57.1	79.1
The vision of most babies is worse than the vision of most adults.....	26	51.6	66.3

Note. Participants are reported to believe the statement if they marked "agree" or "somewhat agree." Rank was determined by calculating the overall average between the college students and parents for each statements; in one case there was a tie in rank (marked by asterisks), and greater weight was given to the parent rating because there were more parent participants.

Overall, these Attachment Parenting beliefs may cause parents to avoid research-supported treatments, engage in bedtime behaviors discouraged by the American Academy of Pediatrics (i.e., bed-sharing), and feel guilty if they did not have the opportunity to bond with their newborn immediately after birth.

The second-highest-ranked myth involved disruptive child behaviors. Specifically, 84.7 percent of students and 83.4 percent of parents believed that "Most toddlers go through a 'terrible two's' stage." Although it's common for all two-year-olds to engage in some disruptive behaviors, it's also common to find some disruptive behaviors in

just about every age group, and research shows that two-year-olds are not more terrible than children of other ages (Janson and Mathiesen 2008). While it is true that some new disruptive behavior might crop up at two-years-old, the same can also be said for other ages, and many new prosocial behaviors emerge at age two as well. The "terrible two's" myth has the potential to normalize clinical behavior problems and prevent parents from seeking evidence-based interventions such as behavioral parent training (Eyberg et al. 2008). Similarly, time-outs are a common component to behavioral parent training, and 41.1 percent of students and 32.2 percent

of parents believed that time-outs are too weak to be effective even though research shows that they can often be helpful when used along with other strategies.

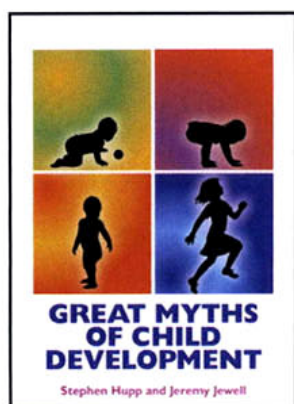
The third-highest-ranked myth involved projective drawings that are rooted in psychoanalysis. Eighty-seven percent of students and 79.1 percent of parents believed that "A child's drawings provide insight into the subconscious cause of their problems." In other research, over half of the professionals doing child custody evaluations (Ackerman and Pritzl 2011) and nearly half of school psychologists (Hojnoski et al. 2006) were using projective drawing methods, such as the House-Tree-Person. With high use among professionals, it's not surprising that students and parents believe this myth even though projective drawings have been debunked in terms of their ability to provide useful clinical information during an assessment (Lilienfeld et al. 2000). Although *non-projective* drawings may be one useful tool for therapists to build rapport with children, *projective* drawings are problematic when used in place of useful assessment techniques such as functional behavior assessment.

Other commonly believed myths may also interfere with evidence-based approaches. For example, 81.6 percent of students and 70.3 percent of parents believed that sugar causes children to be hyperactive. This belief may lead to ineffective treatments such as sugar-elimination diets instead of well-established treatments such as behavioral classroom management (Evans et al. 2013). In another example, 64.2 percent of students and 62.4 percent of parents believed that the Scared Straight program is an effective intervention for delinquency, which could lead to parents seeking this ineffective treatment in place of an evidence-based treatment such as Multi-systemic Therapy (Eyberg et al. 2008). In addition, 42.9 percent of students and 43.4 percent of parents believe that emotional issues are at the root of bed-wetting, which could lead to therapy based in treating an unidentified subconscious problem, when a urine alarm

is actually a quite effective treatment instead (Gimpel et al. 1998).

The lowest-ranked myth involved autism and vaccines. Specifically, 22.8 percent of students and 24.4 percent of parents believed that “Vaccines have been a common cause of autism,” even though research consistently fails

Overall, students and parents tended to believe in the effectiveness of evidence-based approaches; however, they also tended to believe several myths that could interfere with effective treatments and may otherwise put children’s safety at risk. This study provides data regarding the prevalence of beliefs



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to find this connection (Hobson et al. 2012). Although this is the lowest ranked myth, it is potentially one of the most dangerous, as this belief causes some parents to avoid important vaccinations for measles, mumps, rubella, and other diseases. In addition, belief in this myth causes parents to choose ineffective autism treatments, such as chelation (i.e., to remove mercury from the body) instead of well-established treatments such as Applied Behavior Analysis (Rogers and Vismara 2008).

Regarding the research-supported statements on the OAKS, college students and parents tended to report high levels of belief. For example, about 92 percent of participants believed that Cognitive-Behavioral Therapy was effective for childhood depression, and about 88 percent of participants believed that Applied Behavior Analysis was an effective treatment for autism. Regarding childhood anger, 93.8 percent of college students and 88.3 percent of parents believed that “It can be helpful for children who experience a lot of anger to see a therapist.” Regarding anxiety, 93.9 percent of students and 87.3 percent of parents believed that “Children sometimes need to learn how to ‘face their fears.’”

about several myths and can help instructors prioritize which myths need to be addressed in the classroom. For these myths, this study serves as a marker in time for future studies to evaluate how beliefs change over time. ■

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