

A Thesis Presented to  
The Faculty of Alfred University

Inside Out and American Parenting

by

Jennifer Cox

In Partial Fulfillment of  
the Requirements for  
The Alfred University Honors Program

May 10, 2016

Under the Supervision of:

Chair: Dr. Nancy Furlong  
Committee Members: Dr. Louis Lichtman  
Dr. Robyn Goodman

**Abstract**

The release of the Disney/Pixar movie *Inside Out* raised the question if scientifically accurate entertainment films can be used to educate a population of parents about childhood mental health. I conducted a study with two groups of college student participants who took a survey meant to measure parenting attitudes after either playing board games or watching the movie *Inside Out*. I hypothesized that participants who watched the movie would be more likely to make parenting decisions supported by the teachings of the movie. The results were analyzed using Chi Square and Repeated Measures ANOVA. Some aspects of the hypothesis were supported, but the majority were not. Overall I found that participants' attitudes about parenting were unaffected by the activity they participated in before taking the survey.

Inside Out and American Parenting

Family-friendly entertainment in the movies has a long history, and the duo team of Disney and Pixar is a giant in the industry. Most recently they released Inside Out, an animated full-length motion-feature about a girl and her emotions. When the protagonist, Riley, faces a big change in life, the movie takes the perspective of her emotions as they guide her through the new experience (Lasseter & Docter, 2015). This movie, despite its brief presence in modern media, has already made waves in the psychology community. It is being discussed as an exceptional learning tool for children and adults alike to better understand how emotional and cognitive development function in the human mind (Scarlet, 2015). It is too soon for any thorough or replicated empirical research about this movie's impact on the public's understanding of emotions to have been published, but the questions raised by this movie should not be ignored.

If it is true that a family-friendly movie has the ability to educate the public about psychology and mental health, this could potentially have a great impact on individuals' understanding of emotions. Many individuals may not realize that emotional intelligence develops with age, allowing us to better understand the role each emotion has in our lives and how it can be expressed. Many psychologists have their theories of the exact stages of emotional development, such as Erik Erikson and Sigmund Freud, but what the film Inside Out specifically emphasizes is not the stages of development but the particular functions of emotions Riley must learn to recognize. For example, throughout the film Riley learns that sadness can be used to fulfill very real needs in her life, and it is possible to feel two emotions at once (Lasseter & Docter, 2015). Lessons like this in the film were made possible by the contributions of psychologists Paul Ekman and Dacher Keltner, two emotion researchers who were asked to be scientific consultants during the film's production (Judd, 2015). The lesson that most interested me was not any lesson that Riley learned. Instead, I chose to focus on the lesson that Riley's parents learn. Although at the beginning of the film Riley's mom expresses the hope that she will

continue to be “our happy girl” for their sake as they also adjust to the move, they realize that it is also their responsibility to teach Riley how to healthily express emotions such as sadness. They do this at the end of the film when they have a moment together as a family to talk about the things that make them sad and support each other (Lasseter & Docter, 2015).

This lesson is an important one for all parents to learn. Research indicates that adult understanding of pediatric mental health and emotions is lacking, and has lasting affects on the children the parents are raising. Mirabile (2015) found that parents respond to emotions they deem as “negative” in children with harmful behaviors, including outright ignoring a child’s feelings. Researchers found that children whose parents believed most in socializing their children into emotional responses they believed were socially preferable had the most difficult time recognizing and labeling emotions (Dunsmore, Her, Halberstadt, & Perez-Rivera, 2009). Both Mirabile's and Dunsmore, Her, Halberstadt, and Perez-Rivera's studies were supported by Castro, Halberstadt, Lozada, & Craig (2015) in a study that found parental attitudes towards emotions have a particularly strong and lasting effect on young children. The researchers found that some parental attempts to guide their child's emotional socialization can lead to an impairment in that child's emotional development (2015, p. 13). Parents are a child’s most prominent educators in all things, including their health, and if a parent lacks an understanding of a child’s needs to express emotions, it can have dire consequences.

This is not the first time a form of media has been suggested as a learning tool for family-related issues. Especially with the rise of successful educational television shows, research has been extensive on several benefits media may have for teaching. Perhaps the most classic example of this is *Sesame Street*, the global sensation in educational television. Countless studies have found the educational benefits that exposure to this show may have on children. Cantlon and Li (2013) found that brain scans during the viewing of episodes of *Sesame Street* could predict future test scores in the cognitive areas of mathematics and language. Researchers have even examined how a work of

animation can be used to teach young children specific cognitive strategies (Yamana & Inoue, 2006). However, the majority of research about the educational benefits of the media are centered around children, particularly autistic children, and academic subjects such as testing. There is still a growing question about the effectiveness of media as an educational tool for family issues. There are a few existing studies that have indicated the potential in this line of study. A study in 2000 was conducted using a 12-episode show designed to utilize an intervention method for family adaption in the storyline. Parents who viewed this television show in a self-directed manner had significantly higher self-ratings of competency as parents, as well as fewer perceptions of disruptive behavior in their children (Sanders, Montgomery, & Brechman-Toussaint, 2000, p. 944). However, the majority of available research on media and parenting is focused around autism and violence.

