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Placement Discontinuity for Older Children and Adolescents Who Exit Foster Care Through Adoption Or Guardianship: A Systematic Review

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Abstract For over two decades, practitioners, advocates, and scholars involved with the U.S. child welfare system have engaged in coordinated efforts to increase the number of foster youth who find stable, permanent homes through adoption or guardianship, and these efforts have been shaped and guided by federal policies and directives. As a result, the number of children adopted or placed into guardianship out of foster care has increased significantly. This trend has significant implications for child welfare research, policy, and practice. However, the risk and protective factors for post-permanency discontinuity, or placement changes that occur after legal finalization of an adoption or guardianship, have received little attention in the literature. Also, many previous studies that investigated post-permanency adjustment for former foster youth have been limited by serious design and/or conceptual flaws. The purpose of this study is to investigate the peer-reviewed literature that examines risk or protective factors for discontinuity, or outcomes proximal to discontinuity, for older foster youth. A systematic search located 18 quantitative, quasi-experimental studies published in peer-reviewed journals that implemented multivariable methods. This review finds that the quality of the research evidence is generally weak, but previous studies do suggest several risk and protective factors for post-permanency discontinuity, including child, family, and service characteristics.

Keywords Adoption · Guardianship · Discontinuity · Foster care · Permanency · Child welfare

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Introduction

Child *permanency*, or the attainment of a long-term, family living arrangement after foster care, is a central goal of the U.S. child welfare system (U.S. Department of Health and Human Services [USDHHS], 2005; USDHHS, 2011a), and child welfare scholars, policy-makers, and advocates generally agree that a safe, enduring, family home is the best placement option for all children who have experienced maltreatment. Thus, when children are initially placed into foster care due to child abuse, neglect, or dependency, the priority and preference for child permanency is reunification with biological parents or relative caretakers. However, because reunification is not possible for almost half of all foster children (USDHHS, 2011b; Wulczyn, 2004), other placement options are needed to ensure permanency for maltreated youth.

Currently, only two permanency options other than reunification exist for foster children in the United States: adoption and guardianship. Adoption requires termination of parental rights and is more legally binding than guardianship (USDHHS, 2013b); guardianship involves the transfer of legal custody of a child to another caretaker without necessarily terminating parental rights (USDHHS, 2013a). Both relatives and non-relatives may provide permanent homes for children through either adoption or guardianship. However, guardianship has historically been used more often with relative placement than non-relative placement, because guardianship allows for the continued involvement of biological parents in children's lives through child support payments and visitation, requires less legal burden to dissolve, and preserves kin roles that exist between guardianship caretakers and the child (Testa, 2004).

In recent decades, U.S. federal policy has provided directives and incentives for child welfare agencies to

increase permanency through adoption and guardianship (Allen & Bissell, 2004; Coakley & Berrick, 2008; Rolock, 2014; USDHHS, 2005). In particular, the Adoption and Safe Families Act of 1997 (ASFA) prioritized adoption and legitimized guardianship as permanency goals when reunification is no longer an option and mandated timelines for agencies to move children into permanent homes (Allen & Bissell, 2004; Child Welfare League of America, 2013). In 2008, the Fostering Connections to Success and Increasing Adoptions Act provided incentives for states to find adoptive homes for children with special needs (e.g., older or disabled youth), created more opportunities for adoption assistance for children with special needs, and expanded the availability of subsidized guardianship payments for relatives (Children's Defense Fund, 2008). More recently, the Preventing Sex Trafficking and Strengthening Families Act of 2014 required that child welfare agencies and courts regularly assess permanency options for older youth with a permanency goal of "another planned permanent living arrangement", or APPLA, rather than reunification, guardianship, or adoption, and eliminated APPLA as a case plan option for youth under age 16 (Children's Defense Fund, 2014; USDHHS, 2014).

Coincident with the evolution of federal policies, social norms regarding adoption and guardianship changed, with greater acceptance of non-traditional family structures and adoption of older or special needs youth; the pool of non-foster children available for adoption shrank; and child welfare advocates became increasingly concerned about large numbers of children languishing in the foster care system (Rosenthal & Groze, 1990, 1994; Smith, Howard, Garnier, & Ryan, 2006; Smith, Howard, & Monroe, 1998; Testa, 2004). Likely due to the convergence of these political and social forces, the number of children who exit foster care to adoption and guardianship has grown significantly over the past 20 years (Berry, Propp, & Martens, 2007; Smith et al., 2006; USDHHS, 2011c; Testa, 2004). For example, from 1998 to 2008, the number of children adopted from public child welfare agencies grew from about 36,000 to approximately 55,000 (USDHHS, 1998; USDHHS, 2011c). Similarly, from 2000 to 2012, the number of youth who exited foster care to guardianship increased from about 8500 to approximately 16,400 (Annie E. Casey Foundation, 2015).

Literature Review

Because of the increasing numbers of children leaving foster care via adoption or guardianship, child welfare scholars and policy-makers have raised concerns due to limited research on permanency outcomes for adoptive and guardianship children (Barth & Miller, 2000; Festinger, 2002; Houston & Kramer, 2008). Researchers have noted particular concern for certain at-risk subgroups, such as older children and children with special needs or disabilities. Scholars have suggested that because of the high physical, emotional, or behavioral needs of these youth, a large proportion of them may reenter foster care after permanency (Berry et al., 2007; Testa, 2004).

Researchers have put forth several definitions for placement instability after adoption or guardianship, and these definitions are often combined or confused in the literature. For example, *disruption* is generally defined as placement of a child back into foster care prior to legal finalization of adoption or guardianship (Festinger, 2002); *dissolution* typically refers to the formal, permanent termination of a permanent placement after it has already been legally finalized (Smith et al., 1998); and *discontinuity* refers to changes in adoption or guardianship placement after legal finalization, including both temporary and permanent changes (Rolock, 2014; Testa, Snyder, Wu, Rolock, & Liao, 2015). In this study, post-adoption or guardianship placement changes are considered using the definition of discontinuity as put forth by Testa et al. (2015): foster care reentry for 7 or more days, or a subsidy ending prematurely, for a former foster child subsequent to legal finalization of an adoption or guardianship. Thus, this term has a more global definition than dissolution, in that it includes both temporary and permanent changes in a child's placement, as well as a subsidy ending before the child is age 18. However, discontinuity is distinct from disruption, because discontinuity only refers to placement instability that occurs after legal finalization of an adoption or guardianship.

Previous research provides a general indication of discontinuity rates in the United States. Studies that investigated adoption alone suggest that somewhere between about 2–15 % of youth in finalized adoptions experience placement changes such as foster care reentry, but this range of estimates may mask important differences for older children or children with challenging behavioral needs (Barth, Berry, Yoshikami, Goodfield, & Carson, 1988; Barth & Miller, 2000; Berry et al., 2007; Festinger, 2002; Hartinger-Saunders, Trouteaud, & Matos-Johnson, 2014; McDonald, Propp, & Murphy, 2001; Rolock, 2014; Selwyn, Wijedasa, & Meakings, 2014). Fewer guardianship studies have examined discontinuity or dissolution, but some have reported rates of discontinuity from as low as 2 % to over 30 % for youth with histories of adjudicated abuse or neglect (Henry, 1999; Koh & Testa, 2011; Rolock, 2014; Testa, 2004). Thus, a reasonable estimate for the overall rate of discontinuity for adoptions and guardianships in the United States is between 2 and 15 %.

This range of risk for discontinuity may be better than child welfare scholars feared after the implementation of

ASFA (Barth, 2009; Berry et al., 2007). In comparison, the risk for foster care reentry after reunification is about 12 % within 1 year, and up to 30 % within 10 years (USDHHS, 2012a; Wulczyn, 2004). However, the risk for discontinuity is much higher than the risk of foster care placement for the general U.S. population of approximately 0.33 % (Federal Interagency Forum on Child and Family Statistics, 2015; USDHHS, 2011a). Also, because a high number of children exit foster care to either adoption or guardianship each year, what might seem to be a modest percent translates to markedly higher numbers; for example, about 64,000 children exited to adoption or guardianship in 2011 (making up 26.7 % of all exits from foster care; USDHHS, 2011a), suggesting that as many as 9600 of these children may be expected to experience placement discontinuity.

There are serious consequences of post-permanency discontinuity for adopted or guardianship children and their families. The experience of removal from a permanent family and placement into foster care is often traumatic (Bruskas, 2008), adding in some cases to the trauma already experienced due to child abuse, neglect, or dependency. Early trauma experiences are associated with a myriad of negative life outcomes, including cardiac disease, depression, and even premature death (Bruskas, 2008; Chartier, Walker, & Naimark, 2010; Danese et al., 2009). Further, decades of research indicate that placement instability for children in foster care is associated with poor outcomes such as attachment disorders, low educational achievement, mental health issues, behavioral problems, and poor preparation for independent living as adults (D'Andrade, 2005). Multiple changes in foster care placement over a 12-month period for foster youth relate to negative child externalizing and internalizing behaviors, including anxiety, aggression, and hyperactivity (Newton, Litrownik, & Landsverk, 2000). Finally, as children get older, their likelihood of being adopted decreases, and they may have more difficulty adjusting to adoptive placements (Haugaard, Wojslawowicz, & Palmer, 1999).

