



# A systematic review of social support interventions for youth in foster care

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## ABSTRACT

**Background:** Experiencing foster care is associated with a range of negative outcomes in adulthood and identifying protective factors that can be leveraged by intervention efforts is crucial. Social support is one such factor that may have a positive benefit for this population. As such, this review aims to examine the breadth and quality of intervention studies which may be used to enhance social support for youth in foster care, as well as the types of support networks (e.g., family members) directly leveraged within interventions to promote social support.

**Methods:** A systematic literature search was conducted across five databases (PubMed, PsycINFO, Cochrane database, Scopus, and Web of Science). Included studies were written in English, present an original peer reviewed study on an intervention which may be used to enhance social support for youth in foster care, feature an experimental design, take place in the United States, include an examination of youth-specific social support, and include study participants school-aged and older. The quality of studies was assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) guidelines.

**Results:** Ten articles were included in the present review. The interventions discussed in the review included family finding and engagement efforts, skills training and mentoring programs, and a peer support group. Interventions varied in networks leveraged to promote social support; five involved family members and non-related adults, two used family members only, two included non-related adults only, and one involved peers. Studies also varied considerably in methodology used to assess social support. Six articles, representing four interventions, found evidence for interventions to positively impact youth social support.

**Conclusions:** Evidence from the present review suggest that few experimental studies have been conducted on interventions to promote social support, and the included studies indicate that interventions vary considerably in program components, networks involved, and methodology used to assess social support. Though the literature is too limited to draw overarching conclusions and suggest promising models for future interventions, the findings highlight important gaps in the existing literature and provide useful guidance for future work. Future research should give careful attention to the networks utilized and methodology used to assess social support.

## 1. Introduction

The most recent federal data from the fiscal year of 2022 indicates that there are nearly 370,000 youth in foster care in the United States, with about 186,602 youth having entered and 201,372 having exited the foster care system during the 2022 fiscal year (U.S. Department of Health and Human Services, 2024). When youth are placed into foster care, they are removed from their immediate social and familial environments which may lead to disruptions of their existing social networks and relationships. Placement into foster care, instability while in care, and transitions out of care (e.g., aging out of care) may further disrupt youth social networks and increase psychological distress (Perry, 2006). Moreover, youth in foster care demonstrate higher rates of mental health

problems as compared to their peers (e.g., Lohr & Jones, 2016), require higher levels of intervention services (Leslie et al., 2005), and experience risk for negative outcomes in adulthood such as homelessness, unemployment, chronic health conditions, criminal justice system involvement, and enduring mental health and substance use problems (Ahrens et al., 2014; Courtney & Dworsky, 2006; Lockwood et al., 2015). As such, identifying protective factors for this population is of utmost importance in prevention and intervention efforts.

A wide range of research has demonstrated that social support is often linked to a range of positive outcomes in youth (e.g., increased well-being, Chu et al., 2010; reduced likelihood of poor psychosocial outcomes, Heerde & Hemphill, 2018). Social support typically refers to the actual or perceived availability of supportive resources and

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behaviors from people in both formal and informal relationships (Gottlieb & Bergen, 2010). Furthermore, definitions typically include multiple types of support such as emotional, informational, instrumental, and appraisal support (Demaray & Malecki, 2014). The stress buffering hypothesis posits that the perceived availability of social support can decrease or eliminate the association between stressful life events and negative outcomes (Cohen & Wills, 1985). As such, social support is one such protective factor that may have a positive impact for youth in foster care (e.g., Folger & Wright, 2013; Salazar et al., 2011).

While foster care placement may be disruptive to existing social networks, social support appears to be an important protective factor against many of the negative long-term outcomes for youth in foster care. Both observational and experimental research on social support with youth in foster care has found that higher levels of perceived social support are associated with positive outcomes. For example, in an observational study, tangible social support among youth aging out of care served as a protective factor against homelessness (Dworsky & Courtney, 2009). Further, higher levels of social support were associated with fewer internalizing symptoms (Chesmore et al., 2017) and fewer disruptive behavior symptoms (Joseph et al., 2014) among youth in foster care. Mitchell and colleagues (Mitchell et al., 2010) reported qualitative findings from interviews with youth in foster care who described social support as an essential factor for minimizing stress associated with placement into foster care. That said, interventions that seek to promote social support and enhance social support networks for youth in foster care have the potential to buffer against the impact of prior adversity and reduce the likelihood of later life problems.

Previous research has identified social support interventions for specific subpopulations of foster youth (i.e., youth aging out of care). A scoping review by Økland and Oterholm (2022) identified social support interventions, programs, and methods used by child welfare services among emerging adults aging out of foster care. This review grouped interventions based on the type of approach used; they found that most studies involved some type of mentorship intervention (i.e., natural mentoring, formal mentoring, and formal mentoring plus skills training), family finding (or reconnecting) programs, or self-help groups. Study findings did not discuss the individual networks leveraged within these interventions (e.g., parents, caseworkers, peers). Yet, further examination of cited articles suggested that social support interventions for youth aging out of care tended toward utilizing adult figures (e.g., caseworkers, adult family members and relatives) for support, with few leveraging peer support networks. This may be a potential pitfall of social support interventions as peers have been identified by youth populations with physical abuse histories as a “particularly important” source of social support (e.g., Ezzell et al., 2000). Moreover, in a study on Latino youth transitioning to independence from foster care, researchers found that youth relied on peer support networks for housing and economic support in addition to emotional support to counter the psychological distress associated with experiences of foster care (Perez & Romo, 2011).

Given the impact of social support on youth outcomes, the present review aims to examine the breadth and quality of interventions that may be used to enhance social support for youth in foster care. While previous intervention studies have focused on specific developmental transition periods, such as the aging out of care period (e.g., Greeson et al., 2020; Økland & Oterholm, 2022), the present review aims to include research across youth developmental phases and across stages of involvement in foster care. Though most research on social support among youth in foster care tends to focus on older youth, research has found that higher levels of perceived support from adults is associated with greater mental well-being during middle childhood (Magee et al., 2019). Moreover, among general youth populations, studies have shown that providing social support to school aged youth is vital for promoting health and resilience (Stewart & Sun, 2004). Furthermore, this review adds to prior work by including an explicit focus on social support intervention studies that feature an experimental study design. The

proposed review also differs from prior work by including an examination of the social support networks leveraged within identified interventions to inform future research. To our knowledge, there is not yet a systematic review of experimental intervention studies that may be used to enhance social support for youth in foster care across developmental levels.

This systematic review examined experimental intervention studies aimed to enhance social support for youth in foster care. Specifically, this review asked: 1) What is the breadth and quality of the state of the science on intervention studies seeking to enhance social support for youth in foster care? and 2) What type of social support networks (e.g., parents, foster parents, case managers, peers) were directly leveraged in these intervention studies to promote social support? The quality of interventions, strengths, and weaknesses of the literature, and future research directions are discussed. Findings were also interpreted to identify areas for future research to further elucidate how social support networks can be leveraged by child welfare services in interventions that may enhance social support as a protective factor for youth in foster care.

2. Methods

The protocol for this review was developed following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines (Moher et al., 2009). The study search protocol was registered prior to running the literature searches under PROSPERO (International Prospective Register of Systematic Reviews – Registration Number CRD42023431149) in June 2023.

2.1. Search strategy

The first author searched five prominent databases – PubMed, PsycINFO, Cochrane database, Scopus, and Web of Science – to identify studies for the review. These databases were selected based on scientific prominence and content-specific relevance. Searches were conducted on June 5th, 2023. Searches were restricted to English, and there were no restrictions on publication date, geographic location, or article type. Search terms included a combination of keywords related to foster care, social support interventions, and youth (see Table 1). MeSH terms were used when applicable. Reference lists of included studies were also searched and screened following inclusion criteria to identify further relevant studies.