There are researchers who want to expand the field of psychology to include more work involving the mass media and the impact on psychology across the nation. Some have even formed groups, working together to expand what they call “media psychology.” One such organization is the Media Psychology Research Center, a nonprofit organization of researchers attempting to use technology to broaden their research (Rutledge 2016). The MPRC's goal is to better understand how media, especially mass media, has influenced human behavior, cognition, and emotions. They examine how the development of technology influences users' perceptions, and how consumer demand influences technology development. Their research takes cultural contexts and technological advancements into consideration. The MPRC could be seen as a child or an offshoot of the branch of research called *media studies*, a field devoted to the content, history, and effects of mass media. Mass media research is heavily influenced by context, viewing the effects of media as a two-way street – the consumer influences media as media influences the consumer. Researchers interested in the way a form of mass media influences an aspect of behavior, then, should consider the impact of the population they choose to study as well as the media.

It is my interest to better understand the role that the film *Inside Out*, and future films like it, could have on our American parents' understanding of emotions and mental health. To do that, a survey would need to be designed to test some key aspects: first, a level of emotional vocabulary; second, attitudes held about certain emotions regarding positivity and usefulness; third, intended actions taken when adults feel certain emotions; fourth, intended actions taken when a child feels certain emotions. I designed a survey meant to test these four areas.

There are published and peer-reviewed tests of emotional intelligence, including the Mayer-Salovey-Caruso Emotional Intelligence Test and the Geneva Emotion Recognition Test. The Mayer-Salovey-Caruso Emotional Intelligence Test is designed to test four specific branches of emotional intelligence: perceiving emotions, facilitating thought, understanding emotions, and managing emotions (Brannick, Wahi, & Goldin, 2011). The test is 141 questions that takes about half an hour to complete, and it provides fifteen different scores for different assessments of performance. The Geneva Emotion Recognition Test uses eighty-three video clips to test participants' recognition of fourteen different emotions based on body language, facial expression, and vocal tone (Schlegel, Grandjean, & Scherer, 2014). While both of these tests address an individual's existing emotional intelligence, neither is designed to consider the influence of an outside force. Therefore my survey does not include these existing tests of emotional intelligence. My survey instead relies on basic vocabulary and a layman's understanding of emotions.

The reason why my survey asks what situations make both children and adults feel certain emotions is because research has found that small factors such as age and gender can have an influence on those perceptions. Aznar and Tenebaum (2015, p. 153) found that when telling stories, mothers use more emotion words than fathers, and that both parents use more when speaking to a daughter than to a son. There is also a discrepancy between parents and children related to age: López-Pérez and Wilson (2015) found that parents fail to accurately represent their children's emotional state on a regular basis.

Their inaccuracies stemmed from both how a child was feeling and what made a child feel that way. In particular, parents often overestimated the happiness of their young children and assumed themselves to be the reason. Parents' self-reported happiness also correlated significantly with the reported happiness of their children, indicating that their answers had a personal bias. My survey includes a list of hypothetical situations and asks the participants to sort them into emotional categories for both themselves and children, to see if a film such as *Inside Out* could address this bias and educate adults.

The purpose of this research question is founded in the well-being of our nation's children. If movies are capable of influencing an adult's perspective of mental health, it could lead to the producers of media having a greater role in educating parents about safe parenting decisions regarding raising their children to be emotionally healthy. I hypothesize that adults who view the film *Inside Out* will report parental attitudes and decisions that align with the movie's teachings.

## **Method**

### **Site of Study**

I conducted this study on the campus of Alfred University. On April 16, the Control Group participated in the Student Lounge of the Powell Campus Center. On April 23, The Experimental (Movie) Group participated in Nevin's Theater.

### **Participants**

The participants for this study were Introduction to Psychology students from Alfred University. They volunteered to participate by signing a sign-up sheet for either April 16, 2016 or April 23, 2016 with no indication of which activity they would participate in on which day. The age range was from 18 to 21 years old with a mean of 18.84 years. There were 16 women and 18 men for a total of 44 participants; twenty-one volunteered for The Control Group on April 16 and 23 volunteered for The Experimental (Movie) Group on April 23.

**Materials**

On April 16 for The Control Group I used board games generously donated by the Institute for Cultural Unity, an organization on AU's campus. These games included Scrabble, Life, Mancala, Uno, Connect Four, Candyland, Sorry, Clue, and Foosball. On April 23 for The Movie Group I used a DVD of the Disney/Pixar film *Inside Out*. On both days, I administered a survey (see Abstract).

**Measures**

The survey is designed to test if parental attitudes and decisions align with the movie *Inside Out*. The survey asks participants to choose if each of the five emotions is “positive” or “negative;” the attitude that aligns with the movie is that all emotions are positive.

Another question asks participants about their perceived usefulness of an emotion with: “For each emotion, select as many needs as that emotion fulfills based on the selection below.” The participants have the following options: a. physiological; b. safety; c. belonging; d. self-esteem; e. sense of identity; f. none. An answer reflecting the attitude of the film would be to select at least one need that each emotion fulfills.