There are also significant societal costs due to post-adoption or guardianship placement instability. Decisions to place children in legally permanent homes are carefully vetted by family court judges, child welfare caseworkers and administrators, attorneys, and court-appointed child advocates (Allen & Bissell, 2004). Thus, considerable time and public money are spent finding, approving, and monitoring legally permanent placements. One study estimates that adoption may up to 56 % cheaper than long-term foster care over time, depending on the length of time youth spend in foster care and the scope of services provided, and not including potential long-term indirect costs such as lower employment or higher incarceration rates for foster youth who reach adulthood without finding permanency (Avery, 2010; Barth, Lee, Wildfire, & Guo, 2006).

Little research has rigorously examined risk factors associated with discontinuity for former foster youth. However, some studies suggest that children who exhibit difficult behaviors, older children, and child victims of sexual abuse may be at increased risk for post-adoption or guardianship placement instability, and that other child factors may impact discontinuity as well, such as gender, placement with siblings, or developmental disability (Barth et al., 1988; Barth & Miller, 2000; Groze, 1996; Haugaard et al., 1999; Henry, 1999; Smith et al., 1998). Also, previous research has indicated that service factors may increase the risk of discontinuity, including a low or inadequate level of pre- or post-permanency support or training for adoptive or guardianship caregivers (Barth & Miller, 2000; Rosenthal, Groze, & Aguilar, 1991; Testa, 2004).

However, it is important to note that much previous research on post-adoption or guardianship families has been hampered by serious methodological and design limitations, including inadequate attention to selection bias and the use of cross-sectional analyses, convenience sampling, and single-item or unstandardized measures (Dhami, Mandel, & Sothmann, 2007; Rycus, Freundlich, Hughes, Keefer, & Oakes, 2006; Smith et al., 2006; Treseliotis, 2002). In addition, putative risk factors for discontinuity, such as child "behavior problems" or "special needs" have been inconsistently or ambiguously defined by researchers (Rycus et al., 2006). Finally, previous adoption or guardianship studies have found conflicting or mixed evidence regarding the relationships between several risk or protective factors (e.g., caregiver age or sibling placement) and post-permanency outcomes (Barth & Miller, 2000; Haugaard et al., 1999). Therefore, the purpose of this study was to systematically review the peer-reviewed literature to identify the risk and protective factors associated with discontinuity for former foster youth who are school-age or older, as well as assess the quality of research evidence.

Table 1 Keywords and search strings

(1)	(risk OR resilienc* OR predictor* OR correlate*) AND ("adoption dissolution" OR "adoption disruption" OR "placement discontinuity")
(2)	(risk OR resilienc* OR predictor* OR correlate*) AND permanenc* AND guardianship AND "foster care"
(3)	adoption AND dissolution AND "foster care"
(4)	guardianship AND (dissolution OR disruption) AND "foster care"
(5)	("post-adoption service*" OR "post-permanenc*" OR "post-guardianship") AND "foster care"

Method

The first step in this review was a systematic search of several electronic academic databases. Keywords and search strings were derived by the author using keywords and information from known articles that related to discontinuity, including Barth and Miller (2000), Berry et al. (2007), Dhami et al. (2007); Festinger (2002), Smith et al. (2006), and Testa (2004). These six articles were also designated as "target studies" that should be captured by the search if the strategy was effective and sufficiently comprehensive. The keywords and strings used in all searches are shown in Table 1.

Five databases were searched, and all searches were limited to articles in peer-reviewed, English-language journals. This review was restricted to articles in peer-reviewed journals because, as noted above, post-permanency research has been generally been limited by a lack of rigor, with studies often relying on convenience samples and cross-sectional analyses, unstandardized measures, and ambiguous constructs. Thus, peer-review provided an important filter to ensure that only studies characterized by rigorous designs, methods, and reporting would be included in the final sample.

After the literature search was completed, article abstracts were read and screened according to the six inclusion criteria below. If an abstract provided no or limited information related to the inclusion criteria, the article was selected for full-text review to ensure that no relevant articles were inadvertently excluded. An article was selected for full-text review if the study:

(1) Examined risk or protective factors for discontinuity or another post-permanency outcome that could plausibly be considered proximal to discontinuity, such as level of parent satisfaction, negative youth behaviors, or caregiver commitment;
(2) Implemented quantitative methods;
(3) Used either an experimental design or a multivariable (Hidalgo & Goodman, 2013) quasi-experimental design that accounted for the effects of potential confounding variables (e.g., multivariable regression, multivariate analysis of variance [MANOVA], or propensity score analysis);
(4) Investigated a child welfare population in the United States or another country with a similar child welfare system (specifically, Western Europe, Canada, or Australia);
(5) Included a majority of youth in the sample (over 50 %) with a history of child welfare services involvement;
(6) Included at least some youth in the sample who were ages 6 or older at the time of the study.

Thus, studies were excluded from the sample if they were qualitative literature reviews, or if they primarily examined outcomes for families prior to legal finalization of an adoption or guardianship. Further, studies that exclusively examined outcomes for infants and/or children ages five or younger only were not selected for the sample. Studies that employed bivariate analyses were also excluded from the review, because the purpose of this study was to identify individual risk and protective factors for discontinuity while holding the effects of other, potentially confounding variables, constant. Finally, *proximal outcomes* to discontinuity were defined as short-term outcomes that may signal child or family adjustment problems after adoption or guardianship (e.g., child behavior problems, family adjustment, or parental stress). More specifically, proximal outcomes were considered to be potential mediators in the chain of risk between child, family, or service characteristics and discontinuity. In general, any child, family, or service variables measured after finalization of an adoption or guardianship were considered to be proximal outcomes in order to select as many studies as possible for review and because so little is known about the factors that contribute to post-adoption or guardianship placement instability.

The final stage of the process was a full-text review of the articles selected from the abstract screening phase. The same six inclusion criteria above were also applied to select full-text articles for the final sample. In addition, snowball sampling (Contandriopoulos, Lemire, Denis, & Tremblay, 2010; Hesse-Biber & Leavy, 2011) was implemented to locate more studies. Specifically, the references lists of all full-text articles were searched to find other articles that related to risk and protective factors for discontinuity, and the full texts of those articles were reviewed as well. Only one researcher, the author, read the abstracts and full-text articles for this review. Therefore, decisions about article inclusion were not subject to discussion among multiple reviewers, and inter-rater reliability is not applicable to this study.

Results

The results of database searches are shown in Table 2. The search strategy captured a total of 355 articles, including five of the six of the target studies. The one target study not found using the initial search strategy (i.e., Dhami et al., 2007) was later captured during full-text review using snowball sampling.

The PRISMA flow chart in Fig. 1 (Moher, Liberati, Tetzlaff, Altman, & the PRISMA Group, 2009) shows the number of articles excluded at each stage of the review process. In the abstract screening phase, 113 studies were

Table 2 Search Results

Date	Database	Search engine	Number of articles
6/5/2014	Social Services Abstracts	ProQuest	32
6/5/2014	PsychInfo	EBSCO Host	56
6/5/2014	Social Work Abstracts	EBSCO Host	11
6/5/2014	Sociological Abstracts	ProQuest	6
6/5/2014–6/7/2014	Google Scholar (the first 50 articles for each string, sorted by "relevance")		250
		Total	355

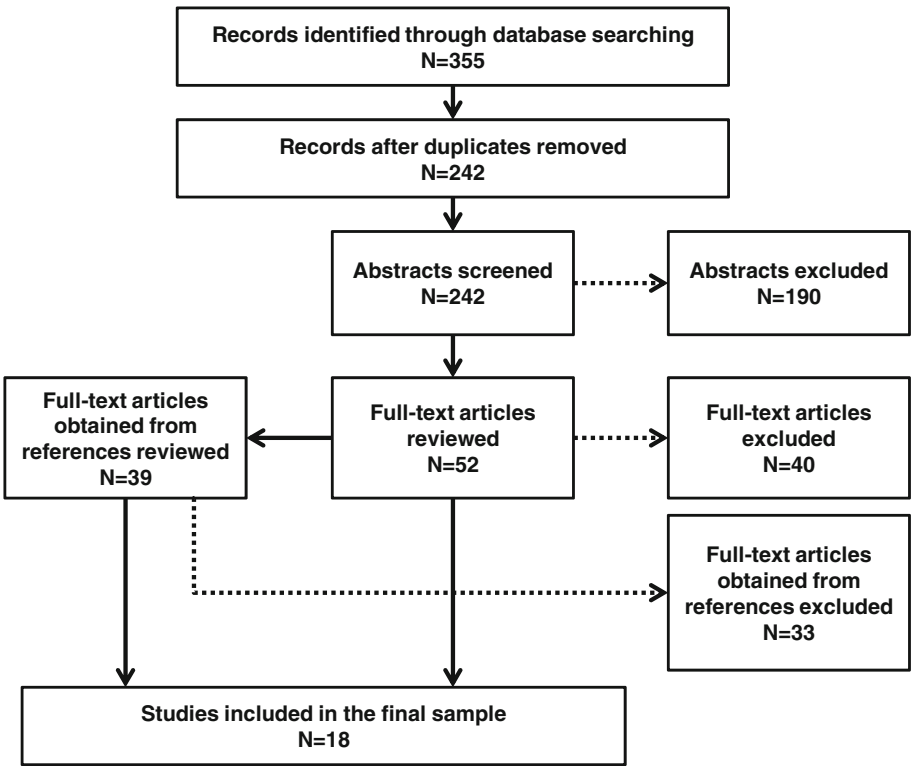

Fig. 1 PRISMA flow chart

excluded because they were duplicates. Another 190 abstracts were also screened out due to not meeting the six inclusion criteria specified above, leaving a total of 52 articles for full-text review. In addition, 39 more articles were identified for full-text review through snowball sampling. Then, of the 91 articles that were subjected to full-text review, only 18 met the criteria for inclusion in the final sample. Many full-text articles were excluded from the final sample because they were qualitative literature reviews, or, more commonly, because they combined pre-finalization and post-finalization data for youth and/or families. This is consistent with previous research reviews which have also noted that post-finalization-only studies are relatively rare in the literature (Festinger, 2002; Selwyn et al., 2014). Some abstracts and articles reviewed were not entirely clear if all or even a majority of the outcomes observed were from youth and families after legal finalization only, and these studies were not selected for the sample.

Table 3 in the Appendix provides a summary of the 18 studies selected for the final sample. The studies are arranged in chronological order in the table to show how researchers have examined post-permanency outcomes over historical time. Only three studies explicitly examined risk or protective factors for discontinuity or dissolution. The rest investigated risk or protective factors for outcomes that could plausibly be considered proximal to discontinuity, such as child behavior problems, parent satisfaction with the adoption, or impact of the adoption on the family. All the studies in the final sample examined adoptive families, but only one (Koh & Testa, 2011) investigated outcomes for guardianship families. Finally, the majority of studies were published within the past 10 years, and five were published since 2011, consistent with

the idea that post-finalization adjustment of adoptive and guardianship families is a fairly new and evolving topic in child welfare research (Berry et al., 2007; Selwyn et al., 2014).

In regard to research methods and design, 14 studies used multivariable regression to explore the impact of risk or protective factors on post-permanency outcomes while holding the effects of potential confounding variables constant. Other methods that were implemented in studies included structural equation modeling (SEM; Goldman & Ryan, 2011), propensity score analysis (Koh & Testa, 2011), generalized estimating equations (GEE; Nalavany, Glidden, & Ryan, 2009), and MANOVA (Erich & Leung, 2002; Reilly & Platz, 2004). No RCTs were identified in this systematic review, signaling a serious limitation in the literature. Three of the studies were longitudinal (Berry et al., 2007; Goldman & Ryan, 2011; Koh & Testa, 2011), and thus, addressed some of the common threats to internal validity found in observational research, such as ambiguous temporal precedence and maturation (Shadish, Cook, & Campbell, 2002).

Discontinuity

Three studies in the sample attempted to identify risk or protective factors for discontinuity. Berry et al. (2007) used hierarchical multivariable regression to analyze placement outcomes at 6 and 12 months follow-up for a sample of post-adoptive families who had received intensive in-home services within a 10 year period, controlling for numerous child, family, and service characteristics. The authors found that child and family factors, including non-white child, full time employment of the primary caregiver, and an initial placement reason of child maltreatment, were most predictive of placement discontinuity at 6 months follow-up. However, at 12 months follow-up, although child and family characteristics were still predictive of placement stability, service factors explained more variance in the outcome, including the types of problems addressed by services (child behaviors, child abuse issues, or parenting issues) and the number of days receiving services (with longer service durations associated with family "intactness"). The authors concluded that long-term, intensive in-home services may help protect post-adoptive families from placement discontinuity, particularly when families have problems that relate to child behavior rather than parenting issues. However, the sample consisted only of high need families, reflected in the relatively high discontinuity rate of 17 % for the sample.

Koh and Testa (2011), in the only study in this review that examined both adoptive and guardianship families, explored whether a pre-permanency placement in kinship foster care was protective against foster care reentry as compared to a pre-permanency placement in non-kinship foster care. The authors implemented multivariable regression, propensity score analysis (with matched groups), and survival analyses, and found no significant impact of kinship versus non-kinship foster care on post-adoption discontinuity. However, in regard to post-guardianship discontinuity, statistical models estimated with an unmatched sample indicated that the expected time to foster care re-entry for guardianship cases was about 13 times greater for children placed in kinship foster care versus non-kinship foster care, but this statistically significant relationship was not found using the matched sample.

Using stepwise multivariable regression with survey data, Hartinger-Saunders et al. (2014) explored whether post-adoption service needs or access predicted discontinuity as indicated by parent report. Results indicated that 17 % of families reported that they had experienced discontinuity after adoption. Further, findings showed that needing substance abuse or educational advocacy services was associated with higher placement discontinuity and accessing educational advocacy services or parent support groups was associated with lower discontinuity. However, results also indicated that accessing substance abuse services was associated with higher placement discontinuity. The authors surmised that there may be unintended consequences of actually receiving substance abuse services, such as unrealistically raising parents' expectations regarding youth behavior.

Impact on the Family

Several studies examined the impact of risk or protective factors on post-permanency family adjustment or functioning. For instance, Rosenthal and Groze (1990) used stepwise multivariable regression to investigate the relationship between child, family, and service factors and a parent-report, Likert scale that measured the impact of adoption on the family. Consistent with previous literature, results showed that several risk factors were related to a negative impact of the adoption, including an older child age at placement, higher parent education levels, child externalizing behaviors (i.e., negative behaviors directed toward the external environment such as hyperactivity, aggression, or defiance; Liu, 2004), suspected child history of sexual abuse, and a child history of group home or psychiatric placement. Protective factors were also identified, including single parent adoption, higher family cohesion, family approval for the adoption, more information shared with the parent during the adoption process, and a higher child enjoyment of school.

Also using stepwise regression, McDonald et al. (2001) investigated the relationship between child, parent, and family variables and family adjustment as measured by a

scale developed by the authors. Regression models indicated that a higher number of child special needs, more total children in the home, and a higher family income were associated with lower family adjustment. Conversely, married adoptive parents and more adopted children in the home were related to better family adjustment. Adoptive parents were also very positive about their adoptions, with 76 % reporting that they were satisfied with the adoption process. However, parents also reported problems regarding post-adoption supports, and suggested improvements for more consistent and effective services.

Leung and Erich (2002) examined post-adoption family adjustment as measured by the Self-Report Family Functioning Scale (SFI; Beavers, Hampson, & Hulgus, 1985) using stepwise multivariable regression with a sample of intact adoptive families. The study found that sibling group adoption, child behavior problems, child contact with legal authorities (e.g., arrests), an older child age at adoption, and more social support from schools or relatives were all risk factors for poor family adjustment. In contrast, higher social support from a spouse or partner was a protective factor for family adjustment. The authors concluded that sibling adoption and child behavior scores were most predictive of family functioning because they accounted for about 42 % of the variance in the outcome. Similarly, Erich and Leung (2002) investigated the impact of risk and protective factors on family functioning (i.e., scores on the SFI) using MANOVA. Results were consistent with their previous study, in that, family functioning was significantly lower for sibling group adoption. Findings also supported that a child maltreatment history of physical and/or sexual abuse was associated with lower reported family functioning.

In another study that implemented stepwise multivariable regression, Leung, Erich, Kanenberg (2005) examined the impact of child and family characteristics on family functioning, but also looked at the impact of adoptive placement with same-sex parents. The study found that both an older child age at adoption and child disability were factors associated with poorer family functioning. Conversely, sibling group adoption, special needs child, and more previous placements of the child were associated with better family functioning. There was no significant impact in regression models for same-sex adoptive parents, but an interaction effect indicated better reported adjustment for same-sex families with older child placements.

Belanger, Cheung, and Cordova (2012) used stepwise multivariable regression to examine the relationship between child and service factors and the impact of the adoption on the family in African-American special needs adoptions. Findings showed that parents who reported children were more difficult (according to the Parenting-Stress Index; Abidin, 1995) or lower caseworker support also reported a more negative impact of the adoption on the family, with the child behavior variable accounting for about 17 % of the variance in the outcome. Based on both quantitative and qualitative analyses, the authors concluded that post-adoptive African-American families in rural communities benefit from flexible post-adoption resources and a strong relationship with a trustworthy adoption caseworker.

Finally, Reilly and Platz (2003) used multivariable regression to examine the impact of child, parent, and agency factors on a parental assessment of the impact of adoption on the family and marriage (among other outcomes—see below). The study used a sample of intact special needs adoptive families. A consistent finding across regression models was that more appropriate parental expectations for children's behavior was associated with a better rating for impact of the adoption on the marriage and family.

Child Behavior Problems

Four studies explored the impact of risk or protective factors on child behavior problems. For instance, Groza and Ryan (2002) regressed total and subscale scores from the Child Behavior Checklist (CBCL; Achenbach & Ruffle, 2000) on child, family, and service factors. The study found high rates of behavior problems for adoptees as compared to the general population, but also showed that most adoptive parents were very satisfied in their relationship with their children. Further, a poor parent–child relationship was a consistent predictor of higher CBCL scores in 10 of 11 estimated regression models, and a child history of sexual abuse was associated with higher CBCL scores in several regression models. Erich and Leung (2002) also examined the risk and protective factors for child behavior problems in a sample of adoptive families. MANOVA models indicated that youth adopted as sibling groups were at lower risk for negative externalizing behaviors as measured by the Eyberg Child Behavior Inventory (ECBI; Eyberg & Ross, 1978) than children not adopted with a sibling.

Averett, Nalavany, and Ryan (2009) examined the effects of adoptive parents' sexual orientation and other factors on youths' externalizing and internalizing behavior problems as measured by the CBCL. Results showed no impact of parents' sexual orientation on outcomes, but found that, among 6–18 year olds, each 1 year increase in a child's age was associated with a 0.24 and 0.23 point increase internalizing and externalizing behaviors, respectively. Also among 6–18 year olds, youth with a history of sexual abuse had internalizing and externalizing CBCL scores that were 2.76 and 4.44 points higher, respectively, than youth without a history of sexual abuse; and youth

with a history of physical abuse had externalizing CBCL scores that were 2.36 points higher than youth without a history of physical abuse. More pre-adoption preparation, better family functioning, higher annual income, and female child were all associated with less problematic internalizing or externalizing behaviors in regression models.

Finally, Goldman and Ryan (2011) estimated SEM models with longitudinal survey data to examine the impact of alcohol, tobacco, and other drug (ATOD) exposure; child gender; child history of sexual abuse; and the number of child placements on the relationship between child pre-adoption functioning and post-adoption externalizing behaviors as measured by the CBCL. Results showed that higher ATOD exposure was associated with worse pre-adoption functioning, but no risk or demographic factor alone significantly altered the strong negative relationship between pre-adoption functioning and post-adoption externalizing behaviors.

Parent Satisfaction

Four studies selected for this review examined parent satisfaction with the adoption as a post-permanency outcome. Reilly and Platz (2003) investigated the impact of child and family factors on two parent-report outcomes—parent satisfaction with the adoption and parent–child relationship quality. The authors found that more appropriate parental expectations for children's behavior was associated with better parent satisfaction and parent–child relationship ratings. In addition, fewer child behavior problems were associated with higher parent satisfaction. Looking at the same outcomes but in relationship to service needs and use, Reilly and Platz (2004) showed that receiving post-adoption informal, financial, or other services was positively related to parent satisfaction, and having an unmet need for counseling was associated with a lower quality of the parent–child relationship.

Smith-McKeever (2006) explored parent satisfaction among African-American adoptive families using stepwise multivariable regression. Study results showed that more child behavior problems (as measured by total CBCL scores), greater frequency of parents' thoughts about the child, and higher parenting stress were all risk factors for lower parent satisfaction with the adoption, although 80 % of parents reported being "extremely satisfied." Some factors associated with post-adoption problems in previous studies, such as older child age and type of previous maltreatment, were not significant predictors of parent satisfaction. Thus, the authors concluded that researchers should not assume that risk factors for post-adoption difficulties apply across different racial or socioeconomic categories.

Also looking at parental satisfaction as an outcome, Nalavany et al. (2009) used generalized estimating equations to test the impact of child learning disability, as well as the mediation effect of child internalizing or externalizing behaviors, controlling for numerous child and family demographic or risk factors. The authors found that a statistically significant negative relationship between child learning disability and parental satisfaction was mediated by internalizing or externalizing behaviors. In the final multivariable model, results showed that African-American parent, married parent, and child age were negatively related to parent satisfaction; adoption preparation and higher family functioning were positively related to parent satisfaction.

Other Indicators of Post-permanency Adjustment

Nalavany, Ryan, Howard, and Smith (2008) examined the impact of several child factors, including childhood sexual abuse (CSA), on parental commitment to the adoption, using a dichotomized Likert scale completed by caseworkers. Families were participants in an adoption preservation program, so they were at higher risk for discontinuity. The results of logistic regression showed that pre-adoptive CSA was associated with more inconsistent parental commitment to the adoption, even after controlling for the effects of child age and gender. Specifically, children with pre-adoptive histories of sexual abuse had almost three times higher odds of an inconsistently committed parent as compared to children without histories of sexual abuse.

Last, Ward (2012) examined the impact of child maltreatment type, as well as child and family characteristics, on the use of different types of support services. Results showed that depending on the type of maltreatment, varying types of support services were used, and that the majority of families used at least some type of post-adoption services. In regard to risk factors, the authors showed that having an adopted child with problematic social behaviors was associated with increased use of mental health, family counseling, and mentoring services. In addition, foster care adoption, siblings in the home, and a household income between 100 and 200 % of poverty level (as compared to an income greater than 200 % of poverty level) were positively related to the use of mental health, adoption support group, and mentoring services, respectively. Although the study findings were limited because service use may not be a useful proxy for post-adoption adjustment problems (for example, service use may reflect program availability or family income rather than need), the authors concluded that the results were consistent with previous literature that indicates child and family characteristics influence post-permanency adjustment, and that

children with behavioral problems in particular may struggle to adjust to adoptive placements.

Discussion

Although caution must be exercised when generalizing results across studies in a qualitative systematic review (Valentine, 2014), several key findings relevant to post-permanency discontinuity warrant further elaboration. First, this review provides evidence that most children do not experience discontinuity after legal finalization of an adoption or guardianship. Also, post-permanency families typically receive at least some kind of post-adoption services, but the types of services received do not always match family needs, and caregivers frequently report that more, or different, post-permanency services are needed. Also, consistent with previous studies of post-permanency services (Dhami et al., 2007; Groze, 1996; Zosky, Howard, Smith, Howard, & Shelvin, 2005), this review suggests that post-permanency services are most effective when they are flexible, individualized, and available for an extended period of time, such as for months or years after legal finalization.

Risk and Protective Factors Identified in Multiple Studies

Several risk factors for discontinuity were identified in multiple studies included in this review. First, children who exhibited problematic behaviors, particularly externalizing behaviors such as poor social functioning, aggression, hyperactivity, sexual acting out, or defiance, and their families were at greater risk for poor post-permanency outcomes. In addition, families with adopted or guardianship youth who were older, or who had a history of childhood physical or sexual abuse, generally showed worse post-permanency adjustment. Finally, parents who reported unrealistic child behavioral expectations or receiving less information from child welfare agencies also tended to report more post-permanency problems. Thus, the findings of this review are consistent with previous literature reviews on pre-finalization adoption disruption, which have also identified these same variables as risk factors for child and family difficulties (see Barth & Miller, 2000; Smith et al., 2006).

This review provides evidence that the predominant focus of adoption researchers and advocates on attachment processes in infancy and young childhood, as well as attachment-related interventions (Barth & Miller, 2000; Roberson, 2006), may not be the best way to consider or address the problems faced by children after legal adoption or guardianship. Rather, it seems that researchers should focus more on theories and processes that relate to older children with histories of trauma due to maltreatment and involvement with the child welfare system. Indeed, many scholars have advocated for the development of a "trauma-informed child welfare system," in which the effects of multiple traumas experienced by many child-welfare involved children are appropriately assessed, treated, and considered in all phases of intervention and judicial review (Ko et al., 2008).

Studies in this review also indicated possible protective factors against discontinuity. For example, the timely provision of intensive, post-adoption family preservation services was helpful for at-risk families (Berry et al., 2007). Results were also generally positive for African-American adoptive families, because two studies (Smith-McKeever, 2006; Belanger et al., 2012) found that African-American parents were willing and able to successfully adopt youth with serious histories of child maltreatment. As one exception, however, Nalavany et al. (2009) found lower adoptive parent satisfaction for African-American caregivers. Finally, not surprisingly, several studies (Averett et al., 2009; Nalavany et al., 2009; Rosenthal & Groze, 1990) also provided evidence that higher family cohesion and functioning at the time of child placement was associated with better post-permanency adjustment.

The relationships between several other risk or protective factors and post-permanency outcomes were less clear from this review, because findings were inconsistent across studies. For instance, McDonald et al. (2001) showed that the number of child special needs had a negative relationship to positive family adjustment, but Leung et al. (2005) found that special needs adoption had a positive influence on post-permanency functioning, and child disability had a negative impact. The contradictory findings for child "special needs" across studies may be at least partly due to the fact that this is a broad, somewhat ambiguous term that may refer to a child's older age, minority race, disability, and/or sibling group placement (Berry et al., 2007; Groze, 1996).Other risk or protective factors that showed inconsistent results across or within or studies in this review included child gender, family income, social support, and needing or accessing different types of post-permanency services. Thus, it seems possible that there are complex, interactive, and cumulative effects between many post-permanency risk or protective factors and outcomes over time (Berry et al., 2007; Goldman & Ryan, 2011; White & Wu, 2014). Contradictory results then may reflect varying population conditions across studies and design limitations, as well as different study windows, constructs, methods of measurement, and sampling particulars.

