Enhancing Initial Parental Engagement in Interventions for Parents of Young Children: A Systematic Review of Experimental Studies

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Conflict of Interest Disclosure Statement

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Contribution of Authors

CG, AM, and DH contributed to the drafting of the protocol. CG ran the searches and retrieved potentially relevant studies. CG was one of the two reviewers for selection by full-text. AM was the third reviewer to deal with discrepancies. CG conducted data extraction for selected studies. CG, AM, and DH wrote the review.

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Abstract

Low rates of participation in parenting interventions may undermine their effectiveness. Although a wide range of strategies to engage parents in interventions are described in the literature, little is known about which engagement strategies are most effective in enhancing parental engagement. This systematic review explores effective engagement strategies to encourage initial parental engagement (recruitment, enrolment, and first attendance) in parenting interventions for parents of children aged 2 to 8 years old. The review was conducted based on the guidelines of the Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Green, 2011) and the Preferred Reporting Items for Systematic Review and Meta-Analysis (Moher et al., 2009). Electronic systematic searches from January 1996 to August 2017 were conducted in PsycINFO, Scopus, ProQuest Social Sciences Journals, CINAHL, and PubMed databases. Eight studies met the inclusion criteria representing 1,952 parents from four different countries. Of the engagement strategies tested in included studies, three strategies showed a significant effect on a stage of engagement, but none across stages. Existing evidence is not sufficient to inform researchers and practitioners regarding effective engagement strategies to increase recruitment, enrolment, and first attendance rates in parenting interventions. There is a need for further, more methodologically rigorous research evidence regarding how to engage parents more effectively in the early stages of parenting interventions.

Keywords: parental engagement, parenting intervention, engagement strategies, young children, systematic review

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Parenting interventions are effective in promoting positive parenting practices, nurturing parent-child relationships, and reducing coercive parenting and child behaviour problems (Sanders, Kirby, Tellegen, & Day, 2014; World Health Organization, 2009). However, most parents do not participate in any parenting intervention, and even fewer take part in evidence-based interventions. In targeted interventions calls, fewer than 30% of the initially targeted parents attend a given parenting intervention (Girvin, DePanfilis, & Daining, 2007; Miller & Prinz, 2003). Furthermore, a survey study reported that of those parents who perceived emotional and behavioural problems in their children, only half had actually sought help and only one-third had participated in a parent education program (Sanders et al., 1999). Therefore, there is a gap between those parents who are in need of support and those who actually seek help and access that support.

Although many parenting interventions are targeted to parents in need of support, there are increasing calls for preventive approaches. Some parenting interventions provide support from low to high intensity, and this diverse offer makes them suitable to be disseminated as a public health approach (Sanders, 2012). This approach aims to target parents at a population level, and offer different intervention doses, ranging from very brief to intensive to benefit the population of children and families as a whole (Calam, Miller, Sadhnani, Sanders, & Carmont, 2008; Chu, Farruggia, Sanders, & Ralph, 2014; Prinz, Sanders, Shapiro, Whitaker, & Lutzker, 2009). Studies focused on these preventive interventions have reported that up to 30% of the parents who were invited to participate then attended the first session (Garvey, Julion, Fogg, Kratovil, & Gross, 2006; Heinrichs, Bertram, Kuschel, & Hahlweg, 2005); but if parents do not engage in these offered parenting interventions, these interventions are potentially inefficient and less cost effective.

In the last 20 years, research has aimed to identify factors influencing how parents engage in parenting interventions (Shaffer, Kotchick, Dorsey, & Forehand, 2001). Parental engagement refers to the active involvement (attitudinal component) of a parent throughout the process of a parenting intervention to learn and develop parenting skills (behaviour component). This engagement occurs in a multistage process involving recruitment, enrolment, participation (including session attendance, quality of participation, and completion), and technique utilisation (Eisner & Meidert, 2011; McCurdy & Daro, 2001; Morawska & Sanders, 2006).

Previous studies have varied in defining parental engagement, but the majority have recognised that it is a process involving several stages (Dumas, Moreland, French, & Pearl, 2010; McCurdy & Daro, 2001; Morawska & Sanders, 2006; Piotrowska et al., 2016). These stages include: intervention reach (Morawska & Sanders, 2006), recruitment (Piotrowska et al., 2016), intent to enrol (Dumas et al., 2010; McCurdy & Daro, 2001), enrolment (Gross et al., 2011; McCurdy & Daro, 2001), attendance (Dumas et al., 2010; Gross et al., 2011), retention (McCurdy & Daro, 2001; Piotrowska et al., 2016), quality of participation (Lefever, Bigelow, Carta, & Borkowski, 2013; Piotrowska et al., 2016), homework completion (Chacko et al., 2016), attrition (Chacko et al., 2016), intervention completion (Eisner & Meidert, 2011; Morawska & Sanders, 2006), and technique utilization (Eisner & Meidert, 2011; Piotrowska et al., 2016). Thus, whereas some definitions have focused only on stages during the intervention (Gross et al., 2011; Lefever et al., 2013), other definitions have included pre-intervention phases (Chacko et al., 2016; Dumas, Nissley-Tsiopinis, & Moreland, 2007; McCurdy & Daro, 2001) and also post-intervention stages (Eisner & Meidert, 2011; Piotrowska et al., 2016). Some of these stages (i.e. recruitment and enrolment) may overlap or be defined differently across studies, which may lead to misunderstanding of

those stages and reported outcomes. However, the majority of studies have operationally defined their conceptualisation of each stage, which facilitates comparison across studies.

The measurement of parental engagement has also varied across studies, which usually focuses on parent's behaviour. Thus, indicators such as number or percentage of parents signing up, completing consent forms, and attending sessions have been used as measures of parental engagement (Dumas et al., 2010; Garvey et al., 2006; Heinrichs, 2006; Miller & Prinz, 2003). Still, there are some discrepancies in how these measures have been reported. For instance, Dumas et al. (2010) measured enrolment based on those parents who returned registration forms, while Garvey et al. (2006) and Gross et al. (2011) included those who both consented to participate and completed baseline assessments. Few studies have included some measures focusing on parents' attitudes and intentions about participation in a parenting intervention (Dumas et al., 2010; Eisner & Meidert, 2011).

Research has largely focused on engagement during the intervention, while the initial stages of parental engagement have received less attention (Chacko et al., 2016; Lefever et al., 2013). Initial parental engagement is the process in which parents intend and commit (attitudinal component) to participate in a parenting intervention in order to learn and develop parenting skills (behaviour component). It includes the stages of recruitment, enrolment, and first attendance at a parenting intervention. Recruitment is the process of attracting parents to engage in a parenting intervention, enrolment is the parent's decision to engage in a parenting intervention, and first attendance is their actual behaviour involving completion of the first action required for a parenting intervention, such as attending the first face-to-face session. It has been reported that of those parents who met the inclusion criteria, an attrition rate of 25% has been reported before enrolment (Chacko et al., 2016). Similarly, attrition rates over 20% have been reported from enrolment to first attendance (Heinrichs, 2006). Therefore, it is

critical to consider strategies to engage parents earlier and to capitalise on positive attitudes and intentions.