The survey tests parenting decisions by asking the participant if they would acknowledge, ignore, or rebuke a child if he or she is feeling each of the five emotions. Participants who agree with the film would choose to acknowledge all five emotions.

The survey also asks, “For each emotion, select the advice you would give a child who feels that emotion.” Their options are: a. I encourage the child to express the feeling; b. I encourage the child to ignore the feeling; c. I encourage the child to let the feeling guide their actions; d. I encourage the child to closely examine what is causing the feeling; e. I encourage the child to feel something different. A participant who shares the film's attitude would encourage a child to express all five emotions.

Emotional vocabulary was evaluated with a basic word bank of 75 items; high emotional



understanding is correctly identifying 15 words for happiness, sadness, and fear, 14 words for disgust, and 16 for anger. Participants will indicate if they believe children and adults will feel the same emotions under the same circumstances using a list of hypothetical situations; there are 3 hypothetical situations to correctly identify for each emotion in each age group. Participants will be scored based on how many of those 3 they include in their chosen situations for each emotion.

### **Procedures**

Participants in the Control Group met at the Student Lounge at 8:30 PM and were assigned their participant numbers to keep their activities anonymous. They were instructed to play any board games they wished for 94 minutes. To maintain the illusion of a game tournament, winners of each game were instructed to report to me their participant number before beginning another game.

Participants in the Movie Group met at Nevin's Theater at 8:30 PM and watched the movie *Inside Out* projected onto the movie theater screen.

When either the movie or the game tournament was finished, I gave participants a copy of the survey to complete. Each survey had a participant number at the top for anonymity. Each session was finished before 10:30 PM.

### **Results**

I measured emotional vocabulary by asking participants to select what words match what emotions from a 75-item word bank. I scored this by counting how many of the correct words were chosen for each emotion. The means and standard deviations are reported in Table 1. Mixed ANOVA found a significant main effect of type of emotion, where Happy words were identified significantly more often than other emotion words, but there was no significant difference between the treatment groups and no significant Treatment x Emotion interaction.

When measuring attitudes about emotions, participants were asked to label the five emotions as positive or negative. The percentage of participants who answered “positive” for each emotion, which

aligns with the teachings of the film, can be seen in Table 2. Chi Square tests found a significant difference for the categorization of sadness between groups ( $p = 0.012$ ) where significantly more members of the Movie Group identified sadness as a positive emotion than the Control Group (43.5% and 9.5%, respectively). There were no other significant differences between the groups.

Participants were also asked to indicate the usefulness of an emotion by selecting what, if any, of Maslow's Hierarchy of Needs each emotion fulfills, which includes physiological, safety, belonging, self-esteem, self-actualization, or none. I measured participant's answers by recording which needs they selected for each emotion. Table 3 indicates the percentage of participants in each group who selected each need for each emotion. Chi Square tests found no significant differences between the groups.

I measured parenting decisions by asking participants if they would advise a child feeling each of the five emotions to express, ignore, act on, examine the cause of, or change what they are feeling. Participants were scored based on which of the five actions they would advise a child to do. The percentages of their answers by group are reported in Table 4. Chi Square tests found two significant differences: participants who watch the movie are less likely to encourage a child to express fear ( $p = 0.036$ ), and participants who watch the movie are more likely to encourage a child to act on fear ( $p = 0.012$ ). Other values were found to be non-significant between groups.

Another parenting decision I measured was whether a participant would acknowledge, ignore, or reprimand a child when they were feeling one of the five emotions. Participants were scored by what of the three options they chose. The percentages of answers by group are featured in Table 5. Chi Square tests found no significant differences between groups.

Lastly, to determine what situations participants feel are emotional for adults (themselves) and children, they were asked to categorize a list of fifteen hypothetical situations based on the five emotions. They were scored based on how many of the three correct situations they included in each

emotional category. Means and standard deviations of type of question (self versus child), emotion, and hypothetical situations are reported in Tables 6a-6c. The mixed ANOVA revealed a significant main effect of type of question where participants significantly identified more hypothetical emotional situations for the self than for children, and a significant main effect of emotion where participants significantly identified more happy and disgusting situations than the other three emotions, but there was no significant difference between the treatment groups and no significant Treatment x Emotion x Situational Test interaction.

## Discussion

### Findings

This study found very few differences between the groups of participants, roughly four out of an estimate of seventy possible significant survey answers, largely supporting the null hypothesis. There were some noted significant differences: participants, regardless of treatment group, were significantly more likely to identify synonyms for happiness. Participants, regardless of treatment group, were also significantly more likely to identify happy and disgusting hypothetical situations, as well as significantly more likely to identify emotional hypothetical situations for themselves than for children. Participants who had watched the movie *Inside Out* were significantly more likely to label sadness as a positive emotion. Participants who viewed the movie were significantly more likely to advise a child to let fear guide his actions. They were less likely than participants who had not seen the movie to encourage a child to express her fear with words.

