THE EFFECTS OF ADOPTION ON FOSTER CHILDREN’S WELL-BEING:

A SYSTEMATIC REVIEW

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RACHAEL R DOUBLEDEE
Dr. Marilyn Coleman, Thesis Supervisor
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The undersigned, appointed by the Dean of the Graduate School, have examined the thesis entitled

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A SYSTEMATIC REVIEW

presented by Rachael R Doubledee,
a candidate for the degree of Masters of Science,
and hereby certify that, in their opinion, it is worthy of acceptance.

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS.................................................................ii

LIST OF ILLUSTRATIONS..............................................................v

ABSTRACT.....................................................................................vi

Chapter

1. INTRODUCTION AND LITERATURE REVIEW..............................1
   State Responsibility for Child’s Best Interests...............................1
   Differences in Pre-Adoptive Risks..............................................2
   Effects of Adoptive Home Environment....................................3
   Adoption as an Intervention.....................................................4

2. METHODS................................................................................6
   Stage 1: Literature Search..........................................................6
      Database Search........................................................................6
      Handsearch............................................................................7
      Reference List Search............................................................7
   Stage 2: Second Screening..........................................................7
   Stage 3: Coding..........................................................................8
      Data Synthesis and Analysis....................................................9

3. RESULTS..................................................................................10
   Child Outcomes.........................................................................11
      Psychological Outcomes.......................................................12
         Mental Health....................................................................13
Behavioral Problems………………………………………………………….14
Socioemotional Outcomes……………………………………………………16
Cognitive Outcomes………………………………………………………….17
Physical Health Outcomes………………………………………………….19

4. DISCUSSION…………………………………………………………………………20
Limitations……………………………………………………………………….23
Recommendations………………………………………………………………..23
REFERENCES……………………………………………………………………25

APPENDIX
A—Coding Rubric………………………………………………………………34
LIST OF TABLES AND ILLUSTRATIONS

<table>
<thead>
<tr>
<th>Tables</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Database Screening Process</td>
<td>30</td>
</tr>
<tr>
<td>2. Study Characteristics</td>
<td>31</td>
</tr>
<tr>
<td>3. Adopted Foster Child Demographics All Studies</td>
<td>32</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Figures</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Flow of Articles Through Review Stages</td>
<td>33</td>
</tr>
</tbody>
</table>
ABSTRACT

In this integrative review research pertaining to the physical, cognitive, socioemotional, and psychological effects of adoption on foster children was examined. A systematic review of the literature yielded 19 empirical studies for inclusion. Children adopted from foster care differed from peers adopted privately and internationally; they were more likely to experience negative outcomes such as higher rates of mental illness and behavioral problems primarily as a result of the greater pre-adoptive risks. Once adopted, however, foster children experienced a decrease in negative outcomes such as behavioral problems and an increase in positive outcomes such as cognitive functioning. Adoptive home environment variables such as increased parental warmth and family cohesiveness were important components in the reduction of negative outcomes. Qualitative research is needed to understand the processes through which children adopted from foster care achieve increased well-being outcomes. Implications and recommendations for future research are included.

*Keywords*: foster care, adoption, integrative review, well-being
CHAPTER 1

Introduction and Literature Review

The act of adoption—the assumption of legal and social responsibility for a child or dependent—has a long history as a means to provide for children whose parents or guardians are unable to care for them. Although adoption has always had an informal place in many civilizations, the English Poor Laws of 1601 guided government and legislative intervention in the care of dependent children. These laws loosely provided for children through almshouses, orphanages, and apprenticeships. However, the English Poor Laws benefitted adult and societal interests rather than those of children (e.g., offering unattached children as free laborers to business and individuals). Children’s best interests in adoption law were first recognized in Massachusetts’ 1851 Adoption of Children Act. This law recognized adoption as a social and legal institution based on child welfare rather than adult benefits, and marked the beginning of adoption legislation based on the best interests of the child (Bussiere, 1998).

Child interests have continued to guide state and government involvement in adoptions (Child Welfare Information Gateway, 2013a). In the United States, approximately 2.1 million children (2.5% of the population) have ever been adopted (Kreider, 2003), and 120,000 children are adopted annually (van Ijzendoorn & Juffer, 2006) through private domestic adoptions (38%), foster care adoptions (37%), and international adoptions (25%; Vandivere, Malm, & Radel, 2009). Although state and federal governments regulate international, private, and foster care adoptions, government involvement is highest in foster care adoptions.

State Responsibility for Child’s Best Interests

Children most commonly enter foster care because of abuse or neglect (U.S.
Department of Health and Human Services Administration on Children Youth and Families, 2012). When a child enters foster care, the state assumes guardianship ‘in loco parentis’ or in place of the parents. Ideally, a child would enter foster care temporarily and would ultimately be reunited with his or her parents; however, parental rights may be revoked if reunification is not in the child’s best interests (e.g., a parent has physically or sexually abused the child, a parent fails to treat drug addiction; Child Welfare Information Gateway, 2013a). For these children, the next most likely permanent outcomes are long-term foster care or adoption (United States Department of Health and Human Resources, 2013).

Long-term foster care and foster care adoption may not be equivalent situations for children’s best interests. While children may adapt well to long-term foster care, many former foster children who reach the age of majority for their state and leave foster care find themselves without support systems (Reilly & Platz, 2003). Children who are emancipated from foster care often experience a range of obstacles including homelessness, incarceration, joblessness, and low education levels (Barth, 1990; Reilly & Platz, 2003). Because it is the state’s responsibility to operate in the best interests of the child, adoption is often preferred to long-term foster care. Adoption is assumed to reduce the obstacles that many emancipated foster children experience because it offers permanent parental support to the child. In addition, adoption places the care and responsibility for a child with adoptive parents and is more cost effective to state and federal governments (Kerman, Wildfire, & Barth, 2002).