2.2. Study inclusion and exclusion criteria

Studies were included in the review if they met the following criteria: 1) presented an original, peer reviewed study on an intervention that was used to enhance social support for youth in foster care, 2) featured an experimental design (i.e., randomized controlled trial [RCT] or quasi-experimental design), 3) took place in a foster care setting within the U. S., 4) included an outcome measure of youth-specific social support (i.e., youth self-report of social support, examination of case records for evidence of support received by youth), 5) included school-aged and older participants (i.e., age 6 and up), and 6) were written in English. The

Table 1  
Search terms.

Variable of interest	Keywords
Foster care	Foster Home Care OR Foster Home OR Foster Care OR Child Welfare OR Out of Home Placement OR Child Protective Service* OR Foster Child* OR Foster Parent*
Social support interventions	Social Support OR Social Network* OR Psychosocial Intervention OR Social Connect* OR Family Connect* OR Family Intervention OR Emotional Support
Youth	Child* OR Youth* OR Adolescen* OR Pediatr* OR Paediatr* OR Teen*

included age range was selected to be inclusive of studies intervening upon younger youth populations, however, due to difficulties measuring youth-specific social support among preschoolers and younger children, studies with youth samples aged 5 and under were excluded. Studies were excluded if they utilized a non-experimental design, did not include a measure of youth-specific social support (e.g., only evaluated foster or biological parent received social support), did not identify social support as a target of the intervention, did not include the appropriate population (e.g., included maltreated youth not in foster care), were written in a language other than English, were not published in a peer-reviewed journal, or did not include original data.

### 2.3. Study selection process

Fig. 1 depicts the study selection process. Search records were imported by the first author into Covidence, a systematic review production tool that was used for title/abstract screening and full-text screening. After records were imported, all duplicates were removed. All titles/abstracts and full-text articles were screened by the first author, and a random 20 % of titles/abstracts and full-text articles were screened by a second independent reviewer to ensure review reliability. Both reviewers met to resolve disagreements through discussion following title/abstract screening and full-text screening. Interrater reliability was deemed to be acceptable if the agreement between both reviewers was greater than 80 %. After selecting articles for inclusion, the first author conducted forward and backward reference searches of selected articles to identify any additional eligible articles.

### 2.4. Data extraction

Both reviewers extracted data from included articles using a standardized log. Extracted data included information about the sample demographics, sample size, study design, study aims, intervention description, social support networks utilized by each intervention (e.g., parents, siblings, non-related adults), measurement methods used to evaluate social support outcomes, study findings, and limitations. The two reviewers met to consensually resolve disagreements.

### 2.5. Quality appraisal

To assess the quality and potential risk of bias of each study included in the final review, the Revised Cochrane risk-of-bias tool for randomized trials (RoB 2; Sterne et al., 2019) and the Risk of Bias In Non-randomized Studies – of Interventions (ROBINS-I; Sterne et al., 2016) assessment tools were used. The specific tool chosen for each study depended on the study design. Risk of bias judgments were made using templates for each tool which included standardized questions to guide the assessment. Judgements using the RoB 2 were assigned as low, high, or some concerns of bias, and judgements using the ROBINS-I tool were assigned as low, moderate, serious, or critical risk of bias. The overall quality of the evidence of the social support outcome was assessed using the Grading of Recommendations Assessment, Development, and Evaluation (GRADE) guidelines. The GRADE approach rates the quality of the evidence for each outcome and provides thorough criteria for downgrading and upgrading the quality of the evidence based on risk of

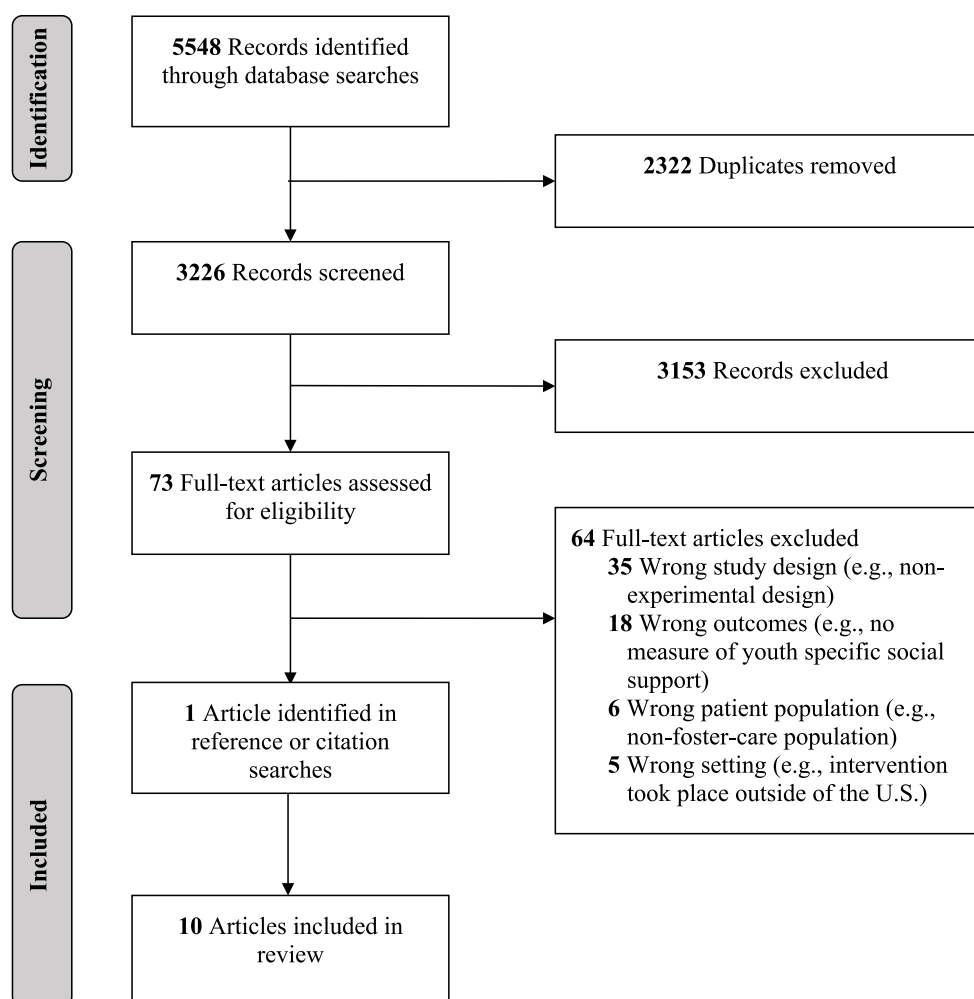


Fig. 1. PRISMA Flow Diagram.

bias, inconsistency, indirectness, imprecision, and publication bias. Both reviewers independently assessed the risk of bias in each study and the overall quality of the evidence and then met to resolve disagreements.

### 3. Results

#### 3.1. Study selection

Electronic searches of the five databases yielded 3,226 unique articles, excluding duplicates. Interrater agreement for the 20 % of abstracts screened by both raters was 98 %, and 3,152 abstracts were screened out through the abstract and title screening. 73 full-text articles were identified and reviewed for eligibility. Interrater agreement was 93 % for the 20 % of full-text articles screened by both reviewers. Nine articles met inclusion following full-text review. One additional article was identified from forward and backward references searches. Ten articles (representing 8 different interventions) met inclusion for the review (see Fig. 1).