A strict interpretation of the overall findings mean that largely, participants who watched the movie did not have significantly different parenting attitudes or parental decisions. Both groups largely considered happiness the only true positive emotion. Neither group had any better emotional understanding or vocabulary than the other. Participants from both groups were more likely to consider happiness the most useful emotion, and largely considered the other emotions barely useful or useless.

Very few participants in either group would instruct a child to ignore any emotion. For most participants, regardless of group, they were equally as likely to ignore a child expressing a “negative” emotion as they were to acknowledge it, and they usually only chose to reprimand a child who was expressing anger or disgust. Watching the movie did not make participants more likely to choose the same correct emotional situations for children as for adults.

It is worth noting that participants who viewed the movie were significantly more likely to mark sadness as a positive emotion. One of the highlighted plot arches of the film is that Joy learns that Sadness is not as useless to Riley as she seems to be, and Sadness plays an important role in the climax of the movie. The fact that participants who viewed the movie rated sadness as a positive emotion indicates that they could have been influenced by this movie's story.

### **Implications**

The findings mostly point to a null hypothesis; watching the film *Inside Out* does not lead participants to report parental attitudes and decisions taught by the movie. This means that the film does not prove itself to be an effective teaching tool for a mass population, especially against popularly-held beliefs. This could be because individuals already hold certain strategies in place to counter contradictions to their beliefs. Padilla-Walker and Thompson (2005, p. 306-307) found that there were four proactive behaviors parents used to counter influences that contradicted their beliefs. These behaviors included: cocooning, when parents shield their children from outside influences; pre-arming, when parents teach children skills for coping with hostile situations; compromise, when parents let outside influences fit alongside their own teachings; deference, when parents allow children to do what they want without compromising their own personal beliefs. It is possible that these behaviors are stronger than the influence of an entertainment film such as *Inside Out*.

If films really are ineffective teaching tools for parenting attitudes, that means that movie makers such as Disney and Pixar are under no obligation to be scientifically accurate in their movies

when portraying healthy or effective families.

### **Possible Confounds**

There are reasons why my findings may not be strictly accurate. Firstly and perhaps most importantly, none of my participants are parents. They are all young, educated adults who do not need to be responsible for raising a child. This could affect the data in several ways. Firstly, young and educated college students, especially those in psychology classes, could already be aware of the parental attitudes and decisions that lead to optimal emotional development in children, as portrayed in the movie. Therefore, you could say that rather than the film being an ineffective teaching tool, the problem my study faced was that most of my participants already knew some of the lessons being taught. That could explain why so few participants from either group ignored or reprimanded children of certain emotions. Secondly, young adults who are not raising children are not consciously trying to learn lessons about parenting. Parents who want the best for their children may always be aware and on the alert for expert suggestions about parenting. College students have no need for this knowledge in their immediate lives and may not prioritize acquiring this knowledge. That may be why participants in the Experimental (Movie) Group failed to learn the lesson of accepting all emotions as potentially positive or useful.

There are, however, several smaller explanations why my data may not be accurate. While I attempted to make my survey instructions as clear as possible, there is still room for confusion. Question 10, for example, seems to have been frequently misinterpreted as asking participants to choose what emotion they feel when that need is fulfilled, rather than choosing the need that emotion fulfills when they feel it. There was also some indication with the Movie Group's answers that they were rushing through the survey. Several participants wrote whole words instead of numbers for Question 8, circled the same answer for several pages, or refused to answer sections that they deemed too repetitive. One participant even watched the whole movie but refused to answer the survey because

it was too long. Prior to taking the survey, many participants showed erratic and distracted behavior, having difficulty signing the informed consent sheet. One participant, while answering the survey, was simultaneously flirting with the researcher. All these behaviors indicate that the participants of the Movie Group may have been too distracted to honestly answer the survey. While both groups took the same amount of time – in fact, the Movie Group took less time – on the same day of the week and at the same time of night, and both groups came from a selection of volunteers from the same population, perhaps their differences in behaviors can be explained because the Movie Group's participation happened two weeks later into the semester. As the end of a semester approaches, students may be more stressed or strapped for time.

### **Suggested Further Study**

This study should be replicated with some vital changes. First, participants should be parents, preferably whose children are within the same age range as Riley from the movie. Secondly, the survey instructions should be examined and clarified to discourage misinterpretation. Thirdly, a baseline of emotional intelligence should be established in a test before participating in the activity or watching the movie. But perhaps most importantly, the study should be expanded to include more than two groups.

The purpose of having a group that played games for 94 minutes was to replicate the passing of time of watching the movie in a control group. However, in order to see if movies are truly effective at teaching parenting lessons, a thorough study would compare not only a control group and a treatment group, but compare different parenting lessons. There should be a third group of participants who watch a movie that presents poor parenting lessons in a positive light. Then, if their answers to the survey are significantly different than the answers of those who watched a movie such as *Inside Out*, we would know that parents were being affected by films they watch in both positive and negative ways. This would further emphasize the need for scientific accuracy in films, in order to prevent any

possible damage that the poor parenting lessons could cause.