**Differences in Pre-adoptive Risks**

Many studies that have compared adopted children to children raised by two biological parents have found that adopted children are more likely to have behavioral problems, poorer psychological and cognitive functioning, and more physical health
problems (Barth, 1990; Juffer & Van IJzendoorn, 2005). More recently, adoption outcomes have been linked to pre-adoptive risk factors (e.g., abuse, neglect, pre-natal substance exposure; Ji, Barth, Brooks & Kim, 2010).

Children adopted from foster care often experience more pre-adoptive risks than children adopted privately or internationally. Most children who enter foster care have done so as a result of abuse, neglect, or prenatal substance exposure (e.g., alcohol, cocaine) by caretakers. In foster care, children often experience multiple placements, cultural changes, and a lack of continued connections to support systems such as friends and siblings (Malm, Vandivere, & McKlindon, 2011b). These difficulties may increase the likelihood of attachment difficulties and behavioral problems (Dozier, Stovall, Albus, & Bates, 2001). In contrast, children adopted privately or internationally are more likely to be adopted at younger ages and are less likely to have experienced abuse, neglect, or multiple placements (Child Welfare Information Gateway, 2013b; Malm, Vandivere, & McKlindon, 2011b). These differences in pre-adoptive risk factors may make children adopted from foster care more vulnerable than children adopted in other ways. Despite the greater vulnerability of foster children, few studies have examined the well-being outcomes of foster children as distinct from other kinds of adoption.

**Effects of Adoptive Home Environment**

In addition to pre-adoptive risk factors, family and parent level factors (e.g., caregiver’s state of mind, home environment, parental sensitivity) also impact child-well-being (Dozier, Stovall, Albus, & Bates, 2001; Grotevant, van Dulmen, Dunbar, Nelson-Christenedaughter, Christensen, Fan, & Miller, 2006; Ji, Barth, Brooks & Kim, 2010; Stovall & Dozier, 2000). Children who have experienced pre-adoption adversity benefit from
sensitive parenting, or a parent’s ability to accurately perceive and effectively respond to a child’s needs (Dozier, Stovall, Albus, & Bates, 2001; Stovall & Dozier, 2000). Children adopted from foster care may be more likely to experience sensitive parenting and a positive home environment than children remaining in foster care. Sensitive parenting and emotional closeness can be difficult for foster parents who may expect to relinquish children to biological or adoptive parents (Thompson & McArthur, 2009). In contrast, the expectation of stability in an adoptive family may lead to more security and a more positive home environment.

Adoptive parents are likely to have more education and greater incomes than either biological parents or foster parents (Kreider, 2003). These factors increase the likelihood that adoptive homes will have the resources to parent sensitively, engage in cognitive stimulation, and seek additional care for children (e.g., mental health services). These additional resources in a positive home environment could contribute to positive outcomes (e.g., decreased behavioral problems, increased academic performance) for children adopted from foster care (Dozier, Stovall, Albus, & Bates, 2001).

**Adoption as an Intervention**

Meta-analyses and traditional reviews examining the outcomes of children adopted from other countries suggest that adoption may be a positive intervention for children who have experienced pre-adoptive risk factors (Christoffersen, 2012; Juffer & Van IJzendoorn, 2005; Van IJzendoorn & Juffer, 2006). These studies indicate that internationally adopted children with pre-adoptive risks (e.g., living in orphanages, deprivation of resources) may experience cognitive gains, increased physical health, and decreased psychological problems following adoption (Christoffersen, 2012; van Ijzendoorn, Juffer, & Poelhuis 2005; van
Ijzendoorn, Bakermans-Kranenburg, & Juffer, 2007). It might be assumed that adopted foster children who may have had similar pre-adoptive risks experience the same positive outcomes, but a closer examination of existing studies is required.

A further understanding of the potential benefits of adoption for children in foster care could be a step toward informing effective placement decisions for children based on evidence, rather than just assuming that adoption benefits foster children. Although many meta-analytic and integrative reviews have been conducted on various pathways to adoption (i.e., international, transracial, and private; Christoffersen, 2012; van Ijzendoorn, Juffer, & Poelhuis 2005; van Ijzendoorn, Bakermans-Kranenburg, & Juffer, 2007), there has not been a synthesis and review of research on adoption from foster care. Therefore, the purpose of this integrative review is to summarize and critique research on the physical, cognitive, socioemotional, and psychological effects of adoption on children who were previously in domestic foster care. The current review’s focus on foster care adoption could benefit policy makers, practitioners, and researchers who are interested in the effects of foster care and post-foster care adoption on children.
CHAPTER 2

Methods

Stage 1: Literature Search

The primary research question of this integrative review was “What is the relation between adoption and the physical, cognitive, socioemotional, and psychological development of foster children?” Studies relevant to the research question were identified using a variety of search methods.

Database Search. Four data-bases in the MU library system were identified as applicable to the research question: Academic Search Complete, PsychInfo, Sociological Abstracts, and PAIS International. Databases were searched using key terms adopt* (the asterisk allows for an expansion of the truncated word to include adoption, adoptee, adoptive, and adopted), foster care, cognitive, psychological, and health alone or with one of the following qualifiers: kinship, transracial, interracial, single-parent, gay, lesbian, open, private, special needs, stepfamily, social relationships, incarceration, self-esteem, academic performance, externalizing, internalizing, attachment, and stress. Key terms were combined with one another using the “AND” and “OR” functions in database searches. For example, a search of key terms foster care AND adopt* would yield a search that included all articles using these two terms in their titles, abstracts, and keywords. When terms were interchangeable, the OR function was used. For example, a search of interracial OR transracial would yield a search that included articles that used either term.