Low levels of initial engagement in parenting interventions are problematic for a number of reasons. The results of intervention research may be brought into question undermining their generalisation (Bruzzese, Gallagher, McCann-Doyle, Reiss, & Wijetunga, 2009; Heinrichs et al., 2005; Morawska & Sanders, 2006) and weaken the economic efficiency of such intervention as consequence of those resources unused (Dumas et al., 2007; Gross et al., 2011; Morawska & Sanders, 2006). When outcomes are based on parents who are engaged with a parenting intervention, it may lead to a positive bias in results that are not representative of all parents from a given population. Contrarily, when fewer parents participate than planned, outcome validity can be affected due to small samples reducing power to detect effects (Garvey et al., 2006).

Research on parental engagement has commonly addressed barriers to engagement. One primary reason parents fail to attend parenting programs reported in the literature is stigma, but other reported factors include gender issues, perceived lack of resources, accessibility, confidentiality, and time constraints (Mytton, Ingram, Manns, & Thomas, 2014; Ohan, Seward, Stallman, Bayliss, & Sanders, 2015). Given that parenting interventions are also conceived as a preventive intervention suitable for any parent to enhance his/her parenting skills (Sanders & Kirby, 2012), it is relevant to reinforce parents' participation beyond tackling barriers towards those factors facilitating parents' involvement in parenting interventions. For example, some evidence suggests that parents are more likely to participate in further parenting interventions when they have participated in an earlier intervention (Bérubé et al., 2014; Chislett & Kennett, 2007). Others have found that when parents attend the first session, they show more positive attitudes towards the intervention and continued attendance (Garvey et al., 2006).

Engagement Strategies

A wide range of strategies have been used to engage parents in parenting interventions (Morawska & Sanders, 2006; Shaffer et al., 2001), but they have been more commonly described, rather than empirically tested to report the extent to which they are effective in engaging those parents who participate. To address this gap, we operationally defined an engagement strategy as any action implemented to introduce a parenting intervention to parents in order to encourage their engagement. Some of the strategies described in previous studies include displaying poster advertisements, sending registration forms (Dumas et al., 2010; Heinrichs, 2006; Heinrichs et al., 2005), and presentations to relevant stakeholders, i.e. school teachers and community liaisons (Heinrichs, 2006; Heinrichs et al., 2005; Reidy, Orpinas, & Davis, 2012). To translate this initial recruitment into actual enrolment, strategies have included sending letters (Griffin, Samuolis, & Williams, 2011; Guyll, Spoth, & Redmond, 2003) and information packages (Eisner & Meidert, 2011), completion of surveys (Cullen, Cullen, & Lindsay, 2016; Dumas et al., 2010), and orientation sessions (Nock & Kazdin, 2005). The setting of these strategies has varied from face-to-face interaction (Reidy et al., 2012) to remote communication (Guyll et al., 2003).

Strategies to secure attendance at the first session typically include some contact with parents prior to the intervention, including text messages or phone call reminders (Carta, Lefever, Bigelow, Borkowski, & Warren, 2013; Guyll et al., 2003; Morawska & Sanders, 2006). More intensive efforts have focused on addressing parents' concerns and motivations regarding their involvement in a parenting intervention (McKay, McCadam, & Gonzales, 1996; Miller & Prinz, 2003; Prinz & Miller, 1994). Additionally, strategies to address logistic barriers, i.e. childcare, transportation, and meals; have been offered to participants (Dumas et

al., 2010; Eisner & Meidert, 2011; Nock & Kazdin, 2005; Reidy et al., 2012; Shaffer et al., 2001).

One of the better-studied approaches is the use of monetary incentives (Cullen et al., 2016; Dumas et al., 2010; Guyll et al., 2003; Heinrichs, 2006). Some studies have reported that payment for participation has increased enrolment and first attendance rates (Guyll et al., 2003; Heinrichs, 2006; Heinrichs & Jensen-Doss, 2010). On the other hand, other researchers have found incentives to have limited effects (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006) and have sometimes received criticism for introducing a market perspective into the provision of parenting interventions (Cullen et al., 2016). As a consequence, this kind of incentive has been questioned and discouraged (Dumas et al., 2010), which can be also difficult to implement given the limited resources that are typically available to implement parenting interventions.

Although engagement strategies have been used and examined in many studies, their impact on parental engagement remains unclear due to the diversity of definitions of parental engagement and how it has been measured (Chacko et al., 2016; Haine-Schlagel & Walsh, 2015; Ingoldsby, 2010). Consequently, the analysis of these individual studies can lead to misleading results when studies are examined in isolation, and comparison across studies can be difficult to achieve. Given that studies have usually implemented engagement strategies as a package (Dumas et al., 2010), how each strategy influences engagement remains unknown. There are some narrative and systematic reviews addressing parental engagement in the context of interventions for parents (Chacko et al., 2016; Haine-Schlagel & Walsh, 2015; Ingoldsby, 2010; Lindsey et al., 2014; Morawska & Sanders, 2006). However, these reviews have focused on reporting engagement data (Chacko et al., 2016), describing engagement strategies used (Lindsey et al., 2014; Morawska & Sanders, 2006), and presenting engagement outcomes for stages during the intervention (Haine-Schlagel & Walsh, 2015;

Ingoldsby, 2010). Although these reviews have contributed to expanding the existing knowledge regarding parental engagement, we still do not know which engagement strategies are the most effective in initially engaging parents to parenting interventions.

This review aims to fill this gap by identifying the effectiveness of engagement strategies tested in experimental studies on initial parental engagement. It focuses on the question: What engagement strategies have been tested, and to what extent have they been effective in promoting parental engagement in the initial stages of parenting interventions? Given that several reviews of parental engagement have been inconclusive, this review was restricted to experimental studies to ensure that we only include studies that rigorously tested the effectiveness of engagement strategies during recruitment, enrolment, and first attendance to a parenting intervention. The aim of this study was to explore effective engagement strategies to encourage initial parental engagement (recruitment, enrolment, and first attendance) in parenting interventions for parents of children aged 2 to 8 years old. We have focused on this age group because there is a high prevalence of emotional and behavioural difficulties at this age when they are still in early onset (Dittman et al., 2011) and thus early interventions may be more effective and represent greater benefits for children and their parents if this support is provided from early childhood. The contribution of this review is to systematically summarise the strategies tested and their outcomes, and provide evidence of effective strategies to enhance initial parental engagement in parenting interventions.

Method

This systematic review was conducted based on the Cochrane Handbook for Systematic Reviews of Interventions (Higgins & Green, 2008, 2011) and the Preferred Reporting Items for Systematic Review and Meta-Analysis, PRISMA (Moher et al., 2009).

Protocol and Registration

The protocol for this review was registered on PROSPERO (CRD42016039826) before completion of searching and data entry.