My first suggestion for a movie with poor parenting lessons would be *The Odd Life of Timothy Green*, ironically also a Disney movie. In this movie, Timothy Green grows out of his parents' garden after they realize they cannot conceive (Hedges, 2012). He leads them through a brief magical adventure that is supposed to teach them that they are ready to be parents, before he disappears and they adopt a child. This movie was advertised as a heartwarming story about family issues but failed to accurately portray the issues that parents face when raising a child. Timothy is an omniscient force in the story who serves to help everyone around him learn and grow, while not learning any lesson himself simply because he does not need to. His parents do not need to care for his feelings or well-being because he is too busy caring for theirs. The film ends with the parents proudly declaring that they learned the important part of parenting is learning to make “new” and “better” mistakes. While it is encouraging that Disney wants parents to know that no parents are perfect, Mr. and Mrs. Green fail to see the consequences of their mistakes in the film, because Timothy refuses to be negatively affected by anything short of his magical and plot-driven disappearance back to vegetation heaven. Timothy does not even spend enough time in their home to demonstrate dependence on his parents for any particular need.

While this study did not find a significant difference between participants who did or did not watch the movie *Inside Out*, the movie itself should still not be ignored for its potential to influence the perception of pediatric psychology in the mainstream media. As discussed by Scarlet (2005), the film has already given children in counseling a tangible form for the abstract force of emotion. Further research should be done to explore the many lessons *Inside Out* teaches to its viewing audience.

## References

- Aznar, A., & Tenenbaum, H. R. (2015). Gender and age differences in parent–child emotion talk. *British Journal of Developmental Psychology*, 33, 148-155. doi:10.1111/bjdp.12069
- Blickle, G., Momm, T., Liu, Y., Witzki, A., & Steinmayr, R. (2011). Construct validation of the Test of Emotional Intelligence (TEMINT): A two-study investigation. *European Journal of Psychological Assessment*, 27, 282-289. doi:10.1027/1015-5759/a000075
- Brannick, M. T., Wahi, M. M., & Goldin, S. B. (2011). Psychometrics of Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT) scores. *Psychological Reports*, 109, 327-337. doi:10.2466/03.04.PR0.109.4.327-337
- Cantlon, J. F., & Li, R. (2013). Neural activity during natural viewing of Sesame Street statistically predicts test scores in early childhood. *Plos Biology*, 11, doi:10.1371/journal.pbio.1001462
- Castro, V.L., Halberstadt, A. G., Lozada, F.T., & Craig, A.B. (2015). Parents' emotion-related beliefs, behaviours, and skills predict children's recognition of emotion. *Infant and Child Development*, 24, 1-22. doi:10.1002/icd.1868
- Dunsmore, J. C., Her, P., Halberstadt, A. G., & Perez-Rivera, M. B. (2009). Parents' beliefs about emotions and children's recognition of parents' emotions. *Journal of Nonverbal Behavior*, 33, 121-140. doi:10.1007/s10919-008-0066-6
- Hedges, P. (Director), Zappa, A. (Writer), Hedges, P. (Screenwriter), & Zappa, A., Sanders, S., & Whittaker, J. (Producers). (2012). *The Odd Life of Timothy Green* [Motion picture on DVD]. United States: Walt Disney Pictures.
- Judd, J. W. (2015). A Conversation With the Psychologist Behind 'Inside Out' - Pacific Standard. Retrieved April 01, 2016, from <https://psmag.com/a-conversation-with-the-psychologist-behind-inside-out-417cc145abdd#.1av3t2mo6>
- Lasseter; Nielsen; Rivera; & Stanton (Producer), & Docter & Del Carmen (Director). (2015). *Inside*



*Out* [Motion picture]. United States: Disney & Pixar.

López-Pérez, B., & Wilson, E. L. (2015). Parent–child discrepancies in the assessment of children’s and adolescents’ happiness. *Journal of Experimental Child Psychology*, 139, 249-255. doi:10.1016/j.jecp.2015.06.006

Mirabile (2015). Ignoring children's emotions: A novel ignoring subscale for the Coping with Children’s Negative Emotions Scale. *European Journal of Developmental Psychology*, 12, 459-471. <http://dx.doi.org/10.1080/17405629.2015.1037735>

Padilla-Walker, L. M., & Thompson, R. A. (2005). Combating conflicting messages of values: a closer look at parental strategies. *Social Development*, 14, 305-323. doi:10.1111/j.1467-9507.2005.00303.x

Rutledge, P. (2016). What is media psychology? Retrieved May 7, 2016, from <http://mprcenter.org/what-we-do/what-is-media-psychology/>

Sanders, M. R., Montgomery, D. T., & Brechman-Toussaint, M. L. (2000). The mass media and the prevention of child behavior problems: The evaluation of a television series to promote positive outcome for parents and their children. *Journal of Child Psychology and Psychiatry*, 41, 939-948. doi:10.1111/1469-7610.00681

Scarlet, J. (2015, June 24). Psychology of Inside Out. *Psychology Today*.