All articles relevant to foster care adoption were searched; a date range did not limit the selection of articles because no systematic review of the child outcomes of foster care adoption has been conducted. A total of 2,616 articles were initially identified using these
search methods. A two stage screening process was used to select articles (see Figure 1). Articles were first screened based on title and abstract. Criteria for inclusion were: (a) English language, (b) empirical research (c) peer-reviewed journal, (d) contained data relevant to cognitive, psychological, socioemotional, or physical well-being outcomes of children, and (e) adopted from domestic foster care. For example, Wildeman and Emanuel’s (2014) article *Cumulative Risks of Foster Care Placement by Age 18 for U.S. Children, 2000–2011* was excluded because it did not address adoption from foster care. Books, book chapters, book reviews, and literature reviews were excluded. For example, Ruston’s (2007) published review of the *Attachment Handbook of Adoption and Fostering* was excluded because it was a review of a book rather than an empirical article. Following exclusions based on title and abstract, 67 articles remained.

**Handsearch.** In addition to the electronic search, a separate hand search of titles and abstracts of articles in Adoption Quarterly, and Adoption and Fostering was conducted. These journals were chosen because of their focus on adoption and the outcomes of adopted children. This search process yielded three additional articles for further review.

**Reference List Search.** Reference lists of the 67 articles that met the inclusion criteria were searched for additional relevant articles (Juffer & van Ijzendoorn, 2007). Two articles were identified for further review.

**Stage 2: Second Screening**

The 72 articles that were identified in the various searches were imported into Endnote where duplicate citations were automatically removed. Inclusion criteria were applied to the full text of the article to screen the articles. Articles that did not address child outcomes following adoption from domestic (in-country) foster care were excluded. For
example, Wind, Brooks, and Barth’s (2005) article, *Adoption Preparation: Differences Between Adoptive Families of Children With and Without Special Needs*, was excluded after reading the full text because it focused on services to adoptive families rather than child outcomes following adoption. A total of 19 articles were retained: 16 from databases, one from hand searching, and two from the reference list search. Tables were created to detail the number of studies found in databases and the reasons for exclusion at both stages to enable replication (Appendix A).

**Stage 3: Coding**

Articles were evaluated using a coding rubric designed for this project that was comprised of six main categories: (1) study design, (2) sample characteristics, (3) pre-adoption and foster care experience, (4) adoptive family characteristics, (5) biological family characteristics, and (6) results pertaining to the cognitive, physical, socioemotional, and psychological outcomes of children adopted from foster care (see Appendix A).

Each category included subcategories of information. For study design subcategories were (a) type of study (i.e., qualitative, quantitative, mixed methods, longitudinal, cohort, crosssectional), (b) design of the study (i.e., primary, secondary, observation, between groups comparison, within groups comparison) and, (c) measures used in the study. Sample characteristics included (a) who was reporting (i.e., adoptive parents, biological parents, foster parents, child, social worker), (b) sampling strategy (i.e., convenience, representative, purposive, cluster), and (c) sample description (i.e., size, subgroups, adoption type, age at adoption, age at assessment, sex of children, and race of children). Pre-adoption and foster care experiences were assessed by recording (a) age at entry into foster care, (b) siblings in foster care, (c) history of abuse, (d) length of stay in foster care, (e) last placement type, (f)
length of time in last placement, and (g) number of placements prior to adoption. Subcategories of biological and adoptive family characteristics included (a) relationship status, (b) sexual orientation, (c) race, (d) education, (e) history of drug abuse, and (f) history of psychiatric illness. When no information was available on an item or category (e.g., a study did not record how old the focal child was at adoption), it was marked “not applicable.” Findings that were relevant to the main research question (i.e., “what is the relation between adoption and the physical, cognitive, socioemotional, and psychological development of foster children?”) were recorded in the results category of the coding rubric.

I coded all 19 studies. To reduce potential bias, two additional female graduate student coders were asked to code three of the articles; one coded two articles, and the other coded a third article. Coders were trained using an article that I had coded but that they would not be coding. The additional coders were then given the rubric and the articles to code. Interrater reliability was 94.4% between coders. This level of agreement demonstrated high consistency in coding results (Cook & Beckman, 2006). Differences were discussed following the calculation of percent agreement, and consensus was reached.

**Data Synthesis and Analysis**

The items on the coding rubrics were compared to one another to determine similarities and differences between studies. Study design characteristics, outcome variables studied, and environmental variables examined were compared by placing the code sheets side-by-side and noting similarities and differences (see Table 2). Demographic variables were compared and the characteristics of adopted foster children across studies were averaged (see Table 3).
CHAPTER 3

Results

A total of 19 studies were included in this systematic review. Sixteen studies compared other groups (e.g., children adopted internationally) to children adopted from foster care. Of the comparison groups, sample sizes ranged from 22 to 900,418 participants ($Mdn = 154$). Seven studies included primary data, 12 used secondary data, and one synthesized Swedish national registries. In 17 studies, data were collected via surveys and foster care records, and in two studies mixed methods were employed (i.e., qualitative interviews were supplemented with data from foster care records). Two studies relied on samples from countries other than the United States (i.e., Sweden, Australia). Most studies obtained data through the use of surveys administered by researchers to either parents or children. Parents responded to questions about children in their home while child data were obtained from standardized measures that were administered by adult researchers to children (e.g., Behavioral Problems Index, Stanford-Binet Intelligence Scale, Bayley Scales of Infant Development). Eight studies relied on parent responses to questions about children living in their homes, eight relied on a both parent and child responses to surveys, two on social worker or chart records, and one on child responses only.