#### 3.2. Study characteristics and participants

The majority of articles employed an RCT study design ( $n = 8$ ), and two articles used a quasi-experimental design. Within studies using an RCT design, control groups received foster care services as usual. Study publication dates ranged from 2011 to 2022. Most studies included youth in traditional foster home settings that consisted of both kinship and non-kinship care ( $n = 7$ ); one study examined youth in both traditional foster homes and residential placements (Shklarski et al., 2015), one study included youth in group home care (Mitchell et al., 2022), and one study focused on youth in intensive foster care placements (Greeson, Garcia, Kim, & Courtney, 2015). Total sample sizes ranged from 40 to 568 youth. With a total of 2,322 youth participants, the average sample size was 232. Three studies examined the same intervention within the same sample of youth; as such, there are 1,985 unique youth participants included in the present review.

Reporting of participant demographic information varied across studies. Participants in the included studies ranged in age from 0-21 years old, and available data indicated that mean ages of total samples ranged from 9.81-16.88 years old; three studies did not report data on mean participant age, and three studies reported mean participant age within treatment groups as opposed to the full sample. Though review criteria indicated that studies with samples aged 5 and younger would be excluded, three studies of the same intervention with a sample aged 0-17 were included to preserve data from the relevant older youth in the sample. Additionally, the mean sample ages of these three studies were above the age cut-off. See Table 2 for additional study characteristics and participant demographics, including breakdown of youth gender and race/ethnicity among study samples.

#### 3.3. Intervention characteristics

To promote youth social support, five studies described interventions focused on family finding and engagement (representing 3 different interventions), four studies described interventions focused on mentoring and/or skills training, and one study described an intervention focused on a peer support group.

##### 3.3.1. Family finding and engagement

Three of the included articles (Boel-Studt & Landsman, 2017; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014), discussed three studies conducted within the same randomized intervention, Families for Iowa's Children (FIC), which is an intensive family finding intervention that provided search and engagement efforts to youth in foster care. FIC's aim was to connect youth with family members, relatives, and informal supports (e.g., family friend, fictive kin) to enhance support networks and provide support in the permanency

process. Youth assigned to the intervention group were assigned a search and engagement specialist who provided family finding services and facilitated family team meetings. FIC's intervention model was based on the family search and engagement model described by Catholic Community Services of Western Washington and EMQ Children and Family Services (2008). This model involves referral; information gathering and identification of potential family and kin; contact, assessment, and engagement of family and supports; transition of decision-making to family, strengthening and maintenance of relationships; and documentation to provide ongoing feedback of outcomes.

The family finding and engagement project described in Shklarski et al. (2015) aimed to reconnect youth with their families and re-establish supportive relationships. A family finding caseworker assisted youth in identifying connections and engaging family members and other supportive adults in service planning. Vandivere and colleagues (Vandivere et al., 2017) described a third family finding intervention focused on finding and engaging family members and relatives to provide youth with options for legal and emotional permanency. The family finding interventions described by Shklarski et al. (2015) and Vandivere et al. (2017) follow the family finding model described by Campbell (2005 & 2010), which consists of discovery of available family members and other supportive adults, engagement of as many family members and supportive adults as possible, planning for youth futures, decision-making to support permanency outcomes, evaluation of plans for permanency, and continued follow-up and support to the youth and their family.

##### 3.3.2. Skills training and mentoring

Four studies described interventions with an emphasis on skills training and/or mentoring. The Outreach program described by Greeson and colleagues (Greeson, Garcia, Kim, & Courtney, 2015) aimed to prepare older foster youth for independent living by teaching necessary skills, helping achieve permanency through a connection with a supportive adult, and identifying a social support network. Youth receiving the intervention met regularly with their assigned Outreach worker who served in a formal mentorship role and assisted in a variety of tasks.

The Life Skills Training (LST) program described by Greeson, Garcia, Kim, Thompson, et al. (2015) utilized a traditional classroom approach to teach youth life and social skills and provide formal mentoring. Youth attended twice weekly classes taught by workshop trainers that focused on education, employment, daily living skills, survival skills, choices and consequences, interpersonal/social skills, and computer/internet skills.

The skills training intervention described by Kothari and colleagues (Kothari et al., 2017), Supporting Siblings in Foster Care (SIBS-FC), was designed to promote cooperation, problem solving skills, management of feelings, and other social and self-regulatory skills to improve quality of relationships among siblings in foster care. The intervention was delivered by coaches over 12 sessions, with eight focused on skill building and four focused on community-based activities.

The Creating Ongoing Relationships Effectively (CORE) program described by Nesmith and Christophersen (2014) was designed to ensure youth had supportive relationships to help in their transition to adulthood and focused on building supportive relationships, youth empowerment, and trauma-informed practice. CORE was delivered by social workers and psychologists who had weekly sessions with youth and their foster parents focused on discussing relationships skills. Youth also participated in ongoing "connections" groups that focused on evaluating the quality of their current relationships, identifying new potential supports, and learning how to reach out to potential supports.

##### 3.3.3. Peer support group

One article detailed an intervention focused on peer support groups. The L.Y.G.H.T program, discussed in Mitchell et al. (2022), was adapted to provide peer support to youth in foster care experiencing grief and bereavement. Youth attended six weekly peer support groups which were facilitated by trained adults and community members; groups were

**Table 2**  
Study and participant characteristics.

Article	Study design	Intervention	Population	Sample size	Youth age Mean (Range)	Youth gender (% female)	Youth race/ethnicity
1. Boel-Studt & Landsman, 2017	RCT	Families for Iowa's Children (FIC)	Traditional foster home (including youth with and without history of congregate care placement)	243	Intervention only (No CC): 5.61 (0–17) Intervention + CC: 13.79 (0–17) Control only (No CC): 5.53 (0–17) Control + CC: 13.82 (0–17)	Intervention only (No CC): 53.7 % Intervention + CC: 53.4 % Control only (No CC): 39.2 % Control + CC: 40.3 %	Intervention only (No CC): White (61.2 %), Black (11.9 %), American Indian (0 %), Multiracial (14.9 %), Hispanic (11.9 %) Intervention + CC: White (79.3 %), Black (6.9 %), American Indian (–%), Multiracial (5.2 %), Hispanic (5.2 %) Control only (No CC): White (58 %), Black (10 %), American Indian (0 %), Multiracial (26 %), Hispanic (6 %) control + CC: White (75 %), Black (6.3 %), American Indian (1.6 %), Multiracial (6.3 %), Hispanic (6.3 %)
2. Greeson, Garcia, Kim, & Courtney, 2015	RCT	Outreach Program	Intensive foster care	194	16.88 (15–20)	Intervention: 49.2 % Control: 50.8 %	Intervention: Non-White (27.8 %), Hispanic (21.6 %) Control: Non-White (39.2 %), Hispanic (32 %)
3. Greeson, Garcia, Kim, Thompson, et al., 2015	RCT	Life Skills Training (LST) Program	Traditional foster home	482	Not Reported	58.90 %	White (8.97 %), Black (40.17 %), Hispanic (43.38 %), Other (7.48 %)
4. Kothari et al., 2017	RCT	Supporting Siblings in Foster Care (SIBS-FC)	Traditional foster home	328	(7–15)	Approximately 50 %	Non-White (60 %)
5. Landsman & Boel-Studt, 2011	RCT	Families for Iowa's Children (FIC)	Traditional foster home	94	Intervention: 8.69 (0–17) Control: 10.15 (0–17)	Intervention: 58.2 % Control: 63 %	Intervention: White (58.2 %), Black (10.4 %), Hispanic (13.6 %), Multiethnic (16.4 %), Declined/Unknown (1.5 %) Control: White (63 %), Black (7.4 %), Hispanic (7.4 %), Multiethnic (18.5 %), Declined/Unknown (3.7 %)
6. Landsman, Boel-Studt, & Malone, 2014	RCT	Families for Iowa's Children (FIC)	Traditional foster home	243	9.81 (0–17)	Intervention: 53.6 % Control: 39.8 %	Intervention: Black (9.6 %), White (69.6 %), Hispanic (8.8 %), Native American (0 %), Multiracial (10.4 %), Other (1.6 %) Control: Black (7.9 %), White (67.5 %), Hispanic (6.1 %), Native American (.09 %), Multiracial (14.9 %), Other (0.3 %)
7. Mitchell et al., 2022	RCT	The L.Y.G.H.T Program	Group home care	42	14.52 (12–16)	64.30 %	Not Reported
8. Nesmith & Christophersen, 2014	Quasi-experimental	Creating Ongoing Relationships Effectively (CORE)	Traditional foster home	88	Intervention: 16.4 (14–19) Comparison: 16.9 (14–19)	Intervention: 36 % Comparison: 40 %	Intervention: Black (43 %), Asian (10 %), White (20 %), Other/Biracial (27 %) Comparison: Black (40 %), Asian (7 %), White (30 %), Other/Biracial (24 %)
9. Shklarski et al., 2015	Quasi-experimental	Family Finding and Engagement Project	Traditional foster home and residential facility placement	40	16.5 (10–21)	15.80 %	Black (50 %), White (2.6 %), Hispanic (42.1 %), Multiracial (5 %)
10. Vandivere et al., 2017	RCT	Family Finding	Traditional foster home	568	(10–17)	Intervention: 42 % Control: 43 %	Intervention: Non-Hispanic White (38 %), Non-Hispanic Black (53 %), Hispanic (5 %), Non-Hispanic Other (4 %) Control: Non-Hispanic White (43 %), Non-Hispanic Black (47 %), Hispanic (7 %), Non-Hispanic Other (3 %)

Note. CC – Youth with congregate care histories.



youth-led, and conversations were youth-generated.

### 3.4. Networks utilized to promote social support

Just under half of the intervention studies ( $n = 4$ ) directly involved both family members (e.g., biological parents, grandparents) and non-related adults to promote youth social support (Boel-Studt & Landsman, 2017; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014; Shklarski et al., 2015). Three studies directly involved family members only (Kothari et al., 2017; Nesmith & Christophersen, 2014; Vandivere et al., 2017), and two other studies involved non-related adults only (Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson, et al., 2015). Only one study utilized peer networks to promote youth social support (Mitchell et al., 2022). See Table 3 for a breakdown of support networks involved in each study.

Based on available data, among the seven studies involving family members, four directly involved biological, adoptive, and stepparents if available to the youth, and five involved foster parents. The study by Nesmith and Christophersen (2014) involved foster parents only within intervention activities; yet youth were encouraged to identify additional relatives and non-related adults to be *indirectly* involved for support throughout the intervention, though these relationships were not explicitly leveraged through intervention efforts. Of other family members reported across included studies, three involved grandparents, aunts, and uncles, while only two involved siblings. Kothari and colleagues (2014) solely included pairs of older and younger sibling dyads in their intervention to promote support and improve sibling relationship quality. Five studies directly involved other types of relatives and kin not further specified. The study by Vandivere and colleagues (Vandivere et al., 2017) reported involvement of family and kin, though specific relationships of those involved were not detailed.

Six studies involved non-related adults to promote youth social support. Specific relationships of non-related adults were not often described, though some included social workers ( $n = 1$ ), spiritual advisors ( $n = 3$ ), and formal mentors ( $n = 2$ ), among other types of non-related adults and informal supports. The two studies that solely involved non-related adults within the intervention directly leveraged program workers and instructors as formal mentors. Both of these also taught skills to help youth identify additional supportive adults to expand their support networks beyond the program, though those networks were not directly involved in intervention activities and relationship types were not reported.

Finally, only one intervention leveraged peer support networks to promote social support. Within the L.Y.G.H.T intervention, youth

attended peer support groups that consisted of two to ten youth and were able to engage in conversations meant to promote social support in the context of grief and bereavement. All peers included in support groups were in similar foster care group home placements.

### 3.5. Methodology used to assess social support

Measurement of the social support outcome varied across studies. Five of the articles described outcomes of “social support,” four described their social support outcome as “relational permanency” or “family engagement,” and one described it as “relationship quality.” Social support was defined across studies as having people in the child’s life who could provide them with support and on whom they could rely for care (Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson, et al., 2015; Mitchell et al., 2022; Nesmith & Christophersen, 2014; Vandivere et al., 2017). Relational permanency was defined across studies as having a lifelong connection to a caring adult (Boel-Studt & Landsman, 2017; Landsman, Boel-Studt, & Malone, 2014; Shklarski et al., 2015), and family engagement was defined as having supportive family and other adults involved in case planning (Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014). Relationship quality was defined as the strength and closeness of youth relationships with their siblings as well as perceived attitudes towards their relationships (Kothari et al., 2017). Given the similarities in how studies defined their outcome measures of support, all outcomes were combined under the umbrella term of “social support” for the purposes of this review.

The majority of articles ( $n = 6$ ) assessed social support outcomes utilizing youth self-report measures. Three studies (Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson, et al., 2015; Vandivere et al., 2017) used seven social support variables to create a count outcome variable in which youth reported how many people they could rely on for material and emotional support across situations. Items were not mutually exclusive, and youth were allowed to count the same person across all items. Kothari et al. (2017) used two separate self-report measures to assess sibling support, including the Sibling Relationship Questionnaire (SRQ), a 72-item measure of affection, inclusion, and control between siblings, and the Sibling Interaction Quality (SIQ), a 13-item measure of how easy or difficult it is for siblings to do activities together. They also used a 7-item multi-agent construct of sibling relationship quality (MAC-SRQ) which gathered data from four different respondents, including the youth, foster parent, assessor, and video coder, on overall relationship quality. Mitchell et al. (2022) used the Inventory of Social Support, a 5-item self-report measure developed to assess support among bereaved adolescents. Nesmith and Christophersen (2014) used the Relationship Competency Assessment and the Quality Youth Relationship Assessment. The 23-item Relationship Competency Assessment measured three subscales including motivation, relationship skills, and current support; the current support subscale assessed the degree to which youth felt they were getting the support they needed at the time. The Quality Youth Relationship Assessment, a 21-item measure, asked youth to identify the most supportive adult in their lives and assess the quality of that relationship in areas such as trust, encouragement, and willingness to give time to the youth.

Three articles, all representing the same intervention (Boel-Studt & Landsman, 2017; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014), utilized data captured via case files and family team meeting notes to assess social support. Both sources were used to determine the number of family members and informal supports that were involved in the youth’s case. Case records also provided information on whether there was evidence for a child’s continued contact with at least one supportive adult.

Shklarski et al. (2015) assessed social support through both self-report measures and case file data. Case records provided data on whether there was evidence of continued contact from at least one

**Table 3**  
Social support networks leveraged within each study.

Network	Article									
	1	2	3	4	5	6	7	8	9	10
<b>Family Member</b>	x			x	x	x		x	x	x
Biological Parent	x				x	x		o	x	
Foster Parent	x				x	x		x	x	
Adoptive Parent	x				x	x		o	x	
Stepparent	x				x	x			x	
Grandparent	x				x	x				
Sibling				x					x	
Aunts/Uncles	x				x	x				
Other/Unspecified	x				x	x		o	x	x
<b>Non-Related Adult</b>	x	x	x		x	x		o	x	
Mentor		x	x							
Social Worker								o	x	
Spiritual Advisor	x				x	x				
Other/Unspecified	x				x	x		o		
<b>Peers</b>							x			

Note. o signifies networks were *indirectly* involved (i.e., they were not involved in intervention activities, rather the youth indirectly involved these networks outside of the intervention to strengthen their support network).

supportive adult. The Youth Connections Scale was completed by youth and their caseworkers to assess the number of meaningful relationships youth had with supportive adults and to evaluate the strength of their relationships from very weak to very strong.

As noted above, conceptualization of social support varied across studies. Studies either captured numeric values of supporters in the youth's life, the quality or strength of the support relationships, the level or degree to which youth felt they had people to provide social support in their lives, or a mix of domains. Within seven studies, data on social support was captured as a count of the total number of people the youth have for providing social support in their lives (Boel-Studt & Landsman, 2017; Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson, et al., 2015; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014; Shklarski et al., 2015; Vandivere et al., 2017). Of those studies, two articles (Boel-Studt & Landsman, 2017; Landsman, Boel-Studt, & Malone, 2014) summarized this information using a binary variable to indicate whether there was evidence of continued contact with and support from at least one adult in the child's life. Two articles examined the level or degree to which youth felt they had someone in their lives to provide them with the support they needed (Mitchell et al., 2022; Nesmith & Christophersen, 2014). Three studies examined the strength or quality of the support relationships youth reported on (Kothari et al., 2017; Nesmith & Christophersen, 2014; Shklarski et al., 2015).

Studies varied considerably in length of follow-up, with follow-up periods ranging from six weeks to two years post-intervention. Three studies, representing one intervention, did not specify exact time points at which data on social support outcomes were collected. Based on available data, one of those studies (Landsman & Boel-Studt, 2011) collected social support data during the first year of the intervention, while the other two studies (Boel-Studt & Landsman, 2017; Landsman, Boel-Studt, & Malone, 2014) collected data at two unspecified time points throughout the three-year study period. Three studies (Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson, et al., 2015; Vandivere et al., 2017) assessed support outcomes at one- and two-years post-intervention. Two studies assessed outcomes approximately one-year post-intervention (9–11 months, Nesmith & Christophersen, 2014; one year, Shklarski et al., 2015). Kothari et al. (2017) collected data at 6, 12, and 18-months post-intervention, while Mitchell et al. (2022) assessed social support outcomes at 6-weeks post-intervention.

### 3.6. Evidence of interventions to promote social support among youth in foster care

Overall, six studies, representing four different interventions, found evidence of increased social support following intervention (Boel-Studt & Landsman, 2017; Kothari et al., 2017; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014; Mitchell et al., 2022; Shklarski et al., 2015) and four found no significant effect on social support (Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson, et al., 2015; Nesmith & Christophersen, 2014; Vandivere et al., 2017). See Table 4 for a summary of the main findings across each study. Of the six studies that found evidence for interventions to promote social support, two were evaluated to have some concerns for risk of bias, one a moderate risk of bias, and three a high risk of bias.

In the first year of the Families for Iowa's Children intervention, Landsman and Boel-Studt (2011) found a significantly higher number of actively involved supportive adults in the cases of youth in the intervention group, as compared to the control group. A medium to large effect size ( $d = 0.64$ ) was found for family finding on engagement of supportive family/kin and a large effect size ( $d = 1.06$ ) was found for family finding on engagement of professionals in supporting youth in care. In a subsequent study, Landsman and colleagues (2014) found that youth receiving the intervention had more than twice as many family members and/or informal supports involved in their service planning,

had over 3 times as many family team meetings, and were over twice as likely to have continued contact with and emotional support from at least one adult than youth receiving services as usual. Authors reported a medium effect size for family finding on relational permanency with an adjusted odds ratio of 2.39 ( $p = 0.004$ ). An unadjusted odds ratio was calculated and found to also indicate a medium effect size ( $OR = 2.47$ , 95 % CI [1.39, 4.38]). Boel-Studt and Landsman (2017) extended these findings and found that the family finding intervention increased the odds of having continued contact with and emotional support from at least one adult, thereby boosting social support among the same sample of youth with histories of congregated care placement.

Kothari and colleagues (Kothari et al., 2017), who examined a sibling support intervention, found that siblings exposed to the intervention reported higher relationship quality and higher sibling interaction quality over time, as compared to youth in the control group. A medium to large effect size ( $d = 0.71$ ) was found for the effect of treatment on the Multi-Agent Construct of Sibling Relationship Quality, and a medium effect size ( $d = 0.45$ ) was found for the effect of treatment on Sibling Interaction Quality.

Mitchell et al. (2022) found a positive medium effect ( $\eta^2 = 0.09$ ) for social support as measured by the Inventory of Social Support. Furthermore, researchers collected qualitative data from youth to provide feedback on the program, which indicated that one of the perceived benefits of the peer grief support program described in the study was the experience of increased relational connection and perceived support.

Shklarski and colleagues (Shklarski et al., 2015) found that, following the family finding intervention, youth had made more than 6 times as many connections with supportive adults than they had at the start of the intervention, indicating a large effect size ( $d = 1.41$ ) for the effect of family finding on number of supportive youth connections. Moreover, results indicated that the intervention resulted in a significant growth in the perceived strength of youth connections.

In addition to the perceived benefit of intervention on social support, multiple studies also found evidence for other outcomes. Families for Iowa's Children found that involvement in the intervention had a positive impact on physical permanency outcomes. Landsman and Boel-Studt (2011) found a significantly higher percentage of youth receiving the intervention were reunified with their parents or lived with a relative compared to youth in the control group. Moreover, Landsman and colleagues (Landsman et al., 2014) found that children in the intervention had 8 times greater odds of being adopted by a relative, and the probability of aging out of care without achieving permanency was significantly decreased by 65.2 % among these youth. The family finding program described by Shklarski and colleagues was also successful in facilitating permanent family placements and reducing the likelihood that youth would age out of care without a permanent connection. Moreover, findings from the L.Y.G.H.T program indicated that intervention involvement had a perceived benefit on well-being. Positive medium effects were found for increasing youth hopefulness and self-worth and a large effect was found for reduction in perceived problems (i.e., youth in the program perceived that their problems became better to a stronger degree than youth in the control group).

Of the studies that found no difference in youth social support between groups following intervention, two studies (Greeson, Garcia, Kim, & Courtney, 2015; Greeson, Garcia, Kim, Thompson, et al., 2015) found that youth in the intervention and control groups experienced a reduction in social support from baseline to follow up. One study (Nesmith & Christophersen, 2014) found no significant impact on social support, yet youth exposed to the CORE model indicated that they felt they had more supportive adults in their lives following intervention. The study by Vandivere and colleagues (2017) failed to find evidence that the family finding intervention improved social support.

### 3.7. Risk of bias and quality assessment

For RCT studies assessed using the ROB 2, five were assessed as

**Table 4**  
Summary of main findings.

Article	Intervention type	Measurement of outcome	Length of follow-up	Networks utilized in intervention	Key findings	Risk of bias
1. Boel-Studt & Landsman, 2017	Family Finding	Relational permanence captured via youth case file records and family team meeting notes. Coded as a binary variable indicating if evidence of continued contact and emotional support from at least one adult was present.	Unspecified	Family members, relatives, and natural supports	Youth receiving intensive family finding, with a history of congregate care placement, had increased odds of having continued contact with and support from at least one adult. A medium to large effect size was found for family finding on relational permanency.	High
2. Greeson, Garcia, Kim, & Courtney, 2015	Skill Training/Mentoring	Social support captured via youth self-report. Coded as a count variable for the number of people providing support.	1- and 2-years post-intervention	Formal mentors (i.e., outreach worker)	The Outreach program did not significantly impact youth social support compared to services as usual. Across time points, both groups experienced a decrease in the level of social support received.	Some Concerns
3. Greeson, Garcia, Kim, Thompson, et al., 2015	Skill Training/Mentoring	Social support captured via youth self-report. Coded as a count variable for the number of people providing support.	1- and 2-years post-intervention	Formal mentors (i.e., advisors and instructors)	The Life Skills Training program did not significantly impact youth social support. Across time points, both groups experienced a reduction in the level of social support received.	Some Concerns
4. Kothari et al., 2017	Skill Training	Support captured via self-report on measures of relationship quality. Examined the quality of relationships.	6-, 12-, and 18-months post-intervention	Siblings	A medium to large effect size was found for the effect of treatment on sibling relationship quality, and a medium effect size was found on sibling interaction quality.	Some Concerns
5. Landsman & Boel-Studt, 2011	Family Finding	Family engagement captured via youth case file record and family team meeting notes. Reported as a count variable representing the number of involved family/kin.	Unspecified	Family members, relatives, and informal supports	Youth receiving family finding experienced increased meaningful family engagement and connection with family, relatives, and informal supports. Medium to large effect sizes were found for family finding on engagement of supportive adults.	High
6. Landsman, Boel-Studt, & Malone, 2014	Family Finding	Relational permanence and family engagement captured via youth case file records and family team meeting notes. Engagement was reported as a count variable, relational permanence was coded as a binary variable indicating if evidence of continued contact and emotional support from at least one adult was present.	Unspecified	Family members, relatives, and informal supports	Youth receiving intensive family finding experienced an increase in family, relative, and informal supports engaged in service planning and strengthening support networks.	High
7. Mitchell et al., 2022	Peer Support Group	Social support captured via youth self-report. Items measured the degree to which one perceives there is at least one person they can speak with non-judgmentally about their grief.	6-weeks post-intervention	Peers	A positive medium effect was found for social support. Youth in the L.Y.G.H.T program experienced increased social support in the context of grief and bereavement.	Some Concerns
8. Nesmith & Christophersen, 2014	Skill Training/Mentoring	Social support captured via self-report. Measures assessed the degree to which youth felt they were receiving support, as well as the quality of their most supportive relationship.	Between 9–11 months post-intervention	Foster parents (throughout intervention, youth may have sought additional adults for support, including relatives and other non-relatives)	No significant differences were found between youth in the CORE group and comparison group. However, youth exposed to CORE felt they had a greater variety of supportive adults in their lives than youth in the comparison group.	Moderate
9. Shklarski et al., 2015	Family Finding	Relational permanence was captured via youth self-report and case file records. Measures included a count variable of the number of supportive relationships, as well as the strength of their relationships (ranging from very weak to very strong).	1-year post-intervention	Family members, relatives, and non-related adults	A large effect size was found for the effect of family finding on number of supportive youth connections. Youth receiving the intervention had more than 6 times as many connections following intervention.	Moderate
10. Vandivere et al., 2017	Family Finding	Social support captured via youth self-report. Measures captured the number of different people the youth could rely on for support in different domains.	12- and 24-months post-enrollment	Family members and relatives	Results indicated no significant effect on the family finding intervention on youth social support.	Some Concerns



having some concerns for risk of bias, and three were rated as having a high risk of bias. The two quasi-experimental studies assessed using the ROBINS-I were classified as having a moderate risk of bias. One limitation that increased the risk of bias across studies included bias in the measurement of the outcome including unvalidated measures of social support, inconsistent measurement of outcome between groups, and/or awareness of intervention assignment status by outcome assessors. Another limitation across studies was bias in selective reporting of results due to limited information on pre-registration of trials and pre-specification of data analyses.

The quality of the evidence was rated individually for each outcome examined within the review using the GRADE framework (Guyatt et al., 2008). Evidence from RCTs began with a baseline rating of “High Quality,” whereas evidence from observational studies began at a baseline rating of “Low Quality.” The quality was then downgraded based on risk of bias, inconsistency of results, indirectness of the evidence, imprecision of results, and publication bias (Guyatt et al., 2008; Ryan & Hill, 2016). For the present study, given that the evidence for the social support outcome primarily came from RCTs and studies using an experimental design, the quality began at a high rating. Evidence for the social support outcome was downgraded by one level due to serious concerns for risk of bias because different measures were used to assess outcomes, many of which were unvalidated, and because all included studies were rated as having some concerns for risk of bias or higher. Given that just over half of studies found a positive impact on youth social support and the rest found no impact or a decline in social support, the quality was downgraded one level due to serious concerns of inconsistency of the results. Overall quality of the social support outcome was rated as Low (see Table 5 for a summary of the GRADE criteria assessment).

3.8. Synthesis of findings

Six studies, examining four different interventions, were found to have a significant, positive impact on youth social support with medium to large effect sizes. Overall, interventions found to promote youth social support varied in the type of intervention provided, the networks utilized to promote support, and how social support was measured.

The interventions found to be effective included a range of different types of intervention goals and characteristics. Four articles, discussing two different interventions, focused on family finding and engagement efforts (Boel-Studt & Landsman, 2017; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014; Shklarski et al., 2015), one study described an intervention focused on skills training among siblings in foster care (Kothari et al., 2017), and one described an intervention that utilized a peer support group to enhance social support (Mitchell et al., 2022).

Effective interventions also varied in the networks directly leveraged to promote youth social support. Five articles directly involved family members, specifically parents (including biological, foster, adoptive, and stepparents), grandparents, siblings, aunts and uncles, and other unspecified family members. Four of those articles also involved non-related adults, including social workers, spiritual advisors, and other non-related supportive adults. One study involved peer networks only.

Table 5  
GRADE: Social support.

GRADE criteria	Rating	Quality of the evidence
Outcome: Social Support		
Study Design	RCT	⊕⊕OO
Risk of Bias	Serious Limitations	
Inconsistency	Serious Limitations	Low
Indirectness	No Serious Limitations	
Imprecision	No Serious Limitations	
Publication Bias	Undetected	

Note. Tables based on Ryan and Hill (2016).

Lastly, studies found to be effective for promoting social support also varied in their outcome measurement. Follow-up lengths ranged from 6-weeks to 18-months post-intervention; three articles did not specify follow-up lengths. Three articles used case file data to assess social support (Boel-Studt & Landsman, 2017; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014), two articles used self-report measures (Kothari et al., 2017; Mitchell et al., 2022), and one study used both self-report measures and case file data (Shklarski et al., 2015). Finally, studies conceptualized social support in a variety of ways. Four articles examined support as a count variable (Boel-Studt & Landsman, 2017; Landsman & Boel-Studt, 2011; Landsman, Boel-Studt, & Malone, 2014; Shklarski et al., 2015), one examined the degree to which youth felt supported (Mitchell et al., 2022), and two examined the strength or quality of the supportive relationships (Kothari et al., 2017; Shklarski et al., 2015).

4. Discussion

This study provides a systematic review of the literature on interventions that can be used to promote social support among youth in foster care. Specifically, this review examined the breadth and quality of the state of the science on this topic as well as the type of networks directly leveraged within intervention studies to promote social support. The present review extended findings from prior studies by focusing on studies featuring an experimental design, examining intervention studies across youth developmental phases, and describing the individual networks involved within each intervention to promote social support.

Ten articles were identified as having met inclusion criteria and provided information on eight different interventions that have been used to enhance social support among youth in foster care. The overall quality of the evidence on interventions was rated as low due to limitations in study design and inconsistency of results. Included studies most commonly identified adult family members and non-related adults as networks involved in interventions. Studies also varied considerably in intervention characteristics, networks utilized to promote social support, and methodology used to assess social support. Given the study inconsistencies identified across methods and results, it is difficult to make comprehensive conclusions about the state of the science. Thus, the literature is too limited to recommend a confident standard for intervention models. Yet, the included articles provide beneficial insight into the existing strengths and weaknesses of the literature and provide imperative guidance for future research.

Prior research has generally agreed that interventions promoting social support are important for youth in foster care by positively impacting youth and helping buffer adverse outcomes associated with experiencing foster care (e.g., Ahrens et al., 2011; Curry & Abrams, 2015; Dworsky & Courtney, 2009). While the individual program components across studies varied, themes emerged related to intervention approaches. Similar to findings from a scoping review on social support interventions for child welfare involved youth (Økland & Oterholm, 2022), interventions included in the present review were divided into different categories based on intervention goals and characteristics. Five included studies examined family finding and engagement interventions, four described skills training and/or mentoring programs, and one assessed a peer support group.

Six of the included studies, representing four distinct interventions (two family finding, one skills training, and one peer support group), showed benefit for promoting youth social support compared to foster care services as usual. Notably, the effect of intervention services on social support outcomes across studies demonstrated medium to large effect sizes, indicating that these interventions have practical implications for promoting social support outcomes. The results of the present review suggest that family finding and engagement interventions may be beneficial for expanding and strengthening youth social support networks, which is congruent with prior research on family finding

services for youth in or at-risk of placement into foster care. Across family connection grant-funded projects, researchers found that these programs were largely effective for increasing youth connections with family members and providing additional supports (Dewey et al., 2013). Moreover, in a series of meta-analyses on family-focused interventions to promote parent engagement with youth in care, results indicated that such interventions were promising for increasing parental support and engagement in youth case services (Maltais et al., 2019). In the present review, five articles, examining three different interventions, focused on family finding and engagement services. All but one found evidence for increased social support following intervention. It is possible that the study that failed to find evidence for the family finding intervention occurred due to limitations within the results (i.e., analyses tested 71 exploratory outcomes, and authors cautioned that significant results could have been due to chance alone) or limitations in the measurement of social support, to be discussed further below (Vandivere et al., 2017).

One study included in the present review found that skills training among siblings in care positively impacted the quality of supportive relationships between siblings, and another article described how a peer support group was effective for increasing social support among group members. Prior research on skills training programs and peer support services for youth in foster care has demonstrated a range of positive impacts associated with such efforts. For example, supporting youth in foster care through skills training and mentoring may reduce the likelihood of negative outcomes in adulthood (Williams, 2011) and may result in improved mental health outcomes (Taussig & Culhane, 2010). A study on social support interventions extending beyond foster care populations demonstrated that a focus on social skills training is especially useful for successful social support interventions (Hogan et al., 2002). Moreover, peer support can increase youth's sense of support and belonging (Rogers, 2017) and may help youth better navigate challenges associated with foster care (e.g., housing stability, Perez & Romo, 2011). As such, the results of this review tentatively indicate that skills training and peer support groups may be useful intervention approaches for increasing youth social support. Yet, more research is needed in these areas before generalizable conclusions can be made.

The three studies included in the review that focused on mentoring in addition to skills training did not find evidence for promoting youth social support. Yet, prior research has indicated that mentoring youth in foster care can have positive impacts on youth health, well-being, relationships, education, housing and placement outcomes, and life satisfaction (Taussig & Weiler, 2019). As such, researchers have identified mentoring programs for youth in foster care as one potential strategy for preventing adverse outcomes in adulthood. It may be that the interventions focused on mentoring programs in the present review did not find significant benefits due to limitations in how support was measured (i.e., as a count variable in Greeson, Garcia, Kim, & Courtney, 2015 & Greeson, Garcia, Kim, Thompson, et al., 2015) or limitations in the variety of individual networks directly leveraged through intervention activities (i.e., formal mentors, Greeson, Garcia, Kim, & Courtney, 2015 & Greeson, Garcia, Kim, Thompson, et al., 2015; foster parents, Nesmith & Christophersen, 2014). Taken altogether, more replicable experimental research is needed to examine the impacts and benefits of these different approaches to intervention more thoroughly.

In regard to the present findings on support networks leveraged within interventions, a pattern of incorporating family members and non-related adults was prevalent across included articles. Four of the six interventions found to increase youth social support included a wide variety of networks consisting of both family members and non-related adult networks. While prior research on family-focused interventions for youth in foster care point to the importance of involving family and kin, other studies have alluded to the merit of utilizing non-related adult networks to promote support and positive relationships. A qualitative study on relationships between youth in foster care and non-parental adults found that youth reported receipt of multiple types of support and overall positive impacts from such relationships (Ahrens et al.,

2011). The authors further suggest that intervention strategies should include incorporation of non-parental adults in youth case planning and through formal mentoring to link youth to adult support.

The other two articles found to increase social support focused on single types of support networks (i.e., siblings and peers) rather than a variety of networks. Notably, these networks were not commonly leveraged by other included studies. Only one additional study (Shklarski et al., 2015) stated sibling involvement, while no other studies included peer networks. While these variations make it difficult to draw definitive conclusions on which support networks are most important for youth, it may be that peer and sibling networks, which have been largely excluded from existing social support interventions, are equally important for impacting youth social support. A prior review on social support interventions for a wide range of patient populations found that support from friends, family members, and peers were most beneficial for increasing social support (Hogan et al., 2002). As such, these findings may point to a need for future research to carefully consider what networks are leveraged by interventions, with special attention given to peers and siblings. Given the findings by Mitchell and colleagues (Mitchell et al., 2022) on the impact that peer support groups had on increasing youth social support, and the findings by Kothari and colleagues (Kothari et al., 2017) on the impact of sibling support, it would be worthwhile for future research to further study the impact and benefit of interventions leveraging peer and sibling support networks, in addition to related and non-related adult networks.

Regarding methodology used to assess social support across studies, findings indicate that significant discrepancies exist within how social support has been operationalized (i.e., as a count of supportive persons, as the strength or quality of relationships, or the degree to which youth feel supported), the types of measures used to assess social support (i.e., self-report vs case file data), and the lengths of follow-up periods. Of the seven studies that utilized a count variable to assess social support, three did not find evidence for social support. Of the four studies that found evidence for social support, two assessed whether youth data indicated if there was evidence of continued emotional support and contact from at least one adult, and one study also examined the quality of support relationships. Moreover, studies found to have a significant impact on youth social support also assessed social support in regard to the strength and quality of their relationships (Kothari et al., 2017; Shklarski et al., 2015) and the degree to which youth perceived that they had support (Mitchell et al., 2022). While contradictions in findings across studies make it difficult to draw overarching conclusions on what measures are best, it is likely that a simple count variable for the number of people youth rely on for support is insufficient for comprehensively measuring social support. Moreover, prior research has indicated that youth in foster care may report on experiences of social support differently than youth not in foster care (Gabrielli et al., 2023). As such, more research is needed to establish how social support would be best operationalized within foster care populations.

It is notable that studies varied in terms of how data was collected, with six studies utilizing self-report data, three using case record data, and one capturing both types. Interestingly, studies found to significantly impact youth social support were split in terms of case record data and self-report data. However, it is worth noting that limitations reported in studies using case files included the potential for incomplete data due to data on family engagement and support connections not being well documented within records. That said, findings from studies using case file data should be carefully interpreted.

Findings from the present review demonstrated how studies varied in follow-up lengths (6-weeks post intervention to 2-years post intervention), with three articles not specifying exact follow-up lengths. Additionally, limitations reported in half of the included studies noted that their windows for follow-up were too short to accurately assess outcomes. While existing research on intervention follow-up tends to vary considerably, future research may seek to incorporate longer follow-up periods when assessing outcomes in intervention trials.

Similar to the present findings, in a review of social support interventions across populations, researchers identified considerable methodological flaws across studies with many using unvalidated measures of social support as well as apparent inconsistencies across studies in terms of what aspects of social support were measured and how support was defined (Hogan et al., 2002). Furthermore, prior findings on family connection programs for youth in the child welfare system have also described key issues in the level of individuality across programs in how data on support and other outcomes was collected (Dewey et al., 2013). These findings point to a larger limitation within the literature on social support assessment.

While the literature on social support methodology within intervention research is limited, the research on best practices in assessing social support as described within the field of school psychology may provide useful guidance. Demaray and Malecki (2014) described different approaches to social support assessment including measurement of support network size and social integration, rating scales, and interviews. They identified six self-report rating scales that provide in-depth information of support across various networks, types of support, and the frequency of support. The rating scales identified include the Child and Adolescent Social Support Scale, Network of Relationships Inventory, Multidimensional Scale of Perceived Social Support, Social Support Questionnaire, Perceived Social Support Scale, and Social Support Scale for Children. They reported that these rating scales are particularly useful at the individual level for assessment and can be modified to monitor progress in intervention efforts. Moreover, some of these measures have been psychometrically evaluated within foster care populations, such as the Social Support Scale for Children (Gabielli et al., 2023). Future research may benefit from further examination of the acceptability of these measures within foster care populations to inform best practices for assessment of social support in future intervention studies.

Taken altogether, the included articles demonstrate that existing interventions have done well in targeting a range of various types of intervention characteristics and program components, including family finding and engagement interventions, skills training and/or formal mentoring programs, and peer support approaches to intervention. As such, there appears to be a good variety in the literature on the types of interventions that may be useful for enhancing social support for youth in foster care. Moreover, the findings highlight patterns of family and kin network involvement that incorporated a wide range of familial relationships, as opposed to single types of relationships (e.g., parents). However, certain support networks such as peers and siblings appear to be largely excluded. Further, included articles highlight inconsistencies across the literature in how social support was assessed. These findings aid in pinpointing some of the gaps in the existing literature on interventions to promote youth social support, help identify areas for future research, and provide suggestions and direction for future intervention models. Overall, future research may seek to incorporate intervention models that leverage multiple types of support networks (family members and extended relatives including siblings, non-related adults, and peers) and use comprehensive measures of social support.

#### 4.1. Limitations, strengths, and future directions

Results of the present review should be interpreted within the context of several limitations. First, the evidence on interventions to promote social support for youth in foster care is limited by the small number of studies included in the review. As such, definitive conclusions of ideal intervention models to enhance youth social support cannot be drawn from the existing literature. Next, all studies in the present review took place within specific geographic locations in the U.S., which limits generalizability of findings. Future work on intervention studies should aim to replicate intervention findings across geographic locations. Third, three articles (Greeson, Garcia, Kim, Thompson, et al., 2015; Kothari et al., 2017; Nesmith & Christophersen, 2014) reported that

there may have been additional unmeasured factors that could have influenced the results and may affect interpretation. For example, differences in cultural beliefs and values (e.g., collectivism versus individualism) or personality differences (e.g., extraversion, neuroticism) may impact how social support is perceived. As such, future research should be careful to measure any potential confounding factors that may impact assessment of social support outcomes. Lastly, as previously described, methodological weaknesses were prevalent in individual articles including the use of unvalidated measures as well as differences in how social support was operationalized and lengths of follow-up. Three studies noted limitations in data collection due to use of non-identical data sources for youth in control and intervention groups. Similarly, four studies utilized case files as data sources for social support; given that there is often significant variation in the documentation within case records, data on support may be limited in these studies. Thus, future research should include the use of validated, self-report measures that clearly define and comprehensively capture social support.

It is important for future research to address the notable challenge in conceptualizing and assessing social support for this population. Clarifying what aspects of social support (e.g., number of support persons, quality of relationships) are most meaningful for youth in foster care will increase interpretability of findings and communicate effectiveness of intervention services provided to youth in foster care for increasing social support.

Overall quality of the evidence was low for interventions to promote social support for youth in foster care, suggesting that there is uncertainty as to which types of interventions are most effective for enhancing youth social support. Thus, more experimental research is warranted, particularly those that may be replicated across geographic locations. Studies should seek to involve multiple networks (peers, siblings, adult family members, and non-related adults) within interventions, use validated and comprehensive measures of social support, and include longer follow-up periods.

It is necessary that future research carefully consider systematic barriers that are relevant to this intervention work, such as insufficient financial resources, access to specific youth populations (e.g., rural youth), and placement instability. Financial constraints and limited funding towards intervention services can restrict implementing intervention services. It is estimated that only about 11 % of federal child welfare program funds offered through Title IV-E funds are allocated for reunification and preventative intervention services (O'Grady & Broman, 2005). As such, more flexible funding is needed to support intervention services for this population. Moreover, certain youth populations, such as rural youth in foster care, may be difficult to access. To improve generalizability of findings, researchers may consider how to better access understudied foster youth populations. Youth in foster care tend to experience changes in placement which may make it difficult for future longitudinal research to track participants. Future work should carefully consider best practices for data follow-up given the likelihood that youth will not remain in their original placement across waves of data collection.

The many competing demands that child welfare workers face make it difficult to implement intervention services, such as family search and engagement efforts, which consist of multiple labor-intensive steps (i.e., identifying, locating, contacting, and supporting children and families). As such, future work should utilize an implementation science approach to carefully evaluate the demands placed on agency workers through intervention and consider including various stakeholders in the design of interventions to address potential barriers. Practitioners may offer valuable insight into the design of effective intervention services and program components for improving youth social support, among other outcomes. Policymakers have the opportunity to create reform in how funding is allocated to intervention services and can advocate for increased financial resources to support services which promote positive youth outcomes. Moreover, partnerships between public and private child welfare agencies may be promising for managing the time and



effort needed to effectively implement intervention services.

The current review has multiple strengths, and these findings highlight the importance of researchers continuing to examine promising intervention models that may be used to enhance youth social support. Notable strengths of the review process include following of PRISMA guidelines for all stages of the review, as well as using two independent reviewers during title/abstract screening, full text screening, data extraction, risk of bias assessment, and quality assessment. The search strategy was comprehensive and captured interventions for a wide range of youth developmental phases and stages of involvement with the child welfare system. Further, this review was unique compared to prior work in that it provided a deeper examination of the individual networks included in intervention studies that have been leveraged to promote youth social support. A prominent strength of the existing literature may also be seen in how a wide range of intervention types and program components have already been developed and studied in the field, thus creating a firm base for future intervention research to work from.

## 5. Conclusions

Findings from this systematic review suggest that the breadth and quality of the state of the science on interventions to promote social support among youth in foster care is low and still in its infancy. Though the literature is too limited to draw overarching conclusions and suggest promising models for future interventions, the results pinpoint important gaps in the existing literature and provide useful guidance for future work. Across studies, interventions varied widely in program components, networks involved, and methodology used to assess social support. Findings indicate that interventions that utilize family members and kin, non-related adults, and peers may be most beneficial for impacting youth social support. Yet, peer and sibling networks have been largely left out from social support interventions for youth in foster care. Findings identify considerable inconsistency in how social support has been measured across studies and more work is needed to identify best practices for methods used to assess social support. More research on interventions to promote social support among youth in foster care is thus warranted. Future work should give careful attention to the networks utilized and methodology used to assess social support. In order to advance the field, research must occur through a more coordinated effort which allows intervention studies to build off one another and replicate findings. Researchers and policymakers must work together in such efforts to continue improving intervention services which may promote social support for youth in foster care.

## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

Data will be made available on request.

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