Schlegel, K., Grandjean, D., & Scherer, K. R. (2014). Introducing the Geneva Emotion Recognition Test: An example of Rasch-based test development. *Psychological Assessment*, 26, 666-672. doi:10.1037/a0035246

Yamana, Y., & Inoue, T. (2006). How can we use animations to help preschoolers to obtain more efficient distribution strategies? *Japanese Psychological Research*, 48, 54-63. doi:10.1111/j.1468-5884.2006.00306.x

Table 1

*Means and standard deviations of Emotional Vocabulary Test***Descriptive Statistics**

	Group	Mean	Std. Deviation	N
Number of Happy Words Chosen	Board Games	8.71	4.703	21
	Inside Out	6.39	5.034	23
	Total	7.50	4.963	44
Number of Sad Words Chosen	Board Games	4.48	3.907	21
	Inside Out	3.17	3.473	23
	Total	3.80	3.702	44
Number of Anger Words Chosen	Board Games	6.10	4.277	21
	Inside Out	4.22	3.837	23
	Total	5.11	4.116	44
Number of Disgust Words Chosen	Board Games	2.52	2.015	21
	Inside Out	2.26	2.340	23
	Total	2.39	2.170	44
Number of Fear Words Chosen	Board Games	3.67	3.152	21
	Inside Out	2.57	2.352	23
	Total	3.09	2.785	44

NOTE: The mixed ANOVA revealed a significant main effect of type of emotion, where Happy words were identified significantly more often than other emotion words, but there was no difference between the treatment groups and no Treatment x Emotion interaction.

Table 2

*Percentage of responses for positive attitudes about emotion per group*

	Percentage of Positive Responses				
	Joy	Sadness	Anger	Disgust	Fear
<b>Control</b>	100%	9.5%	23.8%	9.5%	23.8%
<b>Movie</b>	100%	43.5%	21.7%	17.4%	34.8%
<b>Chi Square results</b>	n.s	$p = .012$	n.s	n.s	n.s

Table 3

*Percentage by group that responded for the needs an emotion fulfills per group*

		Need	None	Self-actualization	Self-esteem	Belonging	Safety	Physiological
Percent ages of Respon ses and p Values	Joy	Control	14.3%	71.4%	76.2%	76.2%	71.4%	90.5%
		Movie	4.3%	78.3%	73.9%	78.3%	69.6%	100%
		p value	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
	Sadness	Control	47.6%	19.0%	23.8%	42.9%	33.3%	9.5%
		Movie	34.8%	26.1%	26.1%	26.1%	13.0%	17.4%
		p value	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
	Anger	Control	47.6%	9.5%	28.6%	19.0%	33.3%	14.3%
		Movie	43.5%	17.4%	26.1%	13.0%	21.7%	21.7%
		p value	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
	Disgust	Control	38.1%	28.6%	19.0%	28.6%	23.8%	19.0%
		Movie	39.1%	21.7%	26.1%	17.4%	8.7%	17.4%
		p value	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.
	Fear	Control	47.6%	23.8%	19.0%	33.3%	33.3%	23.8%
		Movie	34.8%	8.7%	13.0%	17.4%	52.2%	34.8%
		p value	n.s.	n.s.	n.s.	n.s.	n.s.	n.s.

Table 4

*Percentage by group of responses for actions the participants advise a child to take*

Advised Response For Child	Percentages of Responses by Group and p Values											
	Joy			Sadness			Anger			Disgust		
	Control	Movie	p Value	Control	Movie	p Value	Control	Movie	p Value	Control	Movie	p Value
Express	95.2%	91.3%	n.s.	52.4%	39.1%	n.s.	47.6%	39.1%	n.s.	42.9%	30.4%	n.s.
Ignore	14.3%	4.4%	n.s.	19.1%	17.4%	n.s.	23.8%	26.1%	n.s.	14.3%	17.4%	n.s.
Take Action	42.9%	60.9%	n.s.	14.3%	30.4%	n.s.	9.5%	21.7%	n.s.	19.1%	21.7%	n.s.
Examine Cause	42.9%	34.8%	n.s.	52.4%	65.2%	n.s.	57.1%	52.2%	n.s.	57.1%	56.5%	n.s.
Feel Something Different	4.8%	13.0%	n.s.	28.6%	34.8%	n.s.	33.3%	30.4%	n.s.	28.6%	34.8%	n.s.

*Percentage by group of responses for parental actions taken when a child is feeling an emotion*

Percentages of Responses by Group and p Values															
Response to Child	Joy			Sadness			Anger			Disgust			Fear		
	Control	Movie	P Value	Control	Movie	P Value	Control	Movie	P Value	Control	Movie	P Value	Control	Movie	P Value
Acknowledge	95.2%	87.0%	n.s.	57.1%	52.7%	n.s.	52.4%	61.9%	n.s.	52.4%	61.9%	n.s.	61.9%	47.8%	n.s.
Ignore	9.5%	19.0%	n.s.	38.1%	34.8%	n.s.	28.6%	43.5%	n.s.	28.6%	47.8%	n.s.	19.0%	34.8%	n.s.
Reprimand	4.8%	21.7%	n.s.	9.5%	17.4%	n.s.	33.3%	39.1%	n.s.	33.3%	39.1%	n.s.	19.0%	21.7%	n.s.