Almost half ($n=9$) of the relevant articles were based on secondary data from either The California Long Range Adoption Study (CLAS) or the National Survey of Adoptive Parents (NSAP). Five studies used the California Long-Range Adoption Study (CLAS) as their data source (Crea, Chan, & Barth, 2013; Crea, Guo, Barth, & Brooks, 2008; Simmel, 2007; Simmel, Barth, & Brooks, 2007; Simmel, Brooks, Barth, & Hinshaw, 2001). The CLAS is a longitudinal study of post-adoption families. Data were collected at 2 years, 4
years, 8 years, and 14 years post adoption. The studies that used these data reported on varying waves of data. Two studies used waves 1-3, one study used all four waves, one study used data from only wave 3, and the final study only used wave 4 data. The NSAP was a part of the 2007 National Survey of Children’s Health (NSCH). If a family in the study indicated that they had adopted their child, they also were given the NSAP. Data from this survey were used in four studies (Harwood & Feng, 2013; Tan & Marn 2013; Vandivere & McKlindon, 2010; Zill & Bramlett, 2014). Because the National Survey of Adoptive Parents was only given in 2007, all four studies used the same wave of data.

An additional two studies used data from the UCLA TIES study (Lavner, Waterman, & Peplau, 2012; Waterman et al., 2012). This convenience sample is drawn from parents who adopted children from an adoptive assistance program in Los Angeles, California.

**Child Outcomes**

Compared to children who lived with their biological parents, adopted children had poorer psychological, cognitive, socioemotional, and physical health outcomes. Of adopted children, those adopted from foster care fared the poorest (Simmel, Barth, Brooks, & Hinshaw, 2001), however, children who remained in foster care fared poorer than those adopted from foster care (Zill & Bramlett, 2014). Out of the nine studies that examined gender effects, seven found that boys had poorer outcomes than girls (Crea, Chan, & Barth, 2013; Crea, Guo, Barth, & Brooks, 2008; Harwood & Feng, 2013; Kerman, Wildfire, & Barth, 2002; Simmel, 2007; Simmel, Barth, & Brooks, 2007; Simmel, Brooks, Barth, & Hinshaw, 2001; Tan & Marn 2013; Zill & Bramlett, 2014).

The adoptive home environment emerged as an important influence on child outcomes in eight studies (Crea, Chan, & Barth, 2013; Crea, Guo, Barth, & Brooks, 2008;
Lloyd, & Barth, 2011; Selwyn, & Quinton, 2004; Simmel, 2007; Vandivere & McKlindon, 2010; Waterman et al., 2012; Zill & Bramlett, 2014). Home environments and resources differed between adopted foster children and those who remained in foster care; adopted children had more favorable home environments (e.g., caregiver warmth, higher socioeconomic status, higher family cohesion and adaptability; Zill & Bramlett, 2014). Children adopted privately and internationally were more likely to have affluent adoptive parents and live in two parent households than were children adopted from foster care. When examined longitudinally, the adoptive home environment contributed to improvements in child outcomes (e.g., increased cognitive functioning, decreased behavioral problems) over time (Waterman et al., 2012).

One study examined the extension of support services to children remaining in long-term foster care compared to children who were adopted from foster care and children who were emancipated from foster care at or before age 18. Children who continued services (e.g., job skills training financial management training, transitional independent living) offered to long-term foster children past the age of majority showed little differences in well-being compared to peers who had been adopted from foster care (Kerman, Wildfire, & Barth, 2002).

**Psychological Outcomes.** Psychological outcomes were examined in 16 studies (Crea, Chan, & Barth, 2013; Crea, Guo, Barth, & Brooks, 2008; Harwood & Feng, 2013; Howard, Smith, & Ryan, 2004; Hussey, Falletta, & Eng, 2012; Kerman, Wildfire, & Barth, 2002; Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007; Lavner, Waterman, & Peplau, 2012; Selwyn, & Quinton, 2004; Simmel, 2007; Simmel, Barth, & Brooks, 2007; Simmel, Brooks, Barth, & Hinshaw, 2001; Smith, & Howard, 1994; Tan & Marn 2013;
Mental health. Adopted children were more likely than birth children to have visited a mental health professional (18% birth families; 41% infant adoption; 45% international adoption; 54% foster care adoption; Howard, Smith, & Ryan, 2004). Similarly, three studies found that children adopted from foster care were more likely than children adopted privately or internationally to have received counseling or visited a mental health professional (Harwood & Feng, 2013; Howard & Smith, 2004; Tan & Marn, 2013). For all adopted children, mental health utilization was higher for adolescents than for younger children; children who had been adopted between birth and one year had the lowest mental health utilization (Zill & Bramlett, 2014). Boys were more likely than girls to have visited a mental health professional (Tan & Marn, 2013). Adopted children were more likely to have been abused and to have a mental health diagnosis if their biological mother had a mental health diagnosis (Hussey, Falletta, & Eng, 2012; Smith, & Howard, 1994).

In one study, of the children with special needs adopted from foster care, 47% had a mental health diagnosis. Forty percent of them had an adjustment disorder, 29% had
externalizing disorders, 16% had internalizing disorders, 12% had reactive attachment disorder, and 3% had other unspecified disorders. Boys in that study were 86% more likely than girls to have a mental health diagnosis. The odds of Black youth having a diagnosis were 81% lower than White youth, and the odds of other racial minorities having a diagnosis were 67% lower than White youth. Children who were older when adopted, and those who had experienced multiple placements, were more likely to have a diagnosis than those who did not have these characteristics (Hussey, Falletta, & Eng, 2012).