Search Methods for Identification of Studies

Electronic searches. Searches were limited to journal articles published in English or Spanish in the last 20 years (January 1996-August 2017) in peer reviewed journals in the following databases: PsycINFO, Scopus, ProQuest Social Science Journals, CINAHL, and PubMed. The search date was 25 August 2017 for all five databases. The search strategy used a combination of search terms, 'parental engagement/participation/involvement' and 'parental training/intervention/program'. These search terms were adapted following requirements of search strategies for each database according to De Brún and Pearce-Smith (2014) as presented in Table 1. These terms were searched using all possible combinations across databases.

Criteria for Selecting Studies for this Review

Type of studies. To be included in this review studies needed to be: (a) experimental studies with randomised allocation to at least two different conditions, and; (b) written in English or Spanish.

Type of participants. The inclusion criteria for participants were: (a) parents of children aged 2 to 8 years old at the beginning of the intervention. For studies with a different age range of children, studies were included when the average age of the participants was between 2 and 8 years; (b) birth and step-parent or parents living with the child in the same house or assuming parental responsibilities over the child; (c) participants are mothers only or samples with both mothers and fathers. Thus, studies focused only on father engagement were excluded as they represent an emerging research area with particular challenges in regards to fathers' engagement in parenting interventions (Cowan et al., 2009; Frank, Keown,

Dittman, & Sanders, 2015; Frank, Keown, & Sanders, 2015); and (d) parents of typically developing children.

The exclusion criteria for participants were: (a) parents of children less than two or more than 8 years old; (b) parents of children with developmental disabilities or life-threatening illnesses; and (c) parents with severe mental illness, teen parents, and those experiencing significant psychosocial stressors that can significantly impact their role as parents, such as homelessness and imprisonment. Thus, parents facing special conditions were excluded given that their needs may not be representative of a general community sample, which this review aimed to provide evidence for. Additionally, parents' special conditions may undermine the impact of a parental intervention (Shaffer et al., 2001), which may need specialised treatment or engagement strategies prior to intervention.

Type of intervention. The interventions were: (a) any engagement strategy designed to enhance parental engagement at the initial stages of an intervention for parents, regardless of intervention characteristics (e.g., delivery format, intervention length or number of sessions, practitioner involvement, target population or delivery setting). Parenting interventions were defined as ones, which provided both information and skills training for parents in terms of child development, child behaviour or parenting. Interventions providing information only were not included; (b) the engagement strategy consisted of any action implemented by practitioners or researchers to introduce the intervention to parents and encouraged their involvement in it; and (c) initial stages of parenting interventions were understood as recruitment, enrolment and first attendance. Recruitment was considered as the timeframe where direct and indirect actions are oriented to introduce a parenting intervention to parents (targeted or at a population level). During this stage, parents may be invited to participate in interventions through strategies such as posters, letters, and informative sessions. Enrolment implied the following stage between the introduction of an intervention

to parents and their actual enrolment. This stage may involve, for instance, parents completing registration forms and consent forms. Given that these two stages can overlap in studies, the study definitions were fit to the definitions operationalised in this review. First attendance referred to parent's completion of the first action required by the parenting intervention (e.g., attending a face-to-face session, completing an online intervention module).

Type of outcome measures. Any outcome presented as an indicator of parental engagement during recruitment, enrolment and initial attendance was included. We expected these to include information such as percentage of attendance at a first session or percentage of parents enrolling.

Data Collection and Analysis

Selection of studies. Search results from all five databases were merged, and duplicate records were removed. Titles and abstracts of the remaining articles were examined to remove irrelevant reports according to inclusion and exclusion criteria. Two reviewers independently conducted the selection of articles by full-text of potentially relevant papers. This process involved a pilot test on a sample of the first ten articles in order to clarify eligibility criteria and train reviewers. The level of agreement for the whole list of full-text revision was also established. Disagreements between reviewers were recorded and resolved with the second author as the third reviewer. Detailed information about the selection process is presented in Figure 1 (Moher et al., 2009).

Data extraction and management. The following information from each study was extracted: study design and methods, sample characteristics, intervention characteristics, comparisons, and primary outcomes.

Assessment of risk of bias in included studies. Selected studies were evaluated using the Cochrane Collaboration's tool for assessing risk of bias (Higgins et al., 2011;

Higgins & Green, 2008, 2011). The dimensions assessed are selection bias (random sequence generation and allocation concealment), performance bias (blinding of participants and personnel), detection bias (blinding of outcome assessment), attrition bias (incomplete outcome data), reporting bias (selective reporting), and other bias.

Dealing with missing data. Corresponding authors were contacted when relevant information regarding inclusion and exclusion criteria were missing in the study, i.e. mean age of children. If the author did not answer the email after three attempts (emails sent), the article was excluded.

Results

This systematic review identified eight studies for inclusion in the analysis. Figure 1 illustrates the study selection process in detail using an adapted PRISMA flow diagram. To summarise, initially 2,244 articles were located, and 1,220 remained after duplicate records were removed. Irrelevant articles were eliminated by title and abstract, resulting in 32 articles for full-text review. Of these 32 articles, 26 were excluded as the study design was not experimental (n = 5), the experimental design did not test engagement strategies (n = 13), the study did not test engagement strategies in recruitment, enrolment, or first attendance to intervention (n = 6), the study was published in another language (n = 1), and the study was a study protocol (n =1). Two articles reported two studies with different samples within the same article (Morawska, Nitschke, & Burrows, 2011; Salari & Backman, 2016), which were separated to be analysed independently. Therefore, this review reports on six articles, corresponding to eight independent studies, which were the studies included for analysis in this review. The level of agreement of both reviewers for the full-text revision of the 32 articles was excellent ($\kappa = .80$, $p < .001$).

Due to the diversity of engagement strategies tested and outcomes reported, this review presents a description of the selected studies and their results using a qualitative

synthesis, which includes the outcomes of the assessment of risk of bias and the description of included studies.

Assessment of Risk of Bias

Random sequence generation. All eight studies reported that participants were randomised to experimental conditions. However, only two studies described the random sequence generation process used; a computer-generated list of random numbers (Morawska et al., 2011; Study 1) and assignment by lottery (Winslow et al., 2016), which resulted in a low risk of bias. One study specified that the sequence was generated following odd days to alternate conditions (Salari & Backman, 2016; Study 2), this type of sequence was categorised as high risk of bias. Five studies did not describe randomisation procedures (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; Study 2; Salari & Backman, 2016; Study 2), representing an unclear risk of bias.

Allocation concealment. Regarding concealment of allocation to participants, two studies reported that allocation was concealed (Morawska et al., 2011; S1&S2). Given that three studies used randomisation by institution (i.e. childcare centre, school), participants were informed of their particular allocation at enrolment (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006). One study reported that participants were informed of allocation to one of two conditions, but these conditions were not detailed to participants (Winslow et al., 2016). Two studies did not report on concealment of allocation to participants (Salari & Backman, 2016; S1&S2). In terms of concealment of allocation to investigators, five studies did not conceal this information (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Salari & Backman, 2016; S2; Winslow et al., 2016), and three studies did not provide enough information (Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1). Therefore, five studies were at high risk of bias (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006;

Salari & Backman, 2016; S2; Winslow et al., 2016), whereas three studies were considered as unclear risk of bias (Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1).

Blinding of participants and personnel. This criterion is likely to be compromised in most studies involving psychosocial interventions, but other measures can reduce the risk of bias (Higgins & Green, 2008, 2011). Four studies showed a high risk of bias due to participants and investigators knowing assigned condition (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Winslow et al., 2016). Two studies were implemented online facilitating the blinding of participants and personnel (Morawska et al., 2011; S2; Salari & Backman, 2016; S1), resulting in a low risk of bias. One study reported that participants were blind to condition; however, blinding of investigators is not reported resulting in unclear risk of bias (Morawska et al., 2011; S1). One study did not indicate if participants were blind to condition, but investigators allocated the participants (Salari & Backman, 2016; S2) resulting in a high risk of bias.

Blinding of outcome assessment. This criterion is commonly compromised in psychosocial intervention studies (Higgins & Green, 2008, 2011) as assessments are usually completed by participants and investigators. However, all eight studies included objective measures or specific questions used across all the experimental conditions to gather initial parental engagement outcomes (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2), reducing this risk of bias to low.

Incomplete outcome data. Regarding attrition, seven studies did not report missing outcome data (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2). One study reported missing data for one secondary measure, which was addressed using full information maximum likelihood (Winslow et al., 2016). In terms of exclusion of outcome data, six studies reported outcomes

from all measures presented in the method sections in their articles (Dumas et al., 2010; Gross et al., 2011; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2). One study stated that participants completed several self-report measures of which only one instrument was reported in the study (Heinrichs, 2006). Similarly, one study excluded data regarding a secondary outcome from the report (Winslow et al., 2016). Thus, six studies were categorised as low risk (Dumas et al., 2010; Gross et al., 2011; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2) and two studies were high risk for this criterion (Heinrichs, 2006; Winslow et al., 2016).

Selective reporting. None of the eight studies reported protocol registration prior to data collection. Based on the report of primary and secondary outcomes, six studies reported outcomes from all measures presented in the method sections in their articles (Dumas et al., 2010; Gross et al., 2011; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2), presenting a low risk of bias. One study reported all outcomes from measures presented in the method sections in their articles but no data from an engagement call for the intervention group and phone survey for the control group (Winslow et al., 2016). However, an intent-to-treat analysis was used, and no missing data regarding primary outcomes were reported, resulting in a low risk bias. One study was categorised as high risk as participants completed several self-report measures of which only one instrument was reported in the study (Heinrichs, 2006).

Other sources of bias. Six studies received funding to conduct the study, but all grants were from national institutions and other non-profit organisations (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Salari & Backman, 2016; S1&S2; Winslow et al., 2016), who do not stand to benefit in any way from the findings. The authors of six studies presented affiliation to institutions which have developed and implemented the parenting interventions of the study (Morawska et al., 2011; S1&S2), work relations with these institutions (Salari &

Backman, 2016; S1&S2), or a role in developing and evaluation of such parenting interventions (Dumas et al., 2010; Gross et al., 2011). However, these studies aimed to assess engagement strategies rather than the effectiveness of the parenting intervention; therefore, this affiliation/role was not a source of bias. We did not identify any other potential sources of bias. Therefore, all studies were considered at low risk of bias.

The overview of the judgements regarding the risk of bias for each criteria across studies and for each individual study are presented in Figures 2 and 3, respectively.

Characteristics of Included Studies

The summary of the characteristics of the included studies is presented in Table 2.

Type of studies. Three studies were conducted in the United States (Dumas et al., 2010; Gross et al., 2011), two studies were carried out in Australia (Morawska et al., 2011; S1&S2), two in Sweden (Salari & Backman, 2016; S1&S2), and one in Germany (Heinrichs, 2006). The studies were published between 2006 and 2016.

Type of participants. None of the studies reported conducting a sample size calculation prior to the study. Seven studies included a total of 1,952 participants (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2; Winslow et al., 2016). Sample size varied from 70 (Morawska et al., 2011; S1) to 706 participants (Salari & Backman, 2016; S2). One study did not report sample size (Salari & Backman, 2016; S1). The setting for recruitment was primarily educational institutions. Three studies recruited parents from primary schools (Morawska et al., 2011; S2; Salari & Backman, 2016; S2; Winslow et al., 2016), two from childcare centres (Dumas et al., 2010; Gross et al., 2011), and one from preschools (Heinrichs, 2006). One study was conducted online through local newspapers' websites (Salari & Backman, 2016; S1), while one study did not specify the source of recruitment (Morawska et al., 2011; S1).

Seven studies reported sociodemographic characteristics of the sample (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S2; Winslow et al., 2016). The majority of the participants were mothers and the predominant ethnicity varied across studies. Regarding educational level, three studies indicated that the majority of the participants had tertiary education (Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S2), while two studies presented a higher percentage of participants with equal and less than a high school education (Heinrichs, 2006; Winslow et al., 2016).

Marital status was reported in seven studies (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S2; Winslow et al., 2016). However, these studies varied in how this variable was reported, i.e. combining married couples and those who were in a cohabitation relationship (Morawska et al., 2011; S1&S2). Four studies had mainly participants who were married or in a relationship (Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S2; Winslow et al., 2016), whereas single parents were more predominant in two studies (Dumas et al., 2010; Gross et al., 2011). One study indicated that 35% of the sample were single parents, but did not clarify the marital status of the rest of the sample (Heinrichs, 2006).

Types of engagement strategies. Multiple engagement strategies were tested. Three studies used monetary incentives, either as payment (Dumas et al., 2010; Heinrichs, 2006) or as a discount (Gross et al., 2011). One study used options of setting (individual vs. group) additional to monetary incentive conditions (Heinrichs, 2006). Two studies used testimonials in video format (Morawska et al., 2011; S1&S2), while two studies used advertisements (Salari & Backman, 2016; S1&S2). These four studies used dichotomy when communicating messages through their strategies, fear versus non-fear (Morawska et al., 2011; S1&S2) and promotion versus prevention (Salari & Backman, 2016; S1&S2). One study used an

engagement package, which included a family testimonial flyer, teacher endorsement, group leader engagement call, and brochure (Winslow et al., 2016). Five studies clearly identified theoretical frameworks used to design engagement strategies, such as the theory of planned behaviour, the self-regulatory focus theory, and other theories of health-related behaviour (Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2; Winslow et al., 2016).

Types of comparator. Three studies compared an experimental to a control condition (Dumas et al., 2010; Gross et al., 2011; Winslow et al., 2016). Two studies used experimental groups allocated to different engagement strategies such as promotion versus prevention (Salari & Backman, 2016; S1&S2). One study used two types of conditions (payment and setting) resulting in four experimental groups with a combination of payment type (payment vs. no payment) and setting (individual vs. group) (Heinrichs, 2006). Two studies considered three conditions given by two intervention groups (either expert vs. parent testimonial or fear vs. non-fear expert testimonial) and one control group (Morawska et al., 2011; S1&S2).

Types of outcomes. The primary outcome of this review was any indicator of initial parental engagement presented by stage, recruitment, enrolment, and first attendance. In general, only one study included all three stages of initial parental engagement (Morawska et al., 2011; S2), while the rest of the studies only covered one stage (Morawska et al., 2011; S1; Salari & Backman, 2016; S2) or two (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Salari & Backman, 2016; S1; Winslow et al., 2016).

Recruitment. Five studies reported outcomes regarding this stage (Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2; Winslow et al., 2016). Two studies found significant differences between conditions, where a promotion-focused advertisement involved more clicks per day (Salari & Backman, 2016; S1) and a more positive evaluation from parents (Salari & Backman, 2016; S2). However, in the one of these studies (Salari & Backman, 2016; S1), the conditions did not differ significantly in terms of pages visited.

Three studies did not find differences between conditions, which involved testimonials (Morawska et al., 2011; S1&S2) and an engagement package (Winslow et al., 2016).

Enrolment. Outcomes were reported for five studies (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; S2; Salari & Backman, 2016; S2). Two studies reported significant differences between groups during enrolment, which was linked to a monetary incentive (Dumas et al., 2010; Heinrichs, 2006). One study did not find significant differences in enrolment rates between groups allocated to different intervention settings, individual versus group (Heinrichs, 2006). The remaining studies reported that no significant differences were identified between groups (Gross et al., 2011; Morawska et al., 2011; S2; Salari & Backman, 2016; S1). Thus, strategies such as childcare discounts, testimonials, and advertisements did not have a significant effect on enrolment.

First attendance. Five studies reported outcomes for parents' first attendance (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Morawska et al., 2011; S2; Winslow et al., 2016). Only one study found significant differences between conditions suggesting that the engagement package encouraged parents to attend the first session of the parenting intervention compared to a control condition (Winslow et al., 2016). Three studies did not find a significant effect of the engagement strategy used for this stage (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006; Winslow et al., 2016), which included payment, child care discount, and setting. One study reported that such a small number of parents did access the intervention that statistical analysis could not be used to compare groups (Morawska et al., 2011; S2).

Discussion

This systematic review aimed to identify engagement strategies tested to enhance initial stages of parental engagement, particularly recruitment, enrolment, and first attendance; in the context of parenting interventions for parents of young children. Although

numerous studies and reviews have highlighted the importance of engagement and the need to better understand how to enhance parental engagement in parenting interventions (Chacko et al., 2016; Ingoldsby, 2010; Morawska & Sanders, 2006), the current review showed that rigorous experimental studies are still scarce.

Over the last two decades, eight studies represented in six papers have tested engagement strategies in initial parental engagement. The majority of the studies tested one specific engagement strategy, such as monetary incentive (Dumas et al., 2010), testimonial (Morawska et al., 2011; S1&S2), or advertisement (Salari & Backman, 2016; S1&S2). One study combined two strategies, payments and setting (Heinrichs, 2006); while another study involved an engagement package (Winslow et al., 2016).

Numerous engagement strategies are widely used by researchers and practitioners when implementing parenting interventions (Ingoldsby, 2010; Morawska & Sanders, 2006). However, only a limited number of these strategies have been tested in the studies included in this review. As a result, few engagement strategies showed significant impact on initial engagement, while most did not. None of the strategies appeared to have a significant impact on all the stages of initial parental engagement included in each study. A promotion-focused advertisement showed a significant effect on some measures of recruitment in comparison to a prevention-focused advertisement (Salari & Backman, 2016; S1&S2). Monetary incentives showed a significant increase in enrolment rates in two studies (Dumas et al., 2010; Heinrichs, 2006), while the engagement package only showed a significant impact on parents attending the first session (Winslow et al., 2016).

In contrast, some strategies showed no effect on initial parental engagement. Testimonials (Morawska et al., 2011; S1&S2), advertisements (Salari & Backman, 2016; S1), and engagement package (Winslow et al., 2016) showed no significant impact on recruitment rates. During enrolment, monetary incentives through discounts (Gross et al., 2011), settings

(Heinrichs, 2006), testimonials (Morawska et al., 2011; S2), and advertisements (Salari & Backman, 2016; S1) did not impact significantly on engagement rates. Monetary incentives (Dumas et al., 2010; Gross et al., 2011; Heinrichs, 2006), setting (Heinrichs, 2006), and testimonials (Morawska et al., 2011; S2) did not have any effect on first attendance.

Our review showed that the selection of engagement strategies currently in use is not based on evidence of their effectiveness. Only advertisements (Salari & Backman, 2016; S1&S2), monetary incentives (Dumas et al., 2010; Heinrichs, 2006), and the combination of family testimonial flyer, teacher endorsement, group leader engagement call, and reminder calls (Winslow et al., 2016) were strategies showing some effect on one stage of initial parental engagement. Displaying poster advertisements is a common strategy used in studies (Dumas et al., 2010; Heinrichs, 2006). Salari and Backman (2016; S1&S2) provided further evidence for the effectiveness of this strategy, which may depend on the type of message used to recruit and incentivise parents' enrolment in a parenting intervention.

Although monetary incentives showed some effect on enrolment (Dumas et al., 2010; Heinrichs, 2006), these incentives tend to be less feasible in the context of parenting interventions where resources are limited, and those resources can be allocated to increase program coverage in order to allow more parents to access these evidence-based interventions (Foster, Prinz, Sanders, & Shapiro, 2008). In addition, payment for participation may undermine parental self-regulation and personal responsibility to make informed decisions regarding their engagement in a parenting intervention.

The engagement package used by Winslow et al. (2016) seemed to reduce the gap between parents' intention to engage and their actual engagement in a parenting intervention. However, the effect was attributed to the package as a whole, which does not account for the potential effect that each strategy may have by itself. For instance, Morawska et al. (2011; S1&S2) found that a testimonial from a parent did not show an impact on any stage of initial

parental engagement, but a parent testimonial flyer was included within the engagement package by Winslow et al. (2016). This link brings the question whether the source of the testimonial or the format impacted on the engagement. Winslow et al. (2016) pointed out that the strategies included in the package varied in terms of the resources required to implement them. Thus, the cost effectiveness of the whole package remains uncertain.

Limitations and Strengths of the Selected Studies

Studies showed several methodological limitations. None of the studies published a protocol and reported sample size calculation prior to conducting the study; thus, the power to detect effects may have been an issue for a number of the studies. Few studies reported randomisation procedures in sufficient detail to be analysed in terms of potential risk of bias. All eight studies showed some sources of bias, particularly selection and performance bias. Thus, the impact of their outcomes needs to be treated with some caution. These limitations are significant and should be addressed in future studies in this field in order to build stronger methodological designs to reach valid outcomes.

Still, the selected studies showed relevant outcomes. First, they provided evidence supporting or discouraging the use of some engagement strategies in particular stages of initial parental engagement as discussed above. A promotion-focused advertisement seems to be most effective for recruitment (Salari & Backman, 2016; S1&S2), monetary incentives for enrolment (Dumas et al., 2010; Heinrichs, 2006), and the combination of family testimonial flyer, teacher endorsement, group leader engagement call, and reminder calls for first attendance. In contrast, some strategies such as a childcare bill discount (Gross et al., 2011), options of program setting (Heinrichs, 2006), and testimonials (Morawska et al., 2011; S1&S2) did not show evidence to support their use in initial parental engagement. Thus, further research should build on these outcomes in order to determine which engagement strategies should be tested in future studies and which aspects of them, i.e. format, message,

and source of information, are more critical to inform current engagement practice. Second, most of the studies included a control condition in the experimental design (Dumas et al., 2010; Gross et al., 2011; Morawska et al., 2011; S1&S2; Winslow et al., 2016), which strengthen their methodology and the validity of their results. Third, the majority of the studies ascribed to a theoretical framework to design engagement strategies (Morawska et al., 2011; S1&S2; Salari & Backman, 2016; S1&S2; Winslow et al., 2016). It showed that the call for more theory-driven efforts (Morawska & Sanders, 2006) has been increasingly addressed in the research conducted in the last decade.

Limitations and Strengths of this Review

This systematic review faced some limitations relevant to address. Firstly, we focused on experimental studies in order to ensure inclusion of rigorous studies. This resulted in a limited number of studies included in the analysis; however, conclusions from non-randomised controlled trials may be risky and still lead to inconclusive outcomes. This review only focused on journal articles from databases, while guidelines for systematic reviews (Higgins & Green, 2008, 2011; Moher et al., 2015) suggest to include other sources of information, such as the grey literature. However, we restricted the searches to databases in order to secure the quality and validity of the search procedure and thus prioritise articles which were published after undergoing a peer-reviewed process. Even though one limitation of this review is that only two languages were included; there was only one article (Heinrichs, Krüger, & Guse, 2006) in another language that was excluded for this reason. Still, its inclusion may have contributed additional information to reported outcomes.

Several strengths emerge in this review. First, this systematic review provided evidence regarding the engagement strategies tested in experimental trials and their effectiveness. Given that this review was restricted to studies published in peer-reviewed journals, this review contributed outcomes supported by the existing evidence. Second, the

systematic review protocol was registered before conducting the searches, which facilitated the monitoring between the planned review and how it was conducted. Third, the search procedure followed the most critical recommendations from guidelines (Higgins & Green, 2008, 2011; Moher et al., 2015), including that two reviewers conducted the full-text selection, dealing with discrepancies, and measuring agreement between reviewers. Fourth, this review included multiple inter-disciplinary databases focused on education, health sciences, and social sciences. This wide range of databases provided a comprehensive summary of the experimental studies that have been conducted on the topic. Lastly, this review included an assessment of risk of bias (Higgins & Green, 2008, 2011), which contributed to evaluating the validity of the existing evidence.

Implications

The evidence from this review suggests that engagement strategies may have a different impact on different stages of initial parental engagement and multiple approaches across stages may be needed. Even though this outcome supports a multistage process of parental engagement (Eisner & Meidert, 2011), it may also challenge the implementation of strategies given the particular characteristics of each stage. Following this argument, Salari and Backman (2016) pointed out that a prevention-focused advertisement initially captured parents' attention, but a promotion-focused one inspired more parents to consider engaging in a parenting intervention. Similarly, the use of the same engagement strategies across stages of initial parental engagement may not be appropriate if stages differ from each other.

This review illustrated that very limited attention to date has been focused on empirical testing of engagement approaches, despite multiple calls for enhanced focus and attention to improving engagement (Chacko et al., 2016; Ingoldsby, 2010; Morawska & Sanders, 2006). Due to the limited time and resources available for researchers and practitioners to engage parents in evidence-based parenting interventions (Salari & Backman,

2016), better understanding of how to engage parents and the mechanisms that can enhance it from early stages of a parenting intervention is required to reach as much parents as possible, using the resources available for the engagement process most effectively.

Future Directions

This review highlighted several remaining gaps. Although previous reviews have pointed out to the relevance of building a shared understanding of parental engagement (Chacko et al., 2016; Haine-Schlagel & Walsh, 2015; Ingoldsby, 2010), our review identified that it remains as a pending task. We acknowledge the theoretical advancement recently published by Piotrowska et al. (2016). This conceptual model of parental engagement provides a comprehensive approach to parental engagement. However, the attention given to initial parental engagement is insufficient to inform current practice and research. Thus, we propose that a theoretical model providing a deeper analysis of recruitment, enrolment, and first attendance would contribute to increase the understanding of initial parental engagement and thus parenting interventions would be able to reach more parents.

Given the attitudinal and behavioural nature of initial parental engagement, research needs to focus on modifiable variables and thus to understand how mechanisms of change evolve through the stages of engagement (Haine-Schlagel & Walsh, 2015). To ascertain a consumer perspective (Sanders & Kirby, 2012) into parental engagement, variables related to parents' individual characteristics, program preferences, and previous program experiences have to be analysed in a single study to determine which parent-related variables are critical to initial parental engagement. For instance, matching parents' characteristics and their preferences for certain formats have shown a positive impact on intention to participate in training, but there is no evidence if this intention translates into participation (Wymbs et al., 2016; Wymbs et al., 2015). When parents are exposed to program content, they seem more motivated to stay in the program (Garvey et al., 2006; Heinrichs, 2006) and they are more

likely to involve in a program in the future (Chislett & Kennett, 2007). Thus, some efforts have been conducted to contribute emerging evidence, but outcomes are still inconclusive in the context of initial parental engagement.

Once this consumer perspective is incorporated into the theoretical development of initial parental engagement, more rigorous experimental studies testing engagement strategies have to be conducted. These studies need to include a variety of messages and formats, prioritising those messages and formats suitable for wide and cost effective implementation at a population level in order to advance in the initial engagement of parents to access and benefit from evidence-based parenting interventions. For instance, Morawska et al. (2011) used testimonial videos showing no significant effect on initial parental engagement; however, a recent study conducted by Winslow et al. (2017) reported a positive effect of this format. The engagement videos used by Morawska et al. consisted of information and (parent and expert) testimonials, which integrated the social influence principles and health behaviour theories. However, the Winslow et al. study sample may not be representative of all parents as this study was oriented to litigating parents referred by court mandate to the intervention, and the age range of their children was from 3 to 18 years old. Still, it represents advancements in terms of providing further evidence on this topic using a more comprehensive approach (three experimental conditions and two control conditions) and more rigorous methodological design.

Conclusion

The evidence showed that there is increasing interest to test engagement strategies to enhance parental engagement in initial stages of parental engagement. However, outcomes are not sufficient to inform researchers and practitioners regarding evidence-based engagement strategies to effectively increase recruitment, enrolment, and first attendance in parenting interventions. There is a significant need for further research oriented to provide

evidence and strategies to ensure better access for parents to existing evidence-based parenting interventions. More theory-driven research is needed in order to translate initial parental engagement from the least understood aspect of parental engagement (Chacko et al., 2016) to one where an effective approach can be implemented to engage parents in accessing the level of support they require.

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Table 1

Search Strategies for PsycINFO, Scopus, ProQuest Social Science Journals, CINAHL, and PubMed

1. parent* AND engag* OR participation OR involv*
2. "parenting training" OR "parental training" OR "parent training"
3. "parenting intervention" OR "parenting interventions" OR "parental intervention" OR "parental interventions" OR "parent intervention" OR "parent interventions"
4. "parenting program" OR "parenting programs" OR "parenting programme" OR "parenting programmes" OR "parental program" OR "parental programs" OR "parental programme" OR "parental programmes" OR "parent program " OR "parent programs" OR "parent programme" OR "parent programmes"
5. 2 OR 3 OR 4
6. 1 AND 5

Table 2

Characteristics of the included studies

Study	Methods	Participants	Intervention	Measures	Outcomes[a]		
					Recruitment	Enrolment	First Attendance
Dumas et al. (2010)	Experimental design Daycare centres randomised to condition at the time of recruitment.	n = 610 92-94% mothers Mean age (SD) = 30.1 years (6.7) - 32 years (6.9) 49% African American Mean annual family income = $29,425 - $22,371 Education = NR Marital status = 54-36% married	Payment Two conditions I = incentive condition C = non-incentive condition	Enrolment Attendance	NA	Yes	No
Gross et al. (2011)	Experimental design Childcare centres selected, matched by demographics, and randomly assigned conditions.	n = 174 89% mothers Mean age (SD) = 28.5 years (SD = 7.5) - 29.7 years (SD = 6.8). 55.2% African American 27.6% Annual household income under $10,000 Education = NR Marital status = NR	Childcare bill discount Two conditions I = discount condition C = no discount condition	Enrolment Attendance	NA	No	No
Heinrichs (2006)	Experimental design	n = 197 98.5% mothers	Payment and setting	Enrolment Attendance	NA	Yes (Payment) No	No

	Preschools matched by size and assigned randomly assigned conditions	Mean age (SD): 33.5 years (5.6) 37% Immigrant status 42% 10 years education 35% single parenthood	Four conditions combining a monetary and a setting condition I-1 = payment and individual condition I-2 = no payment and individual condition I-3 = payment and group condition I-4 = no payment and group condition			(Setting)	
Morawska et al. (2011) Study 1	Experimental design Participants randomly assigned	n = 70 90% mothers Mean age (SD) = 37.2 years (4.9) 94% White Australian/European Annual family income = NR 61% university education 94% married or in a cohabitating relationship	Testimonial Three conditions I-1 = expert testimonial condition I-2 parent testimonial condition C = control condition	Recruitment	No	NA	NA

Morawska et al. (2011) Study 2	Experimental design Participants randomly assigned	n = 73 90.4% mothers Age range = 26 - 50 years 90.4% White Australian Annual family income = NR 53.4% tertiary education 91.8% married or in a cohabiting relationship	Testimonial Three conditions I-1 = fear expert testimonial condition I-2 = non-fear expert testimonial condition C = control condition	Recruitment	No	No	No
Salari and Backman (2016) Study 1	Experimental design Advertisements randomly shown	n = NR Gender = NR Age = NR Ethnicity = NR Annual family income = NR Education = NR Marital status = NR	Advertisement Two conditions I-1 = promotion-focused condition I-2= prevention-focused condition	Recruitment Enrolment	Yes (Clicks per day) No (Pages visited)	No	NA
Salari and Backman (2016) Study 2	Experimental design Participants randomly assigned	n = 706 65.2% mothers Mean age (SD) = 41.5 years (5.6) 95.1% born in Sweden Annual family income = NR 53.6% university education 88.7% lived with a partner	Advertisement Two conditions I-1 = promotion-focused condition I-2= prevention-focused condition	Recruitment	Yes	NA	NA

Winslow et al. (2016)	Experimental design Families randomly assigned	n = 122 100% mothers Mean age (SD) = 30.6 years (6.4) – 32.9 years (7.1) 95% Latina Mean annual family income = $22,497 - $22,550 Mean educational years (SD) = 9.9 (2.9) - 10.3 (2.6) Two-parent family = 66.9%	Engagement package Two conditions I = engagement package condition C = control condition	Enrolment Attendance	No	NA	Yes

Notes. I = intervention; C = control; NR = Not reported; NA = Not applicable.

[a] Outcomes reporting significant differences between conditions.