Table 6a

*Means and Standard Deviations of the Hypothetical Emotional Situations test*

Descriptive Statistics				
	Group	Mean	Std. Deviation	N
NumberHappySit	Board Games	2.62	.590	21
	Inside Out	2.52	.898	23
	Total	2.57	.759	44
NumberSadSit	Board Games	2.29	.902	21
	Inside Out	2.00	.953	23
	Total	2.14	.930	44
NumberAngrySit	Board Games	2.33	.966	21
	Inside Out	2.09	1.125	23
	Total	2.20	1.047	44
NumberDisgustSit	Board Games	2.48	.750	21
	Inside Out	2.39	1.033	23
	Total	2.43	.900	44
NumberFearSit	Board Games	2.00	.837	21
	Inside Out	1.83	1.029	23
	Total	1.91	.936	44
NumberChildHappySit	Board Games	2.14	.910	21
	Inside Out	1.91	1.041	23
	Total	2.02	.976	44
NumberChildSatSit	Board Games	1.71	.956	21
	Inside Out	1.52	1.039	23
	Total	1.61	.993	44
NumberChildAngrySit	Board Games	1.57	1.121	21
	Inside Out	1.61	1.196	23
	Total	1.59	1.148	44
NumberChildDisgustSit	Board Games	1.67	1.065	21
	Inside Out	1.87	1.254	23
	Total	1.77	1.159	44
NumberChildFearSit	Board Games	1.43	.746	21
	Inside Out	1.48	1.082	23
	Total	1.45	.926	44

Table 6b

*Means and Standard Deviations of Type of Question for the Hypothetical Situations test***Estimates**

Measure: Number of Correct Situations

Question	Mean	Standard Deviation
Self	2.254	.108
Child	1.692	.138



Table 6c

*Means and Standard Deviation of Emotions for the Hypothetical Situations test*

Measure: Correctly Identified Emotional Situations

Emotion	Mean	Std. Deviation
Happy	2.299	.868
Sad	1.880	.943
Angry	1.900	1.098
Disgust	2.101	1.030
Fear	1.683	.931

NOTE: The mixed ANOVA revealed a significant main effect of type of question where participants significantly identified more hypothetical emotional situations for the self than for children, and a significant main effect of emotion where participants significantly identified more happy and disgusting situations than the other three emotions, but there was no difference between the treatment groups and no Treatment x Emotion x Situational Test interaction.

## Appendix

**Survey:**

*Please answer each item as accurately and honestly as you can. You have one half hour to complete this survey, but you may leave whenever you are finished. Please complete all items by choosing the best answers. Do not write your name anywhere because your answers must be completely anonymous. When a survey question asks you about a child, pretend it is an eleven-year-old child you feel responsible for raising and teaching.*

- 1.) Age:
- 2.) Gender identity:
- 3.) Marital status:
- 4.) Number of children, if any:
- 5.) Ages of your children, if any:
- 6.) Number of siblings, if any:
- 7.) How would you describe your relationship with your family?
  - a. I am close to my family
  - b. I am close to some members of my family
  - c. I am not close to my family

8.) For each emotion, write the number of all the words in the following word bank that make you think of that emotion.

- |                 |                |                |                 |                |                 |
|-----------------|----------------|----------------|-----------------|----------------|-----------------|
| 1.abhorrence    | 2.abomination  | 3.aggravate    | 4.aggressive    | 5.antipathy    | 6.anxious       |
| 7.apprehensive  | 8.bereaved     | 9.comfortable  | 10.content      | 11.controlling | 12.daunted      |
| 13.despondent   | 14.detestation | 15.disastrous  | 16.disconsolate | 17.discouraged | 18.disheartened |
| 19.dislike      | 20.dismayed    | 21.distaste    | 22.distressed   | 23.dread       | 24.disturbed    |
| 25.ecstatic     | 26.encouraged  | 27.energetic   | 28.euphoric     | 29.festive     | 30.forlorn      |
| 31.frustrated   | 32.harsh       | 33.hate        | 34.hostility    | 35.heartbroken | 36.heartsick    |
| 37.heavyhearted | 38.hurting     | 39.impatient   | 40.intimidated  | 41.jubilant    | 42.lighthearted |
| 43.loathing     | 44.malicious   | 45.melancholy  | 46.morose       | 47.mournful    | 48.nervous      |
| 49.objection    | 50.optimistic  | 51.petrified   | 52.playful      | 53.provoke     | 54.quarrelsome  |
| 55.repugnance   | 56.resentful   | 57.retaliation | 58.revolt       | 59.revulsion   | 60.satiety      |
| 61.satisfied    | 62.scornful    | 63.seething    | 64.shocked      | 65.sickness    | 66.somber       |
| 67.sorry        | 68.stunned     | 69.suspicious  | 70.thankful     | 71.thrilled    | 72.venomous     |
| 73.wistful      | 74.wonderful   | 75.worried     |                 |                |                 |

**Happiness:** \_\_\_\_\_

**Sadness:** \_\_\_\_\_

**Anger:** \_\_\_\_\_

**Disgust:** \_\_\_\_\_

**Fear:** \_\_\_\_\_

9.) For each emotion, select if it is positive or negative.