Two studies examined the mental health diagnoses of children (Simmel, Brooks, Barth, & Hinshaw, 2001; Vandivere & McKlindon, 2010). Children who had histories of neglect and abuse were more likely to display Attention Deficit Disorder (ADD), Attention Deficit Hyperactivity Disorder (ADHD), and Oppositional Defiant Disorder (ODD) symptomology. Children adopted from foster care were most likely to have been neglected or abused and were also more likely to display ADHD and ODD symptomology than children adopted privately or internationally (Simmel, Brooks, Barth, & Hinshaw, 2001; Vandivere & McKlindon, 2010). Similarly, children adopted from foster care were more likely to have been diagnosed with attachment disorders and ADD/ADHD than children adopted privately or internationally (Vandivere & Mcklindon, 2010).

**Behavioral problems.** Behavioral problems were assessed in eight studies (Crea, Guo, Barth, & Brooks, 2008; Howard, Smith, & Ryan, 2004; Kerman, Wildfire, & Barth, 2002; Lavner, Waterman, & Peplau, 2012; Selwyn, & Quinton, 2004; Simmel, 2007; Simmel, Barth, & Brooks, 2007; Smith & Howard, 1994). Compared to children residing with birth parents, adopted children exhibited nearly twice as many behavioral problems as birth children (11.9% vs 6.2%; Howard, Smith, & Ryan, 2004). Of adopted children, those
adopted as infants had the most similar levels of behavioral outcomes to birth children
(Simmel, Barth, & Brooks, 2007). However, children adopted from foster care demonstrated fewer behavioral problems than children who remained in foster care. Similarly, adoption from foster care was associated with a significant reduction in behavioral problems in three studies (Kerman, Wildfire, & Barth, 2002; Selwyn & Quinton, 2004; Waterman et al., 2012). In one study, of individuals in long-term foster care, those who left foster care at or before age 18 had more behavioral problems than adolescents and young adults who continued to receive services through the foster care system (i.e., independent living services).

For all adopted children, behavioral problems stabilized over time rather than increasing (Simmel, 2007). Behavioral problems were more likely to persist when adopted foster children had histories of multiple placements, neglect, abuse, and exposure to alcohol or drugs (Simmel, Brooks, Barth, & Hinshaw, 2001). For children with histories of abuse, adoption into homes in which abuse continued made behavioral problems more likely (Smith & Howard, 2004). Although abuse and neglect were associated with behavioral problems over time, having experienced multiple placements prior to adoption was the largest risk factor for children and had the most lasting impact (Simmel, 2007).

Boys demonstrated higher levels of behavioral problems than girls in three studies, but this finding was not universal; two studies found no gender differences. Studies using the CLAS data had varying results in regards to gender. In studies that used data from waves 1-3, boys were more likely to exhibit behavioral problems than girls (Simmel, 2007; Simmel, Barth, & Brooks, 2007; Simmel, Brooks, Barth, & Hinshaw, 2001). However, when wave 4 was included, or was examined independently, no gender differences in behavioral problems emerged (Crea, Chan, & Barth, 2013; Crea, Guo, Barth, & Brooks, 2008).
The adoptive home environment, including parental readiness to adopt (i.e., how ready a parent indicated that they thought they were prior to adoption), and family adaptability and cohesion were significant mediators between pre-adoption risk factors and behavioral problems. Children adopted from foster care often demonstrated a reduction in behavioral problems compared to peers in long-term foster care (Lavner, Waterman, & Peplau, 2012; Selwyn & Quinton, 2004). Higher parental readiness, levels of family adaptability and cohesion, and positive parental interactions with children were associated with lower levels of behavioral problems (Simmel, 2007). Children who had been adopted from foster care by gay or lesbian parents demonstrated lower internalizing behavioral problems than those adopted by heterosexual parents. There were no differences between gay and lesbian households and heterosexual households on externalizing problems, despite the significantly higher risk histories of those adopted by gay and lesbian parents and the significantly greater likelihood that they had adopted transracially (Lavner, Waterman, & Peplau, 2012).

**Socioemotional Outcomes.** Five studies reported socioemotional outcomes of children adopted from foster care. In these studies variables examined included life domain functioning (i.e., level of functioning in home, school, and community), self-sufficiency, sociability, and adaptability (Howard, Smith, & Ryan, 2004; Kerman, Wildfire, & Barth, 2002; Lloyd, & Barth, 2011; Vandivere & McKlindon, 2010; Vinnerljung, & Hjern, 2011).

While no differences were found between adopted foster children and children adopted privately, internationally, or living with biological parents in social behavior, adopted foster children fared poorer in life domain functioning and everyday living skills such as walking, talking, or getting dressed (Lloyd & Barth, 2011; Vandivere & McKlindon,
Children living in birth families had the highest life domain functioning in social interactions at home, school and within their communities; children adopted from foster care had the lowest (Howard, Smith, & Ryan, 2004). In contrast to the findings for children, adults who had been adopted from foster care as children were more self-sufficient than those who had remained in foster care but left at age 18 (Kerman, Wildfire, & Barth, 2002). Self-sufficiency was measured by having a job or a permanent living situation, community involvement, and whether or not the individual had been incarcerated after age 18. In the Swedish National study, adult foster care adoptees were also more self-sufficient than those who remained in foster care in that they were more likely to have a home, a college degree, and less likely to receive state welfare (Vinnerljung, & Hjern, 2011).

**Cognitive Outcomes.** Researchers examined the development of cognitive abilities of adopted foster children in eight studies (Lavner, Waterman, & Peplau, 2012; Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007; Lloyd, & Barth, 2011; Harwood & Feng, 2012; Selwyn, & Quinton, 2004; Vandivere & McKindon, 2010; Vinnerljung & Hjern, 2011; Waterman, Nadeem, Paczkowski, Foster, Lavner, Belin, & Miranda, 2012). Cognitive outcomes measured were academic achievement, intelligence quotient (IQ), language development, and inhibitory control skills.