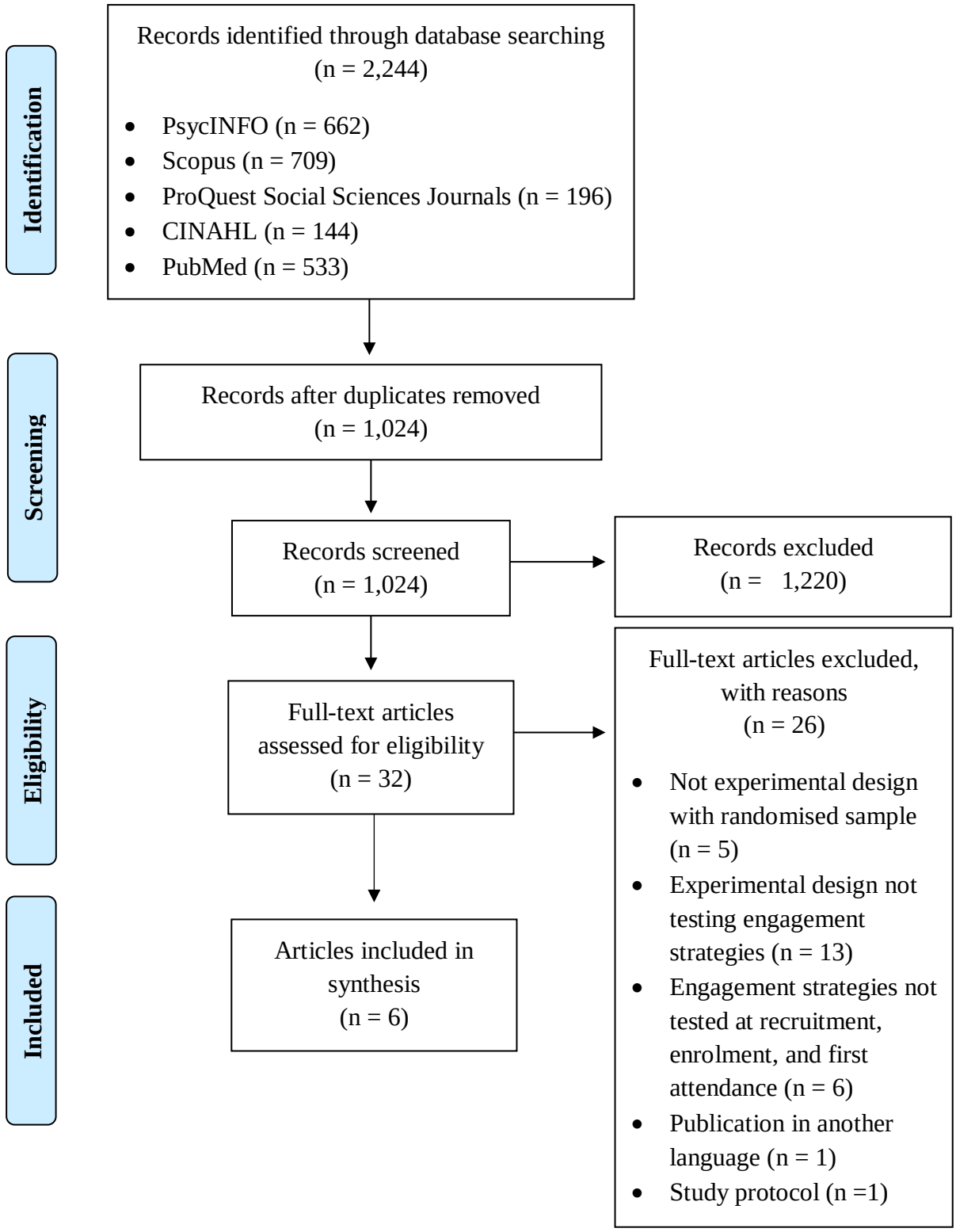

Figure 1. Adapted PRISMA flow chart.

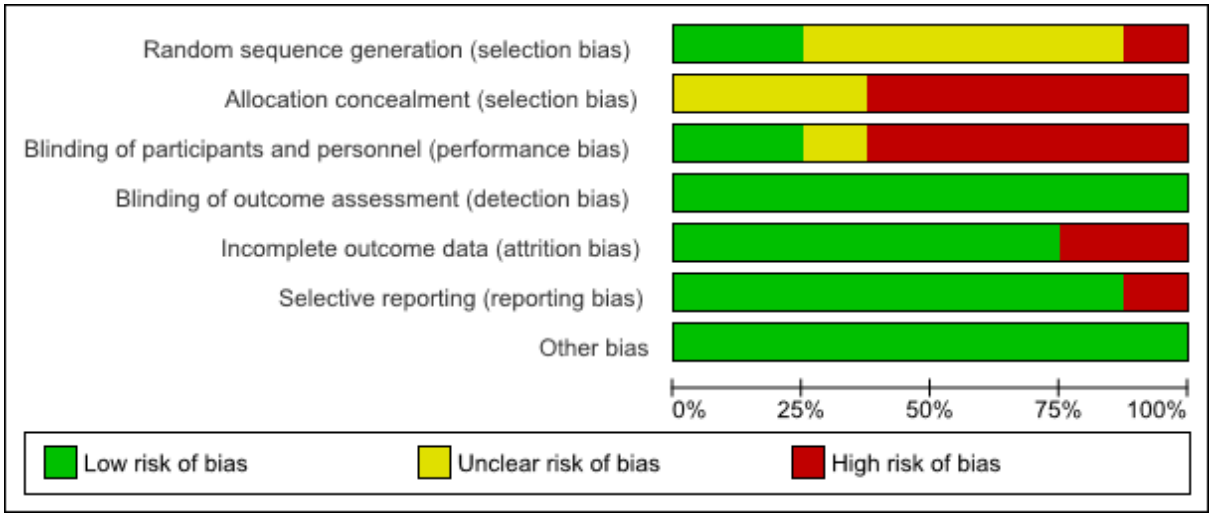

Figure 2. Risk of bias graph.

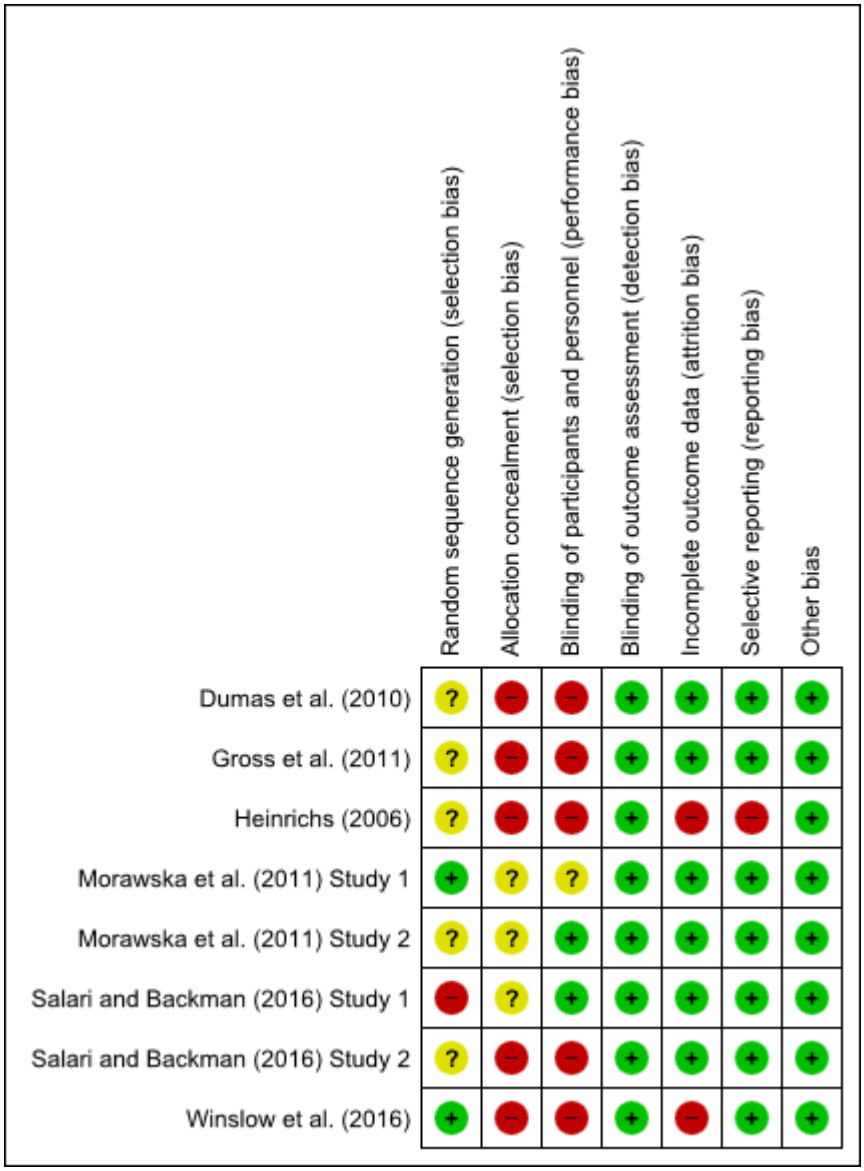

Figure 3. Risk of bias summary.