**Happiness:**    Positive    Negative

**Sadness:**    Positive    Negative

**Anger:**    Positive    Negative

**Disgust:**    Positive    Negative

**Fear:**    Positive    Negative

The following questions will ask you to select appropriate answers for each emotion – happiness, sadness, anger, fear, and disgust. You will answer by circling the letters that match with each answer for each emotion. For example:

“For each emotion, select the types of music you listen to when you feel that emotion based on the selection below:”

- a. Heavy metal
- b. Classical
- c. Country
- d. Pop
- e. Rock
- f. Hip hop

**Happiness:**   a   b   c   d   e   f

**Sadness:**   a   b   c   d   e   f

**Anger:**   a   b   c   d   e   f

**Disgust:**   a   b   c   d   e   f

**Fear:**   a   b   c   d   e   f

10.) For each emotion, select as many needs as that emotion fulfills based on the selection below:

- a. Food, shelter, and other physiological needs
- b. Security and safety
- c. Attention, belonging, comfort, and acceptance
- d. Self-esteem, pride, and confidence
- e. A sense of identity
- f. None

**Happiness:**    a        b        c        d        e        f

**Sadness:**     a        b        c        d        e        f

**Anger:**        a        b        c        d        e        f

**Disgust:**     a        b        c        d        e        f

**Fear:**         a        b        c        d        e        f

11.) For each emotion, select all the actions you do when feeling that emotion, based on the selection below:

- a. I tell people how I feel with words.
- b. I ignore how I feel.
- c. I let my feeling guide my actions.
- d. I closely examine what is making me feel this way.
- e. I attempt to feel something different.

**Happiness:**    a        b        c        d        e

**Sadness:**    a        b        c        d        e

**Anger:**        a        b        c        d        e

**Disgust:**    a        b        c        d        e

**Fear:**         a        b        c        d        e

12.) For each emotion, select all actions that you do when someone else is feeling that emotion based on the selection below:

- a. I acknowledge how they are feeling and support it.
- b. I ignore them or their feelings.
- c. I reprimand them for their feelings.

**Happiness:**    a        b        c

**Sadness:**    a        b        c

**Anger:**        a        b        c

**Disgust:**    a        b        c

**Fear:**         a        b        c

13.) For each emotion, select all actions you take when a child feels that emotion based on the selection below:

- a. I acknowledge how they are feeling and support it.
- b. I ignore them or their feelings.
- c. I reprimand them for their feelings.

**Happiness:**    a        b        c

**Sadness:**    a        b        c

**Anger:**        a        b        c

**Disgust:**    a        b        c

**Fear:**         a        b        c

14.) For each emotion, select all advice you would give a child who feels that emotion.

- a. I encourage the child to express the feeling.
- b. I encourage the child to ignore the feeling.
- c. I encourage the child to let the feeling guide their actions.
- d. I encourage the child to closely examine what is causing the feeling.
- e. I encourage the child to feel something different.

**Happiness:**    a        b        c        d        e

**Sadness:**    a        b        c        d        e

**Anger:**        a        b        c        d        e

**Disgust:**    a        b        c        d        e

**Fear:**         a        b        c        d        e

15.) For each emotion, write the number of the hypothetical situations that remind you of that emotion.

- 1.) Being encouraged by friends.
- 2.) Giving an oral presentation to strangers.
- 3.) When someone cuts in a very long line.
- 4.) Having to say goodbye to a friend when moving away.
- 5.) Eating an undercooked meal.
- 6.) Receiving a surprise gift.
- 7.) Losing a privilege without doing anything wrong.
- 8.) Hearing news about a natural disaster nearby.
- 9.) Having a favorite possession destroyed by someone else.
- 10.) Discovering that long-awaited plans to do something fun have been canceled.
- 11.) Smelling mold and rotten garbage.
- 12.) Visiting a long-absent loved one.
- 13.) Being stuck on a broken roller coaster at an amusement park.
- 14.) Watching someone eat boogers.
- 15.) Being rejected by someone attractive, either as a friend or date.

**Happiness:** \_\_\_\_\_

**Sadness:** \_\_\_\_\_

**Anger:** \_\_\_\_\_

**Disgust:** \_\_\_\_\_

**Fear:** \_\_\_\_\_



16.) For each emotion, write the number of a situation from the previous list that would make a child feel that emotion.

**Happiness:** \_\_\_\_\_

**Sadness:** \_\_\_\_\_

**Anger:** \_\_\_\_\_

**Disgust:** \_\_\_\_\_

**Fear:** \_\_\_\_\_

*Thank you for completing the survey! If you have answered all questions you may now turn in your answers and leave. Please grab a debriefing sheet on the way.*