Limitations of the Selected Studies

Significant methodological limitations were noted in many of the studies selected for this review. One noteworthy concern is that the results of several studies may have been biased because small convenience samples were used, and because data were taken from surveys of parents with low to modest response rates (less than 50 %). Thus, participation bias is possible because the characteristics of families that responded to surveys may have differed from non-respondents in meaningful ways. Indeed, two studies (Smith-McKeever, 2006; Hartinger-Saunders et al., 2014) compared the characteristics of study samples to general samples of adoptive families and found significant differences between groups. In addition, because most of the studies in this review relied on parent report data, other biases are possible, such as social desirability bias (if parents were motivated to present themselves or their families in a positive manner; DeVellis, 2003), or recall bias (if survey questions required parents to report information about events that occurred prior to the time of the observation; Jonson-Reid, Kohl, & Drake, 2012). Also, for several studies in this review, surveys of adoptive parents were restricted to intact families only. This restriction potentially creates selection bias by conditioning on discontinuity, the distal outcome of interest (Elwert, 2013). Specifically, by including intact families only, data is lost for families who have already experienced discontinuity, arguably the families most at-risk for post-permanency problems.

Research designs and methods were generally weak for studies selected in this review. Of the 18 studies selected, 15 examined cross-sectional rather than longitudinal data, which is problematic because the risk or protective factors that influence discontinuity are likely different over developmental and historical time (Berry et al., 2007; White & Wu, 2014). Only one study (Koh & Testa, 2011) implemented survival analysis, the appropriate method for analyzing a time-to-event outcome such as discontinuity that may show data censoring (Guo, 2010). Although multivariable methods were used in all of the selected studies, statistical models were frequently estimated with few covariates, or without important covariates that have been found in previous research to influence both risk or protective factors and outcomes (e.g., child behavior problems). Therefore spurious relationships between risk or protective factors and post-permanency outcomes were possible if estimates from multivariable regression models did not account for potential confounding factors (Shadish et al., 2002). Future post-permanency studies should implement more rigorous designs, such as propensity score analysis, regression discontinuity, or instrumental variables; use survival analysis with time-to-event outcomes such as discontinuity; and include relevant covariates in multivariable models to better account for possible selection bias, a prevalent concern in child welfare research (Berger, Bruch, Johnson, James, & Rubin, 2009; Berzin, 2010; Koh & Testa, 2008, 2011).

A final research design limitation is that no studies were found that used random assignment of participants to experimental conditions. Although challenging, random assignment has been demonstrated to be feasible with child welfare and other vulnerable populations (Testa & White, 2014). Further, random assignment provides the best evidence of a causal relationship between risk or protective factors and outcomes with the least assumptions (Fraser, Richman, Galinsky, & Day, 2009; Shadish et al., 2002). Modifications of simple random assignment, such as waitlist or Zelen designs (Adamson, Cockayne, Puffer, & Torgerson, 2006; Shadish et al., 2002), may be particularly useful to examine the impact of services or interventions with adoptive or guardianship families.

Limitations of the Current Study

There are two notable limitations for this review. First, only one study that was selected for the sample (Koh & Testa, 2011) rigorously examined guardianship families after legal finalization. Although other informative articles that related to guardianship were identified using the search strategy (see Henry, 1999; Howard, Smith, Zosky, & Woodman, 2006; Testa, 2004), these were not included in the sample because either they did not employ multivariable analyses with observational data (i.e., analyses were descriptive or bivariate only), or they included a significant proportion of pre-finalization youth or families in the study sample. Therefore, clearly more research is needed to rigorously examine post-permanency adjustment for guardianship families, particularly because guardianship is likely to become an even more common permanency option for child welfare-involved youth in coming years (Testa, 2004, 2013).

Another limitation of this systematic review is that literature database searches were restricted to articles published in peer-reviewed journals. The grey literature, which is informally or non-commercially published materials such as government reports, dissertations, theses, and research briefs (Hopewell, McDonald, Clark, & Egger, 2007), and books were not searched for this review. Thus, the results may be affected by publication bias, which occurs because studies with significant results, or results that conform to scholars' expectations, are more likely to be submitted to journals and accepted for publication (Shadish et al., 2002). However, a cursory examination of several recent post-permanency studies in the grey literature indicated findings that were generally consistent with

the results of this review (see Barth, 2009; Biehal, Ellison, Baker, & Sinclair, 2009; Egbert, 2003; Jones & LaLiberte, 2010; Rolock, 2014; Selwyn et al., 2014; USDHHS, 2010; USDHHS, 2012b).

Conclusion

This systematic literature review located and described 18 studies published in peer-reviewed journals that evaluated risk or protective factors for post-permanency discontinuity or outcomes proximal to discontinuity for older, former foster youth. Although several child, family, and service risk or protective factors for discontinuity were suggested by consistent findings across studies, the current state of post-permanency research is generally weak because most studies have been limited by problems related to research methods or design. Identifying risk and protective factors for discontinuity remains a critical task for child welfare researchers, because children and youth continue to exit the U.S. foster care system to adoption and guardianship at increasing rates, and this trend is expected to continue into the near future.

Appendix

See Table 3.

Table 3 Summary of selected post-permanency studies

Study	Analytical approach	Sample size and characteristics	Outcome and measure	Risk/protective factors (direction of the relationship with the outcome)
Rosenthal and Groze (1990)	Stepwise multivariable regression	799 parents who had adopted children with special needs through four different agencies in three states	Positive family impact: a five-item Likert-type scale	• Child age at placement (−) • Education level of the parents (−) • Single parent at placement (+) • Externalizing behavior problems (−) • Family cohesion score (+) • Approval of parents' family (+) • Amount of background information given (+) • Child enjoyment of school (+) • Sexual abuse prior to placement (−) • Group home or psychiatric placement prior to placement (−)
McDonald et al. (2001)	Stepwise multivariable regression	159 parents who had at least one adoptive child placed in their homes by a public child welfare agency in Kansas in the 18 to 24 months prior to 1995	Positive family adjustment to adoption: a placement adjustment scale (PAS) derived from survey responses	• Number of child special needs (−) • Parent relationship to child: mother (+) • Married parent (+) • Number of adopted children in the home (+) • Number of overall children in the home (−) • Income (−)
Erich and Leung (2002)	MANOVA	52 parents of 117 adopted children, primarily from one southern state	Positive family functioning: a subscale adapted from the Family Health section of the Self-Report Family Functioning (SFI) Scale	• Physical abuse (−) • Sexual abuse (−) • Sibling group adoption (−)
			Child behavior problems: Eyberg Child Behavior Inventory (ECBI)	• Sibling group adoption (−)
Groza and Ryan (2002)	Multivariable regression	Parents of 61 youth adopted from public child welfare agencies in Iowa with an open subsidy case in 1990	Child behavior problems: Child Behavior Checklist (CBCL); total scale and subscales	• Female child (+) • Child age at placement (−) • Child age at testing (+) • Parent–child relationship dissatisfaction (+) • Child history of sexual abuse (+)
Leung and Erich (2002)	Stepwise multivariable regression	52 parents of 84 special needs children who were adopted or received services from one of four adoption programs in a large metropolitan area of a southern state	Positive family functioning: a subscale adapted from the Family Health section of the SFI	• Sibling group adoption (−) • Child behavior problems (−) • Legal contacts since adoption (−) • Spouse or partner support (+) • Relative support (−) • School support (−) • Child age at adoption (−)

Table 3 continued

Study	Analytical approach	Sample size and characteristics	Outcome and measure	Risk/protective factors (direction of the relationship with the outcome)
Reilly and Platz (2003)	Stepwise multivariable regression	249 parents of 373 adopted special needs children in Nevada with an open subsidy case in 2000	Parent satisfaction: scale adapted from a subscale of the Parent–Child Relationship Inventory	• Child behavior problems (−) • Parents' appropriate expectations about child's behavior (+)
			Parent–child relationship quality: a scale derived by summing scores on five items	• Parents' appropriate expectations about child's behavior (+)
			Overall positive family impact: a one-item rating	• Parents' appropriate expectations about child's behavior (+)
			Overall positive impact on the marriage: a one-item rating	• Parents' appropriate expectations about child's behavior (+)
Reilly and Platz (2004)	MANOVA	249 parents of 373 adopted special needs children in Nevada with an open subsidy case in 2000	Parent satisfaction: see Reilly and Platz (2003) above	• Receiving informal support services (+) • Receiving financial services (+) • Receiving other services (+)
			Parent–child relationship quality: see Reilly and Platz (2003) above	• Unmet counseling needs (−)
Leung et al. (2005)	Stepwise multivariable regression	A combined sample: 86 parents of 117 adopted special needs children; 47 gay/lesbian parents of 68 adopted children; and 25 heterosexual parents of 43 adopted childrenThe majority of families were recruited from four adoption programs in a large metropolitan area in a southern state	Poor family functioning: a scale adapted from both the Family Health section of the SFI and the Family Assessment Measure III (FAM-III)	• Child age at adoption (+) • Sibling group adoption (−) • Child disability (+) • Special needs adoption (−) • Number of previous placements (−) • Interaction between gay/lesbian adoptive parent and child age (i.e., better functioning reported in gay/lesbian families with older adopted children)
Smith-McKeever (2006)	Stepwise multivariable regression	83 African-American families who adopted children from two private agencies in California between 1990 and 1995 (the majority of adoptees had been in the public child welfare system)	Parent satisfaction with the adoption: a scale developed from five Likert-type items	• Parenting stress (−) • Child behavior problems (−) • Frequency of parents thoughts about the child when separated (−)
Berry et al. (2007)	Hierarchical multivariable regression	99 adopted children from 445 families served by Missouri Intensive In-home Services (IIS) over 10 years; most children were previously placed by child welfare services due to abuse or neglect	Family intactness at 6 months follow-up: child was still placed in the home	• Child white race (+) • Full-time employment of the primary caregiver (−) • Initial placement reason suspected abuse/neglect of the child (−)
			Family intactness at 12 months follow-up: child was still placed in the home	• Child age at acceptance into IIS (+) • Child age at follow-up (−) • Full-time employment of primary caregiver (−) • Initial placement reason suspected abuse/neglect of the child (−) • Problem addressed in IIS: child behaviors (+) • Problem addressed in IIS: parent issues (−) • Problem addressed in IIS: child abuse issues (+) • Number of days receiving IIS (+)

Table 3 continued

Study	Analytical approach	Sample size and characteristics	Outcome and measure	Risk/protective factors (direction of the relationship with the outcome)
Nalavany et al. (2008)	Multivariable regression	Adoptive parents of 117 children in families who had participated in the Illinois Adoption and Guardianship Preservation Services Program (APS) in 2002	Inconsistent parental commitment: a dichotomized measure derived from a five-point Likert scale (caseworker report)	• Child sexual abuse history (+)
Averett et al. (2009)	Multivariable regression	Adoptive parents of 1004 children ages 6–18 in Florida; the majority of youth were adopted from the public child welfare system	Child externalizing behaviors: CBCL	• Child age (+) • Adoption preparation (−) • Family functioning (−) • Family income (−) • Male child (+) • Child history of physical abuse (+) • Child history of sexual abuse (+)
			Child internalizing behaviors: CBCL	• Child age (+) • Adoption preparation (−) • Family functioning (−) • Family income (−) • Child history of sexual abuse (+)
Nalavany et al. (2009)	Generalized estimating equations	Parents of 1865 older children who had been adopted through the Florida public child welfare system and responded to a survey in 2002	Parent satisfaction with the adoption: a scale developed from four Likert-type questions	• African-American parent (−) • Married parent (−) • Adoption preparation (+) • Family functioning (+) • Child age (−) • Child internalizing behaviors (−) • Child externalizing behaviors (−)
Goldman and Ryan (2011)	Structural equation modeling	Adoptive parents of 636 children who participated in the Florida Adoptive Families Study in 2002 (wave 1) and 2003 (wave 2)	Child externalizing behavior problems: CBCL	• Child pre-adoption functioning (a latent variable based on behavioral, emotional, and educational ratings by the adoptive caregiver at the time of adoption; −)
Koh and Testa (2011)	Multivariable regression, propensity score analysis, and survival analysis	12,088 youth in either a kinship or non-kinship foster home in Illinois between March 2001 and September 2007 who exited to reunification, adoption, or guardianship	Foster care reentry	• Foster care placement with kin prior to guardianship (−; but results were mixed and thus, suggestive only)

Table 3 continued

Study	Analytical approach	Sample size and characteristics	Outcome and measure	Risk/protective factors (direction of the relationship with the outcome)
Ward (2012)	Multivariable regression	Parents of 1141 adopted children, ages 6–17, who participated in the National Survey of Adoptive Parents in 2007	Support service use: any service	• Child male (+) • Child Hispanic (+) • Child problem social behaviors (+)
			Support service use: adoption support group	• Number of siblings in the household (+)
			Support service use: mental health care or counseling	• Child male (+) • Child non-Hispanic Asian (−) • Child problem social behaviors (+) • Foster care adoption (+)
			Support service use: family counseling	• Child problem social behaviors (+)
			Support service use: mentor program	• Child problem social behaviors (+) • >100 % but ≤200 % of the federal poverty level (+)
Belanger et al. (2012)	Stepwise multivariable regression	113 adoptive families recruited from Louisiana and Texas (the children were adopted between 1990 and 2004); the majority of parents and adoptees were African-American	Overall negative impact of the adoption on the family: a Likert variable	• Difficult child (subscale of the Parenting Stress Index; +) • Caseworker support (−)
Hartinger-Saunders et al. (2014)	Stepwise multivariable regression	405 adoptive parents who had adopted at least one child from the U.S. foster care system and participated in the National Adoptive Families Study (NAFS) between January to March of 2012	Dissolution/discontinuity: parents reported whether a child who had been adopted had returned to foster care	• Substance abuse treatment needed (+) • Substance abuse treatment accessed (+) • Educational advocacy needed (+) • Educational advocacy accessed (−) • Parent support groups accessed (−)

References

18 articles selected for the review are noted with an asterisk

Abidin, R. R. (1995). *Parenting Stress Index* (3rd ed.). Odessa, FL: Psychological Assessment Resources.

Achenbach, T. M., & Ruffle, T. M. (2000). The Child Behavior Checklist and related forms for assessing behavioral/emotional problems and competencies. *Pediatrics in Review, 21*(8), 265–271. doi:10.1542/pir.21-8-265.

Adamson, J., Cockayne, S., Puffer, S., & Torgerson, D. J. (2006). Review of randomised trials using the post-randomised consent (Zelen's) design. *Contemporary Clinical Trials, 27*(4), 305–319. doi:10.1016/j.cct.2005.11.003.

Allen, M. L., & Bissell, M. (2004). Safety and stability for foster children: The policy context. *The Future of Children, 14*(1), 48–73. doi:10.2307/1602754.

Annie E. Casey Foundation, Kids Count Data Center. (2015, Feb 11). *Children exiting foster care by exit reason* [Data file]. Retrieved from http://datacenter.kidscount.org/data/tables/6277-children-exiting-foster-care-by-exit-reason?loc=1&loct=1#detailed/1/any/false/868,35,15,11/2629,2630,2631,2632,2633,2634,2635,2636/13050,13051.

*Averett, P., Nalavany, B., & Ryan, S. (2009). An evaluation of gay/lesbian and heterosexual adoption. *Adoption Quarterly, 12*(3-4), 129–151. doi:10.1080/10926750903313278.

Avery, R. J. (2010). An examination of theory and promising practice for achieving permanency for teens before they age out of foster care. *Children and Youth Services Review, 32*(3), 399–408. doi:10.1016/j.childyouth.2009.10.011.

Barth, R. P. (2009). Adoption from foster care: A chronicle of the years after ASFA. In *Intentions and results: A look back at the adoption and safe families act* (pp. 64–69). Retrieved from http://www.urban.org/UploadedPDF/1001351_safe_families_act.pdf.

Barth, R.P., Berry, M., Yoshikami, R., Goodfield, R.K., & Carson, M.L. (1988). Predicting adoption disruption. *Social Work, 33*(3), 227–233. Retrieved from https://auth.lib.unc.edu/ezproxy_auth.php?url=http://search.ebscohost.com/login.aspx?direct=true&db=swh&AN=19187&site=ehost-live&scope=site.

Barth, R. P., Lee, C. K., Wildfire, J., & Guo, S. (2006). A comparison of the governmental costs of long-term foster care and adoption. *Social Service Review, 80*(1), 127–158. doi:10.1086/499339.

Barth, R. P., & Miller, J. M. (2000). Building effective post-adoption services: What is the empirical foundation? *Family Relations, 49*, 447–455. doi:10.1111/j.1741-3729.2000.00447.x.

Beavers, W. R., Hampson, R. B., & Hulgus, Y. F. (1985). Commentary: The Beavers system approach to family assessment. *Family Process, 24*(3), 398–405. doi:10.1111/j.1545-5300.1985.00398.x.

*Belanger, K., Cheung, M., & Cordova, W. (2012). The role of worker support and religious support in African-American special needs adoption: The Bennett Chapel experience. *Adoption Quarterly, 15*(3), 185–205. doi:10.1080/10926755.2012.700299.

Berger, L. M., Bruch, S. K., Johnson, E. I., James, Sigrid, & Rubin, D. (2009). Estimating the "impact" of out-of-home placement on child well-being: Approaching the problem of selection bias. *Child Development, 80*(6), 1856–1876. doi:10.1111/j.1467-8624.2009.01372.x.

*Berry, M., Propp, J., & Martens, P. (2007). The use of family preservation services with adoptive families. *Child and Family Social Work, 12*(1), 43–53. doi:10.1111/j.1365-2206.2006.00426.x.

Berzin, S. C. (2010). Understanding foster youth outcomes: Is propensity scoring better than traditional methods? *Research on Social Work Practice, 20*(1), 100–111. doi:10.1177/1049731509331873.