Four studies examined academic achievement outcomes in foster children. Compared to children adopted internationally and privately, children adopted from foster care had lower academic achievement outcomes (Harwood & Feng, 2013; Vandivere & McKindon, 2010). Children adopted after age nine were significantly more likely to have lower school performance than those adopted at earlier ages (Vandivere & McKindon, 2010). Children who remained in long-term foster care were more likely to have learning difficulties and
lower grades than those who were adopted from foster care (Vinnerljung & Hjern, 2011).
Similarly, children adopted from foster care had better language development and higher
academic achievement than children who entered foster care and subsequently returned home
and children who remained in foster care (Lloyd & Barth, 2011).

Inhibitory control, or the ability to regulate one’s own behavior, is a skill that is
considered essential for children to adapt to and succeed in school. Inhibitory control abilities
in children were correlated with the number of placements that the children had experienced.
Three groups of children were compared: those who had experienced one placement prior to
adoption, those who experienced multiple placements, and those who lived with birth
parents. Children who had lived in multiple homes had poorer inhibitory control abilities than
children who had experienced no placements and those who had experienced only one
(Lewis, Dozier, Ackerman, & Sepulveda-Kozakowski, 2007).

Cognitive functioning improved for children following adoption from foster care
(Lavner, Waterman, & Peplau, 2012). Parents who adopted foster children had higher
parental warmth and were more likely to encourage activities that promoted cognitive
stimulation than parents of children who entered foster care and returned home or foster
parents (Lloyd & Barth, 2011).

The adoptive home environment also contributed to improvement in cognitive
functioning over time (Waterman, et al., 2012; Lavner, Belin, & Miranda, 2012). In an
examination of cognitive development over the first five years following adoption from
foster care, cognitive functioning improved from one standard deviation below normal to the
population average. The most marked changes were during the first 12 months and for
children who were most at risk for poor cognitive outcomes (those who had experienced abuse and neglect).

Physical Health Outcomes. Four studies briefly addressed the physical health of children adopted from foster care (Howard, Smith, & Ryan, 2004; Selwyn, & Quinton, 2004; Vandivere & McKlindon, 2010; Zill & Bramlett, 2014). There was no consensus regarding the physical health of adopted foster children compared to children living in birth homes and children adopted privately or internationally. Howard, Smith, and Ryan (2004) reported that child physical health did not significantly differ between birth families, private adoptions, international adoptions, and foster care adoptions. Other studies, however, presented distinctions between groups. Vandivere and McKlindon (2010) reported that children adopted privately were less likely than children adopted from foster care to have health difficulties. Zill and Bramlett (2014) reported that health and developmental problems did not differ between foster children and children adopted from foster care, but they found that birth children were less likely to have health problems. Selwyn and Quinton (2004) found that children adopted from foster care were less likely to have health problems than long-term foster children.
CHAPTER 4

Discussion

A number of conclusions can be drawn from this critique of the empirical research on the effects of adoption on the physical, cognitive, socioemotional, and psychological well-being of foster children. The most important conclusion is that adoption is a positive intervention for foster children’s well-being. Every study concluded this and there were no dissenting findings. This conclusion is critical. Although children adopted from foster care have less positive outcomes than children living with biological parents and children adopted privately and internationally, following adoption these negative outcomes decrease and positive outcomes increase for children who had formerly been in foster care. These results can be partially attributed to adoptive home environments, which are generally much more positive than the previous home environments experienced by foster children. Reasons for this include increased caregiver warmth, increased parental interaction with children, and greater family cohesiveness and adaptability. Although the case goal for approximately half of foster children is reunification, adoption makes up only 24%. This review supports increasing the use of adoption as a case goal for foster children who cannot return to biological parents.

A second clear conclusion is that pre-adoptive risk distinguishes adopted foster children from peers who are adopted in other ways; foster children have more pre-adoptive risks than peers adopted internationally and privately. This was found in all studies. This indicates that foster children have more to gain from a positive home environment than other adoptees, and also supports the assertion that adopted foster children are a unique population and should be studied as distinct from other adoptees.
Another conclusion is that gender is an additional risk factor; boys have more negative outcomes than girls with the exception of behavioral problems (Crea, Chan, & Barth, 2013; Crea, Guo, Barth, & Brooks, 2008; Harwood & Feng, 2013; Kerman, Wildfire, & Barth, 2002; Simmel, 2007; Simmel, Barth, & Brooks, 2007; Simmel, Brooks, Barth, & Hinshaw, 2001; Tan & Marn 2013). Although boys had more behavioral problems at younger ages, when the fourth wave of the CLAS data (which were collected 14 years post adoption) is included in analyses, gender differences are no longer significant. This could be due to a decrease in behavioral problems over time for both boys and girls, resulting in no differences between groups. This potential explanation is in line with other studies included in this review that find behavioral problems decrease from twice the incidence of the general child population to below clinical levels for children following adoption (Kerman, Wildfire, & Barth, 2002; Lavner, Waterman, & Peplau, 2012; Selwyn & Quinton, 2004; Simmel, 2007; Waterman, Nadeem, Paczkowski, Foster, Lavner, Belin, & Miranda, 2012). Because this finding is counter to the general child population (Centers for Disease Control and Prevention, 2013), future research is needed to better understand this process. Understanding processes that contribute to the reduction of behavioral problems over time for boys adopted from foster care could have implications not only for foster children, but also in developing interventions for those who exhibit high levels of behavioral problems in the general population.

A fourth conclusion is that there is a noticeable lack of qualitative research addressing foster child well-being. Although there is a clear connection between positive home environment variables and increased child well-being it is less obvious how adopted foster children move from less positive outcomes prior to and immediately following
adoption to more positive outcomes in the adoptive home over time. This is something that qualitative research could address; unfortunately, there are only two studies in the current review that had a qualitative component. These studies used mixed methods, and the qualitative portions of the studies were supplemental to the quantitative components. Studies that delve into the process of what contributes to a positive home environment and how that translates into decreases in negative outcomes and increases in positive outcomes are critical to understanding how to assist children that are adopted from foster care, and children remaining in foster care.

Another conclusion drawn from examining these studies is that some areas are extensively studied more than others. For example, physical health and socioemotional outcomes received less attention than cognitive and psychological outcomes. It is unfortunate that so few researchers examined physical health considering its impact on psychological, socioemotional, and cognitive outcomes for children. The high incidence of pre-adoption risk factors such as neglect and prenatal substance exposure makes the study of physical health critical to understanding the impact of adoption on children in foster care. The paucity of research on socioemotional outcomes of adopted foster children is also unfortunate considering its importance to higher order cognitive functioning and adult behavior such as emotional regulation, interaction with peers, and empathy (Bell & Wolfe, 2004; Eisenberg, 2000).

Finally, considering current political controversy regarding adoption by lesbian and gay couples, it is unfortunate that foster care adoption by these families was the focus of only one investigation. Findings from that study indicate that lesbian and gay parents are more willing to adopt transracially and to adopt children with more pre-adoptive risk factors.
Previous findings indicate that lesbian and gay couples are also more likely to be aware of and sensitive toward stigma and the needs of their children (Lynch & Murray, 2000). The current review supports prior recommendations to allow lesbian and gay parents to adopt (Howard, 2006; Howard & Freundlich, 2008; Mallon, 2006).

Although children adopted from foster care do not fare as well as children living with biological parents, improvement in well-being for these children is especially noticeable when compared to children remaining in foster care. Although foster children initially have higher levels of behavioral problems, they often fall within clinically normal ranges following adoption. It is encouraging that adoption can result in such positive outcomes for children who have so many pre-adoptive risks.

Limitations

This study sought to critique only the empirical work on the effects of adoption on child well-being outcomes. It is possible that works that have not been peer reviewed, dissertations, theses, book chapters, and books may also contribute to knowledge about foster care adoption. These works, while relevant to the topic, fall outside of the scope of this study.

Recommendations

In the past, legislation such as the Adoption and Safe Families Act (1997), the Foster Care Independence Act (1999) and the Fostering Connections to Success and Increasing Adoptions Act (2008) have been key in enabling faster permanent placements (e.g., reunification, adoption, guardianship, kinship care) for foster children, increasing supports for foster and adoptive families, and extending services from age 18 to age 21 for foster children. This literature review provides strong empirical support for past and current efforts to increase support services that increase adult well-being outcomes for foster children.
Policy makers should continue to reduce pre-adoption risk factors (e.g., multiple placements, time spent in foster care), but they also should work to ensure caregiver warmth, positive home environments, and resources for families adopting children from foster care. Interventions that increase warmth between foster children and both foster and adoptive parents (e.g., Bick & Dozier, 2013) could be beneficial for creating positive home environments and reducing some of the negative effects of foster care experiences. Incorporating these interventions into training for foster and adoptive parents would be a positive step. Additionally, policy makers should use the empirical findings as a reason to expand the pool of potential foster and adoptive families to include gay and lesbian couples in states where this is prohibited.

Although the corpus of research is not large, findings are clear that adoption leads to positive well-being outcomes for foster children. It is recommended that adoption from foster care be strongly considered for children for whom reunification is not possible. Future qualitative work is recommended in order to shed light on which adoption processes lead to positive outcomes in foster children.
REFERENCES


foster care: The role of caregiver state of mind. *Child development*, 72, 1467-1477.


of placement instability on adopted children's inhibitory control abilities and oppositional behavior. Developmental Psychology, 43(6), 1415-1427.


*References marked with an asterisk are studies included in the systematic review.*
Table 1: Screening Process

<table>
<thead>
<tr>
<th>Database</th>
<th>Found</th>
<th>First Stage</th>
<th>Second Stage</th>
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<td>32</td>
<td>16</td>
</tr>
<tr>
<td>PsychInfo</td>
<td>1,051</td>
<td>33</td>
<td>0</td>
</tr>
<tr>
<td>Sociological Abstracts</td>
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<td>2</td>
<td>0</td>
</tr>
<tr>
<td>PAIS</td>
<td>136</td>
<td>0</td>
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</tr>
<tr>
<td>Reference List</td>
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<td>3</td>
<td>1</td>
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<tr>
<td>Handsearch</td>
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<td>2</td>
<td>0</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>2,621</strong></td>
<td><strong>72</strong></td>
<td><strong>19</strong></td>
</tr>
</tbody>
</table>

*First stage screening was based on titles and abstracts only. Second stage screening was based on full papers and duplicates.*
Table 2: Description of Study Characteristics