Biehal, N., Ellison, S., Baker, C. & Sinclair, I. (2009). *Characteristics, outcomes and meanings of three types of permanent placement—Adoption by strangers, adoption by carers and long-term foster care (DCSF Research Brief)*. London, England: Department for Children, Schools and Families. Retrieved from http://php.york.ac.uk/inst/spru/pubs/1219/.

Bruskas, D. (2008). Children in foster care: A vulnerable population at risk. *Journal of Child and Adolescent Psychiatric Nursing, 21*(2), 70–77. doi:10.1111/j.1744-6171.2008.00134.x.

Chartier, M. J., Walker, J. R., & Naimark, B. (2010). Separate and cumulative effects of adverse childhood experiences in predicting adult health and health care utilization. *Child Abuse and Neglect, 34*(6), 454–464. doi:10.1016/j.chiabu.2009.09.020.

Children's Defense Fund. (2008). *Fostering Connections to Success and Increasing Adoptions Act of 2008 will improve outcomes for children and youth in foster care*. Washington, DC: Children's Defense Fund. Available at http://www.childrensdefense.org/child-research-data-publications/data/FCSIAA-summary.pdf.

Children's Defense Fund. (2014). *Preventing Sex Trafficking and Strengthening Families Act (H.R. 480)*. Washington, DC: Children's Defense Fund. Retrieved from http://www.childrensdefense.org/library/data/fact-sheet-on-hr-4980.pdf.

Child Welfare League of America. (2013). *Summary of the Adoption and Safe Families Act of 1997: P.L. 105-89*. Retrieved from http://www.cwla.org/advocacy/asfapl105-89summary.html.

Coakley, J. F., & Berrick, J. D. (2008). Research review: In a rush to permanency: Preventing adoption disruption. *Child and Family Social Work, 13*(1), 101–112. doi:10.1111/j.1365-2206.2006.00468.x.

Contandriopoulos, D., Lemire, M., Denis, J., & Tremblay, E. (2010). Knowledge exchange processes in organizations and policy arenas: A narrative systematic review of the literature. *The Milbank Quarterly, 88*(4), 444–483. doi:10.1111/j.1468-0009.2010.00608.x.

D'Andrade, A. C. (2005). Placement stability in foster care. In G. P. Mallon & P. Hess (Eds.), *Child welfare for the twenty first century: A handbook of practices, policies, and programs* (pp. 378–391). New York: Columbia University Press.

Danese, A., Moffitt, T. E., Harrington, H., Milne, B. J., Polanczyk, G., Pariante, C. M., … Caspi, A. (2009). Adverse childhood experiences and adult risk factors for age-related disease: Depression, inflammation, and clustering of metabolic risk markers. *The Archives of Pediatric and Adolescent Medicine, 163*(12), 1135–1143. doi:10.1001/archpediatrics.2009.214.

DeVellis, R. F. (2003). *Scale development: Theory and applications* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Dhami, M. K., Mandel, D. R., & Sothmann, K. (2007). An evaluation of post-adoption services. *Children and Youth Services Review, 29*(2), 162–179. doi:10.1016/j.childyouth.2006.06.003.

Egbert, S. C. (2003). *Utah's post adoption support three-year plan: Evaluation of year two*. Salt Lake City, UT: Social Research Institute, College of Social Work, University of Utah. Retrieved from http://www.socwk.utah.edu/pdf/postadoptionyear2.pdf.

Elwert, F. (2013). Graphical causal models. In S. L. Morgan (Ed.), *Handbook of Causal Analysis for Social Research* (pp. 245–273). New York: Springer.

*Erich, S., & Leung, P. (2002). The impact of previous type of abuse and sibling adoption upon adoptive families. *Child Abuse & Neglect, 26*(10), 1045–1058. doi:10.1016/S0145-2134(02)00374-5.

Eyberg, S., & Ross, A. (1978). Assessment of child behavior problems: The validation of a new inventory. *Journal of Clinical Child Psychology, 7*(2), 113–116. doi:10.1080/15374417809532835.

Federal Interagency Forum on Child and Family Statistics (2015, July 21). *Pop1 Child Population: Number of children (in millions) ages 0–17 in the United States by age, 1950–2014 and projected 2015–2050* [Data file]. Retrieved from http://www.childstats.gov/americaschildren/tables/pop1.asp.

Festinger, T. (2002). After adoption: Dissolution or permanence? *Child Welfare, 81*(3), 515–533. Retrieved from http://ehis.ebscohost.com/ehost/detail?vid=3&sid=e4f0639a-7b25-4d1f-a67a-64f98fbb5471%40sessionmgr13&hid=7&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=6868333.

Fraser, M. W., Richman, J. M., Galinsky, M. J., & Day, S. H. (2009). *Intervention research: Developing social programs*. New York: Oxford University Press.

*Goldman, G. D., & Ryan, S. D. (2011). Direct and modifying influences of selected risk factors on children's pre-adoption functioning and post-adoption adjustment. *Children and Youth Services Review, 33*(2), 291–300. doi:10.1016/j.childyouth.2010.09.012.

*Groza, V., & Ryan, S. D. (2002). Pre-adoption stress and its association with child behavior in domestic special needs and international adoptions. *Psychoneuroendocrinology, 27*(1–2), 181–197. doi:10.1016/S0306-4530(01)00044-0.

Groze, V. (1996). A 1 and 2 year follow-up study of adoptive families and special needs children. *Children and Youth Services Review, 18*(1–2), 57–82. doi:10.1016/0190-7409(95)00054-2.

Guo, S. (2010). *Survival analysis*. New York: Oxford University Press.

*Hartinger-Saunders, R. M., Trouteaud, A., & Matos-Johnson, J. (2014). Post adoption service need and use as predictors of adoption dissolution: Findings from the 2012 National Adoptive Families study. *Adoption Quarterly*. doi:10.1080/10926755.2014.895469.

Haugaard, J. J., Wojslawowicz, J. C., & Palmer, M. (1999). Outcomes in adolescent and older-child adoptions. *Adoption Quarterly, 3*(1), 61–69. doi:10.1300/J145v03n01_05.

Henry, J. (1999). Permanency outcomes in legal guardianships of abused/neglected children. *Families in Society, 80*(6), 561–568. doi:10.1606/1044-3894.1786.

Hesse-Biber, S. N., & Leavy, P. (2011). *The practice of qualitative research* (2nd ed.). Thousand Oaks, CA: Sage Publications.

Hidalgo, B., & Goodman, M. (2013). Multivariate or multivariable regression? *American Journal of Public Health, 103*(1), 39–40. doi:10.2105/AJPH.2012.300897.

Hopewell, S., McDonald, S., Clarke, M. J., & Egger, M. (2007). Grey literature in meta-analyses of randomized trials of medical interventions. *Cochrane Database Syst Review, 2*(2), 1–16. doi:10.1002/14651858.MR000010.pub3.

Houston, D. M., & Kramer, L. (2008). Meeting the long-term needs of families who adopt children out of foster care: A three-year follow-up study. *Child Welfare, 87*(4), 145–170.

Howard, J. A., Smith, S. L., Zosky, D. L., & Woodman, K. (2006). A comparison of subsidized guardianship and child welfare adoptive families served by the Illinois adoption and guardianship preservation program. *Journal of Social Service Research, 32*(3), 123–134. doi:10.1300/J079v32n03_07.

Jones, A. S., & LaLiberte, T. (2010, May). *Adoption disruption and dissolution report*. Saint Paul, MN: Center for Advanced Studies in Child Welfare, School of Social Work, University of Minnesota. Retrieved from http://cascw.umn.edu/wp-content/uploads/2014/04/AdoptionDissolutionReport.pdf.

Jonson-Reid, M., Kohl, P. L., & Drake, B. (2012). Child and adult outcomes of chronic child maltreatment. *Pediatrics, 129*(5), 839–845. doi:10.1542/peds.2011-2529.

Ko, S. J., Kassam-Adams, N., Wilson, C., Ford, J. D., Berkowitz, S. J., Wong, M., … Layne, C. M. (2008). Creating trauma-informed systems: Child welfare, education, first responders, health care, juvenile justice. *Professional Psychology: Research and Practice, 39*(4), 396–404. doi:10.1037/0735-7028.39.4.396.

Koh, E., & Testa, M. F. (2008). Propensity score matching of children in kinship and nonkinship foster care: Do permanency outcomes still differ? *Social Work Research, 32*(2), 105–116. doi:10.1093/swr/32.2.105.

*Koh, E., & Testa, M. F. (2011). Children discharged from kin and non-kin foster homes: Do the risks of foster care re-entry differ? *Children and Youth Services Review, 33*(9), 1497–1505. doi:10.1016/j.childyouth.2011.03.009.

*Leung, P., & Erich, S. (2002). Family functioning of adoptive children with special needs: Implications of familial supports and children characteristics. *Children and Youth Services Review, 24*(11), 799–816. doi:10.1016/S0190-7409(02)00240-2.

*Leung, P., Erich, S., & Kanenberg, H. (2005). A comparison of family functioning in gay/lesbian, heterosexual and special needs adoptions. *Children and Youth Services Review, 27*(9), 1031–1044. doi:10.1016/j.childyouth.2004.12.030.

Liu, J. (2004). Childhood externalizing behaviors: Theory and implications. *Journal of Child and Adolescent Psychiatric Nursing, 17*(3), 93–103. doi:10.1111/j.1744-6171.2004.tb00003.x.

*McDonald, T. P., Propp, J. R., & Murphy, K. C. (2001). The postadoption experience: Child, parent, and family predictors of family adjustment to adoption. *Child Welfare, 80*(1), 71–94. Retrieved from http://eds.a.ebscohost.com/ehost/detail/detail?vid=2&sid=1887d6e9-475d-4437-8969-7e9876028fa5%40sessionmgr4001&hid=4105&bdata=JnNpdGU9ZWhvc3QtbGl2ZSZzY29wZT1zaXRl#db=a9h&AN=3988123.

Moher, D., Liberati, A., Tetzlaff, J., Altman, B. A., & The PRISMA group. (2009). *P*referred *R*eporting *I*tems for *S*ystematic Reviews and *M*eta-*A*nalyses: The PRISMA Statement. *PLoS Med, 6*(7), 1–6. doi:10.1371/journal.pmed1000097.

*Nalavany, B.A., Glidden, L.M., & Ryan, S.D. (2009). Parental satisfaction in the adoption of children with learning disorders: The role of behavior problems. *Family Relations, 58*(5), 621–633. doi:10.1111/j.1741-3729.2009.00579.x.

*Nalavany, B.A., Ryan, S.D., Howard, J.A., & Smith, S.L. (2008). Pre-adoptive child sexual abuse as a predictor of moves in care, adoption disruptions, and inconsistent adoptive parent commitment. *Child Abuse & Neglect, 32*(12), 1084–1088. doi:10.1016/j.chiabu.2008.07.001.

Newton, R. R., Litrownik, A. J., & Landsverk, J. A. (2000). Children and youth in foster care: Disentangling the relationship between problem behaviors and number of placements. *Child Abuse and Neglect, 24*(10), 1363–1374. doi:10.1016/S0145-2134(00)00189-7.

*Reilly, T., & Platz, L. (2003). Characteristics and challenges of families who adopt children with special needs: An empirical study. *Children and Youth Services Review, 25*(10), 781–803. doi:10.1016/S0190-7409(03)00079-3.

*Reilly, T., & Platz, L. (2004). Post-adoption service needs of families with special needs children. *Journal of Social Service Research, 30*(4), 51–67. doi:10.1300/J079v30n04_03.

Roberson, K. C. (2006). Attachment and caregiving behavioral systems in intercountry adoption: A literature review. *Children and Youth Services Review, 28*(7), 727–740. doi:10.1016/j.childyouth.2005.07.008.

Rolock, N. (2014). *Predictors of stability for former foster children in adoptive or guardianship homes* (Doctoral dissertation). Retrieved from UIC Indigo at http://hdl.handle.net/10027/10223.

*Rosenthal, J.A., & Groze, V. (1990). Special-needs adoption: A study of intact families. *Social Service Review, 64*(3), 475–505. doi:10.1086/603782.

Rosenthal, J.A., & Groze, V. (1994). A longitudinal study of special-needs adoptive families. *Child Welfare, 73*(6), 689–706.

Retrieved from http://eds.a.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=b6fed528-8869-4741-8495-1bd56633b934%40sessionmgr4003&vid=4&hid=4105.

Rosenthal, J.A., Groze, V., & Aguilar, G.D. (1991). Adoption outcomes for children with handicaps. *Child Welfare, 70*(6), 623–636. Retrieved from http://web.b.ebscohost.com.libproxy.lib.unc.edu/ehost/pdfviewer/pdfviewer?sid=5799399e-9e44-4630-8193-c41fac1d0f3b%40sessionmgr198&vid=3&hid=106.

Rycus, J. S., Freundlich, M., Hughes, R. C., Keefer, B., & Oakes, E. J. (2006). Confronting barriers to adoption success. *Family Court Review, 44*(2), 210–230. doi:10.1111/j.1744-1617.2006.00081.x.

Selwyn, J., Wijedasa, D., & Meakings, S. (2014, April). *Beyond the adoption order: Challenges, interventions, and adoption disruption research report*. Bristol, England: University of Bristol School for Policy Studies, Hadley Centre for Adoption and Foster Care Studies. Retrieved from http://dera.ioe.ac.uk/19933/1/Final_Report_-_3rd_April_2014v2.pdf.

Shadish, W. R., Cook, T. D., & Campbell, D. T. (2002). *Experimental and quasi-experimental designs for generalized causal inference*. Belmont, CA: Wadsworth.

Smith, S. L., Howard, J. A., Garnier, P. C., & Ryan, S. D. (2006). Where are we now? A post-ASFA examination of adoption disruption. *Adoption Quarterly, 9*(4), 19–44. doi:10.1300/J145v09n04_02.

Smith, S. L., Howard, J. A., & Monroe, A. D. (1998). An analysis of child behavior problems in adoptions in difficulty. *Journal of Social Service Research, 24*(1–2), 61–84. doi:10.1300/J079v24n01_03.

*Smith-McKeever, C. (2006). Adoption satisfaction among African-American families adopting African-American children. *Children and Youth Services Review, 28*(7), 825–840. doi:10.1016/j.childyouth.2005.08.009.

Testa, M. F. (2004). When children cannot return home: Adoption and guardianship. *The Future of Children, 14*(1), 115–129. doi:10.2307/1602757.

Testa, M. F. (2013). Systems of kinship care: Enduring challenges and emerging opportunities. *Journal of Family Social Work, 16*(5), 349–363. doi:10.1080/10522158.2013.834169.

Testa, M. F., Snyder, S. M., Wu, Q., Rolock, N., & Liao, M. (2015). Adoption and guardianship: A moderated mediation analysis of predictors of post-permanency discontinuity. *American Journal of Orthopsychiatry, 85*(2), 107–118. doi:10.1037/t05908-000.

Testa, M. F., & White, K. R. (2014). Insuring the integrity and validity of social work interventions: The case of the subsidized guardianship waiver experiments. *Journal of evidence-based social work, 11*(1–2), 157–172. doi:10.1080/15433714.2013.847260.

Treseliotis, J. (2002). Long-term foster care or adoption? The evidence examined. *Child and Family Social Work, 7*(1), 23–33. doi:10.1046/j.1365-2206.2002.00224.x.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (1998). *Child welfare outcomes 1998: Annual report*. Retrieved from http://archive.acf.hhs.gov/programs/cb/pubs/cwo98/cwo98.pdf.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2005). *A report to Congress on adoption outcomes and other permanency outcomes for children in foster care: Focus on older children*. Retrieved from http://www.acf.hhs.gov/sites/default/files/cb/congress_adopt.pdf.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2010). *Summary of subsidized guardianship waiver demonstrations*. Retrieved from http://www.acf.hhs.gov/sites/default/files/cb/summary_sg2010.pdf.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2011a). *Child welfare outcomes 2008–2011: Report to Congress*. Retrieved from https://www.acf.hhs.gov/sites/default/files/cb/cwo08_11.pdf.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2011b). *Family reunification: What the evidence shows*. Retrieved from https://www.childwelfare.gov/permanency/reunification/.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2011c). *How many children were adopted in 2007 and 2008?* Retrieved from https://www.childwelfare.gov/pubs/adopted0708.pdf.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2013a). *Guardianship*. Retrieved from https://www.childwelfare.gov/permanency/guardianship.cfm.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2013b). *Introduction to adoption*. Retrieved from https://www.childwelfare.gov/adoption/intro.cfm.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2014). *Information memorandum (log no. ACYF-CB-IM-14-03)*. Retrieved from http://www.acf.hhs.gov/sites/default/files/cb/im1403.pdf.

U.S. Department of Health and Human Services, Administration on Children, Youth, and Families, Children's Bureau (2012b). *Providing postadoption services*. Retrieved from https://www.childwelfare.gov/pubs/f_postadoptbulletin/.

U.S. Department of Health & Human Services, Administration on Children, Youth, and Families, Children's Bureau. (2012a). *Child welfare outcomes 2007–2010: Report to Congress*. Retrieved from http://archive.acf.hhs.gov/programs/cb/pubs/cwo07-10/cwo07-10.pdf.

Valentine, J. (2014, Sept 9). *Problem formulation, The Campbell Collaboration*. Video retrieved from http://www.youtube.com/watch?v=scRqSyemVOA.

*Ward, B.W. (2012). Adoptive parents' suspicion of preadoption abuse of their adopted children and the use of support services. *Child: Care, Health and Development, 38*(2), 175–185. doi:10.1111/j.1365-2214.2011.01245.x.

White, K. W., & Wu, Q. (2014). Application of the life course perspective in child welfare research. *Children and Youth Services Review, 46*, 146–154. doi:10.1016/j.childyouth.2014.08.018.

Wulczyn, F. (2004). Family reunification. *The Future of Children, 14*(1), 95–113. doi:10.2307/1602756.

Zosky, D. L., Howard, J. A., Smith, S. L., Howard, A. M., & Shelvin, K. H. (2005). Investing in adoptive families. *Adoption Quarterly, 8*(3), 1–23. doi:10.1300/J145v08n03_01.