<table>
<thead>
<tr>
<th>Studies Reviewed</th>
</tr>
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<tbody>
<tr>
<td>Study Type</td>
</tr>
<tr>
<td>Quantitative</td>
</tr>
<tr>
<td>Mixed Methods</td>
</tr>
<tr>
<td>Qualitative</td>
</tr>
<tr>
<td>Study Design</td>
</tr>
<tr>
<td>Longitudinal</td>
</tr>
<tr>
<td>Cross-sectional</td>
</tr>
<tr>
<td>Secondary Dataset</td>
</tr>
<tr>
<td>Comparison Group Type&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>International Adoption</td>
</tr>
<tr>
<td>Private/Domestic Adoption</td>
</tr>
<tr>
<td>Birth Family</td>
</tr>
<tr>
<td>Foster care</td>
</tr>
<tr>
<td>Sampling Type</td>
</tr>
<tr>
<td>Nationally Representative</td>
</tr>
<tr>
<td>Regionally Representative</td>
</tr>
<tr>
<td>Convenience</td>
</tr>
<tr>
<td>Outcome Variable Examined</td>
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<tr>
<td>Psychological</td>
</tr>
<tr>
<td>Cognitive</td>
</tr>
<tr>
<td>Socioemotional</td>
</tr>
<tr>
<td>Physical Health</td>
</tr>
<tr>
<td>Environmental Variable Examined</td>
</tr>
<tr>
<td>Parental Warmth/Interaction</td>
</tr>
<tr>
<td>Family Cohesiveness</td>
</tr>
<tr>
<td>Preadoptive Risks</td>
</tr>
<tr>
<td>Parental Readiness to Adopt</td>
</tr>
</tbody>
</table>

<sup>a</sup>compared to adopted foster children
### Table 3: Demographic Variables of Adopted Foster Children

<table>
<thead>
<tr>
<th>Variable</th>
<th>%</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample size</td>
<td></td>
<td>378.83 (range 28 -1,340)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>49.28</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>50.72</td>
<td></td>
</tr>
<tr>
<td>Race&lt;sup&gt;a&lt;/sup&gt;</td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>42.06</td>
<td></td>
</tr>
<tr>
<td>Black</td>
<td>26.42</td>
<td></td>
</tr>
<tr>
<td>Hispanic/Latino</td>
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<td></td>
</tr>
<tr>
<td>Other</td>
<td>12.96</td>
<td></td>
</tr>
<tr>
<td>Age</td>
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<td></td>
</tr>
<tr>
<td>Adoption</td>
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<td></td>
</tr>
<tr>
<td>Assessment</td>
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<td></td>
</tr>
</tbody>
</table>

*Note. Adopted foster children only*  
<sup>a</sup> race not reported in all samples
Figure 1: Flow of Articles

Potentially relevant articles ($n=2,616$)
- Academic Search Complete: 1,284
- PsychInfo: 1,051
- Sociological Abstracts: 145
- PAIS: 136
- Handsearch: 3
- Reference List Search: 2

Excluded ($n=2,549$)
- Not adoption: 576
- Not foster care: 97
- Not English: 35
- Not peer reviewed: 648
- Book source: 569
- Not child outcomes: 426
- International foster: 81
- Review or theory: 114

Articles reviewed based on titles abstracts ($n=72$)

Excluded ($n=53$)
- Not adoption: 2
- Not foster care: 7
- Not child outcomes: 16
- International foster: 1
- Review or theory: 5
- Duplicates: 22

Articles meeting inclusion criteria ($n=19$)
Appendix A

Coding Rubric

Reference:

**Purpose/Research Question/Hypothesis:**

**Type of study:**
- _____ Qualitative
- _____ Quantitative
- _____ Mixed methods
- _____ Longitudinal
- _____ Cohort
- _____ Crosssectional
- _____ Other

**Theory:**

**Variables**
- Dependent Variables:
- Independent Variables:
- Extraneous or Control Variables:

**Region study took place:**
- _____ Rural
- _____ Urban
- _____ Both

**Database Used:**

**Waves:**

**Design:**
- _____ survey – secondary data set
- _____ survey – primary data set
- _____ observation
- _____ between-groups comparison (list groups)
- _____ within groups comparison (list groups)
- _____ qualitative (list type)

**Measures Used:**

**Purpose:**

**Who is reporting?**
- _____ Adoptive parent(s)
- _____ Biological parent(s)
- _____ Foster Parent(s)
- _____ Child
- _____ Social Worker
- _____ Other (list)

**Sampling:**
- _____ Convenience
- _____ Representative
- _____ purposive
- _____ Cluster
- _____ Other

**Sample Description**

**Sample Size:**

**Subgroups:**

**Adoption Type:**
- _____ Foster care
- _____ Independent
- _____ Private
- _____ Single Parent
- _____ International
- _____ Stepfamily
- _____ Kinship
- _____ Other

**Age at adoption (in years):**

**Age at assessment (in years) Mean:**

**Sex of children:**
- _____ Male
- _____ Female

**Race of children:**
- _____ White or Caucasian
- _____ Black or African-American
American Indian or Alaskan Native  Asian
Native Hawaiian or Pacific Islander  Biracial
Hispanic/Latino  Two or more races/Other

Foster Care Experience:
Age at entry into foster care? (means)
Siblings in foster care?
History of Abuse?
  Neglect  Emotional abuse  Physical abuse
  Sexual abuse  Parental drug abuse  Other:
Average length of stay in foster care?
  Years
Type of last placement:
Length of time in last placement?
Number of placements prior to adoption?
Adoptive Family Characteristics:
Relationship Status:
  Married  Divorced or separated
  Single-never married  Cohabiting  Other
Sexual Orientation:
Race:
  White or Caucasian  Black or African-American
  American Indian or Alaskan Native  Asian
  Native Hawaiian or Pacific Islander  Biracial
  Hispanic/Latino  Two or more races/Other
Education:
  < Highschool  Bachelor’s degree
  Highschool/GED  Graduate Degree
  Associates/ Some college
Biological Family Characteristics:
Relationship Status:
  Married  Divorced or separated
  Single-never married  Cohabiting  Other
Sexual Orientation:
Race:
  White or Caucasian  Black or African-American
  American Indian or Alaskan Native  Asian
  Native Hawaiian or Pacific Islander  Biracial
  Hispanic/Latino  Two or more races/Other
Education:
  < Highschool  Bachelor’s degree
  Highschool/GED  Graduate Degree
  Associates/ Some college

Results: