

Group Stepping Stones Triple P in Schools: An Evaluation of a Parenting Program for Children with Developmental Disabilities in the School Setting.

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Abstract

This study evaluated the implementation of Group Stepping Stones Triple P (Group SSTP) within Schools for Special Purposes catering for children with an intellectual disability. The intervention was a partnership between the NSW departments of education, health and disability services, and is also the first study where Group SSTP has been implemented and studied within schools. 11 schools were enrolled with a total of 56 parents recruited for the study. The study collected pre and post group data examining the areas of child behaviour, parenting style, confidence and parental mental health. Child behaviour ratings were also collected from teachers. Results found highly significant changes in parenting style, parenting **confidence, parental mental health and the child's behaviour** both at home and at school. The findings suggest that Group SSTP is a powerful intervention when implemented in a community setting and highlights the value of good interagency collaboration and support for children with an intellectual disability. A strength of this study is the independent measurement of behaviour by the teachers.

Highlights:

- We trialled the Group Stepping Stones Triple P Program in Schools.
- The program was conducted by teachers, school counsellors and colleagues from disability support services.
- Significant improvements in parenting style, confidence and mental health were found.
- Significant improvements were also found in child behaviour both at home and at school.

Introduction

Children with an intellectual disability are at increased risk of mental health and psychosocial difficulties. Kleefman *et al* (2011) estimated the prevalence rates to be between 30 to 60%. Roberts *et al* (2006) reported that behaviour problems create a significant burden, **interfering with the child's social and educational skills** which can lead to exclusion from community settings and effect physical health. As a result, parents of children with developmental disabilities face unique challenges in man-

aging their child's behaviour and encouraging new skill development (Roux *et al*, 2013). To address the increased risks to mental health, Steiner *et al* (2012) proposed that parent education programs designed to enhance or facilitate parental skills, are likely to be the most beneficial and cost effective method of mental health intervention for this population. One such program is the Stepping Stones Triple P (SSTP) Parenting Program which Sanders *et al* (2003) proposed can lead to significant improvements in childhood behavioural difficulties and parental mental health.

SSTP is an adaptation of the Triple P Positive Parenting Program but has a focus on families of children with developmental disabilities. Like Triple P, the program aims to improve the confidence, knowledge and skills of parents of children but specifically for a developmental disability population. SSTP encourages the use of positive parenting strategies to help facilitate a more constructive relationship between the child and parents. SSTP has five levels of intervention strength which varies from a universal media based campaign, to individual intervention, to a group based SSTP program. Evidence for SSTP has been varied and has principally focused on the individual format.

Roberts *et al* (2006) conducted a randomised control trial of individual SSTP for parents of pre-schoolers with developmental and behaviour problems. The intervention was found to be associated with fewer child behavioural episodes reported by both parents and observers. Improvements were also found in parental style and decreased parental stress. Speetjens *et al* (2010) also found from the Individual SSTP program significant improvements in parenting skills, family functioning, parental stress and well-being. Similar significant improvements in child behaviour and parenting skills have been found for families with children who have an autism spectrum disorder (Whittingham *et al*, 2006).

Regarding the evidence for Group SSTP, Harrison (2006) randomly assigned participants to either a control group or a Group SSTP condition. Children had diagnoses ranging from autism spectrum disorder (ASD), Down syn-

“The school setting could be a powerful environmental factor in the success of delivering a Group SSTP program”

drome, intellectual disability and attention deficit hyperactivity disorder (ADHD). Parents in the SSTP group reported greater improvements in parenting style and consistency, increased confidence and competence in their parenting skills. Changes were also noted in the intensity of the child's behaviour. However, no significant findings were found for parental depression, anxiety or stress (Harrison, 2006). Similarly, Myers (2007) found significant differences between the Group SSTP intervention and control group participants in parenting styles with decreases in laxness, verbosity and overactivity. However, there was no significant effect on the child's behaviour.

Examining the influence of demographics, Hampel *et al* (2010) compared the outcomes of Group SSTP for children of psychosocially challenged environments to those without psychosocial stressors. Findings revealed greater significant improvements in the psychosocially disadvantaged group particularly in the areas of parental anxiety, depression, and reactivity. Similar to previous studies, actual reductions in problem behaviours were modest with mainly significant reductions in self-absorbed and disruptive/antisocial presentations. The study confirms that it is those families from more psychosocially disadvantaged areas of society that are in greater need, and are likely to benefit most, from interventions such as Group SSTP. Walsh (2008) summarises that Group SSTP shows some promising preliminary findings especially in relation to parents' disciplinary style, sense of self efficacy and confidence however, there is a need for additional research to replicate and extend these findings.

Regarding the setting of Group SSTP interventions, previous research appeared to conduct the program in either a clinical or mental health setting, although no studies specifically state where their intervention was held (Hampel *et al*, 2010; Speetjens, 2010). In 2011, Jewell published a pilot study where for the first time, a partnership between the Parramatta Community Support Team, Ageing Disability and Home Care (ADHC), Family and Community Services, New South Wales, and Group SSTP was conducted within a School for Specific Purpose (SSP). SSP's cater for children who require intensive levels of behavioural and educational support including children with an intellectual disability. Results from the school based program found that on the Developmental Behaviour Checklist (Einfeld & Tonge, 1994) at pre-intervention 90% of the parents gave a Total Behaviour Score in the clinical range. Post-intervention 80% of scores were below clinical range. On the Depression Anxiety Stress Scales (DASS, Lovibond & Lovibond, 1996) at the pre-intervention 50% of participants had total DASS scores within the clinical range. Post-intervention only 20% of the participants were still in clinical range. The results were extremely encouraging and suggested that the school setting could be a powerful environmental factor in the success of delivering a Group SSTP program. Close interagency work and support during the program was also likely to be a significant contributing factor to the success of the study.

From a nationwide policy perspective Mazzucchelli and Sanders (2011) discussed a public health approach to implementing SSTP but highlighted a number of barriers to its implementation, including availability and accessibility. Roux *et al* (2013) writes that any parenting program for parents of children with developmental disabilities must be easily accessible with limited demands in terms of time and travel. It was also recommended that facilitators use any available strategies to help destigmatise the program. In particular choosing the right location or venue of the program could be a significant factor in normalising participation.





The purpose of this study was to further the evidence base, to improve the availability and access to interventions for parents of children with developmental disabilities, and to provide a model of cross agency collaboration and support with this population. In 2012, group SSTP was delivered in 11 Schools for Specific Purposes (SSP's) across New South Wales (NSW) as a potential form of early intervention and prevention of challenging behaviour amongst children with intellectual or developmental disability and parental stress. This was a conjoint project across Ageing, Disability and Home Care (ADHC), Family and Community Services (Metro North and Statewide Behaviour Intervention Service; SBIS), Children's Hospital at Westmead (CHW), and NSW Department of Education Two hypotheses were proposed. Firstly, it was hypothesised that the implementation of Group SSTP in SSP's would improve the behaviour of children at home and at school. It was also hypothesised that the groups will have a positive impact on the mental health, behaviour management skills, and confidence of the parents.

1. Method

1.1. Design

The study was a repeated measures design. Pre-treatment measures were completed by the parents or carers and one pre-treatment measure was completed by each child's class teacher who acted as an independent observer. The parents or carers received the Group Stepping Stones Triple P intervention and subsequently completed the same assessment measures post-treatment. The classroom teachers also completed their assessment measure after the parents/carers received their treatment.

Due to limited resources and funds there was no control group. An opportunity sample was used as participants were recruited by schools and not the researchers.

1.2. Participants

The participants were all parents or primary caregivers of a child who was attending a government primary school in NSW. The 11 schools recruited were special education schools, whilst one was a mainstream school with a support class for intellectual disability. The maximum intellectual functioning of the children of the parents included in this study were within the mild intellectual disability range, they were mostly moderate or severe.

The first stage in recruitment of the parent participants was to locate interested schools that catered for children with an intellectual disability. This occurred via email advertising within the NSW SSP Principal Network and with other contacts made via the NSW School-Link mental health initiative between health, education and disability. Each school then self-directed their own Group SSTP parent recruitment campaign which included school newsletter advertisements, letters sent home to selected parents, and parent information sessions at the school.

Eighty-nine participants were recruited and completed all pre-treatment assessment questionnaires. Two participants dropped out of the program due to personal illness, one participant was administered the program in an individual format due to being the sole participant from that school, and nine participants did not complete post-treatment assessment questionnaires. In addition, 22 participants were excluded from data analyses due to missing response items on the assessment questionnaires.

The final sample consisted of 56 parents or primary caregivers of children aged between 4 and 13 years. The participant characteristics are provided in Table 1.

Participants were assigned scores on the Daniel's (1983) Prestige Scale according to their occupation, where lower scores indicated higher social status or prestige.

Variables	Participants (n = 56)
Age of child	7.45 (S.D. = 2.18)
Sex of Child	
Male	42
Female	14
Specific Diagnoses (by parental report)	
Acquired Brain Injury	1
Specific Learning Disabilities (including ADHD)	22
ASD Spectrum	37
Developmental Delay	19
Cerebral Palsy	2
Psychiatric Disability	5
Blind or Vision Impaired	7
Deaf or Hearing Impaired	7
Professional Help Sought	
Sought	40
Not Sought	16
Current Martial Status	
Married	33
Defacto	7
Never Married/Defacto	4
Separated	8
Divorced	2
Widow/er	1
Other	1
Relationship to Child	
Mother	37
Father	8
Step-Father	1
Foster Mother	4
Grandparent	6
Daniel's (1983) Prestige Scale (1-7)	
Respondent	5.20 (S.S. = 0.76)
Respondent's partner (n = 42)	4.51 (S.D. = 1.05)

Table 1: Participant characteristics

1.3. Procedure

The SSTP school intervention was facilitated by two trained staff, consisting of one school facilitator (from the SSP) and one state government disability service facilitator (ADHC). The rationale for this was to provide a high level of interdisciplinary expertise and support leading the intervention. The school principal nominated either the school counsellor or other staff member, such as teacher, or executive to complete the three day training and accreditation in Group SSTP. The disability service (ADHC) co-facilitators were nominated by their behaviour support manager and were also accredited in Stepping Stones or Triple P before delivering the intervention. All staff were granted release time by their respective agencies.

To support the facilitators, the researchers organised three video conference link-ups over the ten weeks, pre, mid and post intervention with all schools invited to attend. A clinical research psychologist and administration team were on call should any clinical or logistical issues arise. A debrief session was offered to all facilitators at the conclusion of the study.

This study received ethical approval from the Service Improvement Unit at the Children's Hospital at Westmead and the NSW Department of Education state education research approvals process (SERAP). Both departments provided ongoing advice and support to the researchers.

1.4. Intervention

The majority of the intervention (6 sessions) was delivered in group format within each school, except one school which only recruited one family and so delivered the intervention individually. The researchers added an **additional session ("session 0") to allow time and support for parents when completing the assessment measures**. Three additional sessions were delivered individually over the telephone to tailor the intervention to **each participant's needs and to report feedback from the initial assessment session**. The number of participants per school group ranged from 1 to 14, with a median of 8. A summary of the sessions and delivery mode is outlined in table 2

“Group SSTP was delivered in 11 SSP’s across NSW as a potential form of early intervention and prevention of challenging behaviour amongst children with ID and parental stress”

Session	Content	Delivery Method
0	Completion of pre-assessment measures	Group or Individual
1	Positive parenting	Group
2	Promoting children's development	Group
3	Teaching new skills and behaviours	Group
4	Managing misbehaviour and parenting routines	Group
5	Planning ahead	Group
6-8	Implementing parenting routines and individual assessment feedback	Individual telephone consultations
9	Program close and post assessment	Group

Table 2: Summary of session within the Group Stepping Stones Triple P intervention

1.5. Measures

Parents or caregivers were given *A Family Background Questionnaire*, designed by the researchers, which contained basic background data such as information on the **child's disability, age, gender, ethnicity and contact details** etc. This was completed at the pre-assessment stage only.

Parents or carers were given assessment packs before and after the intervention which consisted of the first four measures (1.5.1 to 1.5.4) listed below.

1.5.1. Developmental Behaviour Checklist-Parent Version (DBC-P; Einfeld & Tonge, 1994). The DBC-P is a 96 item questionnaire which provides a parent report assessment of emotional and behavioural disturbance in children aged from 4 -18 years. Normative data are provided for children with mild, moderate or severe cognitive impairment.

1.5.2. The Parenting Scale (PS; Arnold, O'Leary, Wolff & Acker, 1993).

The PS is a 30 item self-report measure of parenting approaches. The scale produces subscale scores for **'Laxness' (a tendency toward inconsistent discipline), 'Over-reactivity' (displays of parental temper, anger and irritability) and 'Verbosity' (over-reliance on talking).**

1.5.3. The Parenting Tasks Checklist (PTS; Sanders & Woolley, 2001).

PTS is a 28 item checklist designed to assess parents' task specific self-efficacy. Parents rate how confident they are in dealing with their child if they engage in difficult behaviour in common parenting situations. Confidence is rated on a scale of 0 (Certain I cannot do it) to 100 (Certain I can do it).

1.5.4. Depression Anxiety and Stress Scale 21 (DASS; Lovibond & Lovibond, 1996)

The DASS 21 is a self-report questionnaire for adults designed to assess levels of depression, anxiety and stress. The scale consists of 42 statements grouped into three 14-item scales of depression, anxiety, and stress. Participants are asked to respond to the statements on a 4-point Likert scale, ranging from 0 (*did not apply to me at all*) to 3 (*applied to me very much, or most of the time*).

1.5.5. The classroom teacher of the child concerned (non-treatment participant) was given the *Developmental Behaviour Checklist-Teacher Version* (DBC-T; Einfeld & Tonge, 2002) pre and post intervention. The DBC-T is a 96 item questionnaire which provides a teacher report assessment of emotional and behavioural disturbance in children aged from 4 -18 years. Normative data are provided for children with mild, moderate or severe cognitive impairment.

1.5.6. Client Satisfaction Questionnaire (Eyberg et al, 1993). This was distributed to participants post intervention only. Roux et al (2013) describe the Client Satisfaction Questionnaire as an adaptation of the Therapy Attitude Inventory (TAI) developed by Eyberg (1993, as cited in Sanders et al., 2003) to measure consumer satisfaction with parent-training programs. A composite score of program satisfaction ratings is given based on a 7-point scale per item. High scores indicate greater satisfaction. For the entire questionnaire a minimum total score of 13 and a maximum total score of 91 is possible.

2. Results

2.1. Statistical Analyses

The data were screened and distributions checked. No data were deemed to be in need of transformation. All analyses were conducted using SPSS 17 for Windows. The significance level for all analyses was set at 0.05.

Planned comparisons were made between participant ratings on the pre-treatment and the post-treatment assessment questionnaires, using Paired Samples T-tests. Table 3 displays the mean and SD for pre-treatment and post-treatment ratings and differences between these ratings on each measure. Effect size for each planned comparison was calculated.

Table 3: Means and standard deviations (in parentheses) for pre- and post-treatment ratings, and t-statistics and effect size differences between ratings.

Variables	Pre-treatment	Post-treatment	t	Sig	Effect Size
Parenting Style					
Laxness	3.06 (0.76)	2.48 (0.64)	6.29	0.000	0.42
Overreactivity	2.86 (0.77)	2.36 (0.81)	4.72	0.000	0.29
Verbosity	3.49 (0.85)	2.74 (0.96)	6.53	0.000	0.44
Total	3.13 (0.56)	2.57 (0.65)	7.23	0.000	0.49
Parenting Confidence					
Setting Self-Efficacy	76.82 (16.09)	85.24 (12.64)	4.68	0.000	0.28
Behavioural Self-Efficacy	68.10 (16.31)	81.20 (15.22)	5.94	0.000	0.39
Parental Adjustment					
Depression	5.43 (4.05)	2.43 (2.46)	7.05	0.000	0.47
Anxiety	3.88 (4.12)	1.88 (2.33)	4.39	0.000	0.26
Stress	7.73 (4.05)	4.43 (2.98)	6.54	0.000	0.44
Child Adjustment - Parent Rated					
Disruptive/Antisocial	17.54 (9.33)	14.48 (8.18)	3.54	0.001	0.19
Self-Absorbed	23.77 (13.14)	22.43 (11.96)	1.11	0.274	0.02
Communication Difficulties	7.38 (4.56)	7.32 (4.52)	0.11	0.909	0.00
Anxiety	6.61 (3.53)	5.96 (3.07)	1.57	0.122	0.04
Social Relating	6.13 (3.10)	5.46 (2.89)	1.59	0.118	0.04
Total Behaviour Problems	63 (25.64)	56.77 (22.15)	2.46	0.017	0.10
Child Adjustment - Teacher Rated					
Disruptive/Antisocial	16.93 (10.79)	10.68 (10.67)	3.34	0.002	0.17
Self-Absorbed	19.36 (13.77)	14.50 (11.56)	3.67	0.001	0.20
Communication Difficulties	5.70 (4.40)	4.79 (4.23)	2.05	0.045	0.07
Anxiety	4.45 (3.60)	3.39 (2.91)	3.22	0.002	0.16
Social Relating	6.57 (3.96)	4.88 (3.40)	3.81	0.000	0.21
Total Behaviour Problems	51.71 (29.64)	38.91 (26.81)	4.2	0.000	0.24

2.2. Treatment Effects – Parenting Style

Using the Parenting Scale, three factor scores (Laxness, Over reactivity and Verbosity), and the Total score on the Parenting Scale were used to assess parenting style. There was a statistically significant decrease in Laxness [$t(55) = 6.29, p < .000$], Over reactivity [$t(55) = 4.72, p < .000$], Verbosity [$t(55) = 6.53, p < .000$], and in the total score [$t(55) = 7.23, p < .000$] from pre-treatment to post-treatment assessments. The eta squared statistics for laxness (.42), over reactivity (.29), verbosity (.44) and total score (.49) indicated large effect sizes for all parenting style measures.

2.3. Treatment Effects – Parenting Confidence

Parenting confidence was assessed using the Parenting Tasks Checklist. Setting self-efficacy scores significantly increased from pre-treatment [$M = 76.82, SD = 16.09$] to post-treatment [$M = 85.24, SD = 12.64, t(55) = 4.68, p < .000$]. Similarly, pre-treatment [$M = 68.10, SD = 16.31$] to post-treatment [$M = 81.20, SD = 15.22, t(55) = 5.94, p < .000$] scores significantly increased for behavioural self-efficacy. Effect sizes were large for both setting self-efficacy and behavioural self-efficacy.

2.4. Treatment Effects – Parental Adjustment

Three measures (Depression, Anxiety and Stress) on the DASS were used to assess parental adjustment. There was a significant decrease in depression [$t(55) = 7.05, p < .000$], anxiety [$t(55) = 4.35, p < .000$] and stress [$t(55) = 6.54, p < .000$] on pre-treatment compared to post-treatment ratings. The eta squared statistics for depression (.47), anxiety (.26), and stress (.44) indicated large effect sizes for all parental adjustment scales.

2.5. Treatment Effects – Child Adjustment

Child adjustment was assessed using parent and teacher ratings on the Developmental Behaviour Checklist.

Parent ratings on the Disruptive/Antisocial subscale significantly decreased from pre-treatment [$M = 17.54, SD = 9.33$] to post-treatment [$M = 14.48, SD = 8.18, t(55) = 3.54, p = .001$]. Similarly, pre-treatment [$M = 63, SD = 25.64$] to post-treatment [$M = 56.77, SD = 22.15, t(55) = 2.46, p = .017$] parent ratings significantly decreased on total behaviour problems. The eta squared statistics for parent-rated disruptive/antisocial (0.19) and total behaviour problems (0.10), indicated a large effect size and a moderate effect size, respectively. Small effect sizes were found for parent ratings on self-absorbed (0.02), anxiety (0.04) and social relating (0.04).

On the teacher rating scales there was a statistically significant decrease on disruptive/antisocial [$t(55) = 3.34, p = .002$], self-absorbed [$t(55) = 3.67, p = .001$], communication difficulties [$t(55) = 2.05, p = .045$], anxiety [$t(55) = 3.22, p = .002$], social relating [$t(55) = 3.81, p < .000$], and in total behaviour problems [$t(55) = 4.20, p < .000$] from pre-treatment to post-treatment teacher



ratings. Effect sizes were large for all teacher ratings, with the exception of communication difficulties wherein the effect size was medium.

2.6. Parent Satisfaction

The ratings of parent satisfaction with Group SSTP in schools were measured by the Client Satisfaction Questionnaire. An average rating per item of 5.81 was achieved out of a possible 7. Mean total score was 74.7 (minimum total response 49, maximum total response 90).

2.7. Post-hoc Analysis

An independent samples t-test was conducted to compare the change scores (difference between pre- and post-treatment parent and teacher ratings) for the ASD and ID group and the ID only group.

There was a significantly greater improvement in parent ratings of Setting Self-Efficacy for the ASD and ID group ($M = 11.70, SD = 14.62$) compared to the ID only group [$M = 2.05, SD = 7.91, t(54) = 2.68, p = .01$]. The magnitude of the differences in means was moderate (eta squared = .11).

Similarly, there was a significant difference in change scores between groups on parent rated social relating and total behaviour problems. The ASD and ID group ($M = 1.30, SD = 2.92$) were found to have a significantly greater improvement in parent rated social relating compared to the ID only group [$M = 0.58, SD = 3.19, t(54) = 2.21, p = .032$]. There was also a significantly greater improvement in parent ratings of total behaviour problems for the ASD and ID group ($M = 10.78,$

SD = 19.58) compared to the ID only group [M = 0.74, SD = 17.47, $t(54) = 2.16$, $p = .035$]. The eta squared statistics for parent rated social relating (.08) and total behaviour problems (.08) indicated moderate effect sizes.

There was greater improvement, which approached significance, in parent ratings of laxness [$t(54) = 1.97$, $p = .054$], stress [$t(54) = 1.89$, $p = .064$] and teacher-rated social relating [$t(54) = 1.85$, $p = .07$] for the ASD and ID group compared to the ID only group].

3. Discussion

The present research is unique in that it is the first study of the Group SSTP program to be conducted in the school environment and co-facilitated by school staff. It is also the first study to compare pre and post measure responses from an independent observer such as the class teacher. The results of the study support the hypothesis that after the delivery of Group SSTP within a school there are significant improvements in child behaviour. In addition, the findings also support the hypothesis that Group SSTP intervention in schools results in improvements in parental mental health, confidence and parenting style.

“Group SSTP intervention in schools results in improvements in parental mental health, confidence and parenting style”

With regard to the first hypothesis, significant improvements in behavioural difficulties were found by teachers in the classroom after parents attended Group SSTP. Significant reductions on all scales of the DBC-T were found on the disruptive/antisocial, self-absorbed, communication, anxiety and social relating scales suggesting global improvements in behavioural and emotional problems. Parents reported likewise significant reductions on the total score and disruptive/antisocial scale of the DBC-P, however, improvements in self-absorbed, communication, anxiety or social relating indices did not reach significance.

With regard to the second hypothesis, highly significant improvements in parental mental health, parenting confidence and parenting style were found following parents' attendance at school Group SSTP programs. On the parenting scale there were significant improvements in the parent's levels of reactivity, verbosity and laxness. On the PTC the findings showed significant improvements in the parents' ability to deal with behavioural incidents and to do this across different situations. Most significantly, the parents' mental health showed highly significant im-

provements with between 43 and 56 per cent reductions in symptoms of depression, anxiety and stress. Importantly, depressive symptoms fell from the mild clinical range to the normal range. This furthers the findings of Roux et al (2013) who found significant intervention effects on the DASS although their results had to be cautiously interpreted as the pre and post intervention scores were within the normal range.

This study gains similar findings to that of Roux et al (2013) who found significant improvements in child behaviour, parenting style and parental satisfaction but with some parents reporting improvements in behaviour not reaching significance. The results also meet with Whittingam et al's (2010) study which found significant improvements in child behaviour and parenting style and supports Hampel et al's (2010) Group SSTP specific study where significant improvements in parenting skills, parental stress and child behaviour problems were found. They reported a highly positive response to the Group SSTP program by parents similar to that found by the present study through anecdotal reports (Saleh, 2012). This is also evidenced quantitatively by high average ratings on the Client Satisfaction Questionnaire.

The study provides strong quantitative evidence that the school is a well-suited environment to host and provide Group SSTP. Three-fold qualitative benefits have also been found between the parents, teacher and the child. The significant improvements in child behaviour at school also suggest that there may be benefits educationally both for the teachers', their class, and the child's ability to learn. Anecdotally, parents reported a sense of comfort with the venue being their child's school and many parents have continued to meet up long after the program has completed. Teachers and principals also expressed anecdotal satisfaction with the program with some expressing an interest in having Group SSTP as a standard part of the initial school intake package for all new children and parents. Staff from ADHC, the disability service, have also reported on the benefits of co-facilitating the groups and an enhanced relationship with the schools during and after the program.

It was disappointing that the parents compared with the teacher's findings did not observe more significant behavioural change in the children. There may be various reasons for this. In previous research, it has also been found that behavioural improvements at home can be delayed with changes still being noted at six month follow up (Roux et al, 2013). There is also a possibility that following the program the parents' enhanced behaviour management skills leads to an increased vigilance in identifying problem behaviours which were not noticed previously. This may have had the effect of increasing the number of behaviours being reported on the post intervention DBC. Additionally, the population attending SSPs are commonly highly complex with dual diagnoses

including ID, ASD and often ADHD therefore it would not be unexpected for the benefits of the parents new skills, confidence and general well-being to take time to lead to **improvements in the children's behaviour.**

Among the strengths of the current study is the high degree of close interagency working partnerships. Mazzucchelli & Sanders (2011) highlighted that a common barrier to the implementation and dissemination of programs **such as Group SSTP in schools can be the "turf wars"** that can ensue between agencies. Since 2010 this project has been the result of a partnership between Ageing Disability and Home Care, Family and Community Services NSW, the Children's Hospital at Westmead and SSP schools in NSW. Furthermore, the intervention itself was run in schools by facilitators from both education and disability services with support from a mental health service. Therefore, barriers that have impeded other studies and interventions were not present for this project.

The large sample size was also a strength of the study. During the analysis phase a conservative process of filtering was undertaken where data sets with missing data, such as questionnaires not fully completed, were excluded. Despite this process, 56 complete sets of data were included in the study. This helped maximise the validity and reliability of our findings and enhanced our ability to detect significant differences and strong effect sizes.

Another strength of the project was the use of teachers as independent observers of change. In the majority of previous research, outcomes are measured by parent responses alone. The use of teacher completed DBC-T questionnaires gained a valuable second opinion on behavioural change but also gave insight into change in the school context which has not been measured before. The program was also rolled out in both city metro and regional areas of NSW Australia therefore further enabling the generalisability of the results across the population.

Regarding limitations of the study, an opportunity sample was used where the school staff independently recruited families. In some cases, schools identified which families they would like to attend, in others the schools invited parents to apply. As a result recruitment was not standardised. However, as schools were in control of the recruitment and implementation process, the results can be considered an ecologically valid representation of clinical outcomes when Group SSTP is implemented in schools.

Regarding other possible study constraints and future directions, there was no waiting list control group as none of the schools had a second Group SSTP program planned. Diagnosis of the children relied on the parents reporting which could be suggested as being subjective information with no real independent confirmation. However, the fact that the children were enrolled in SSPs

where there is a requirement for a diagnosis of an intellectual disability for admission is a form of ratification. Finally, as post-hoc testing suggested greater improvements in children with ASD and an intellectual disability compared with children who had an intellectual disability only, it is a goal to further explore the outcomes for children with both diagnoses in the next phase of our research.

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References

- Arnold, D. S., O'Leary, S. G., Wolff, L. S., & Acker, M. M. (1993). The Parenting Scale: A measure of dysfunctional parenting in discipline situations. *Psychological Assessment*, 5, 137-144.
- Einfeld, S. L., & Tonge, B. J. (2002). *Manual for the Developmental Behaviour Checklist: Primary Carer Version (DBC-P) & Teacher Version (DBC-T) (2nd. ed.)*. Clayton, Melbourne: Monash University Centre for Developmental Psychiatry and Psychology.
- Einfeld, S. L. & Tonge, B. J. (1994). *Manual for the Developmental Behaviour Checklist: Primary Carer version (DBC-P)*. Sydney: University of NSW: School of Psychiatry and Centre for Developmental Psychiatry, Monash University.
- Eyberg, S. M., & Pincus, D. (1999). *Eyberg child behavior inventory and Sutter-Eyberg student behavior inventory-Revised: Professional manual*. Odessa, FL: Psychological Assessment Resources.
- Hampel, O.A., Hasmann, S.E., Schaadt, A.K., Holl, R., Petermann, F. and Hasmann, R. (2010). Effeke des Stepping Stones Elterngruppentrainings für Familienmitbehinderten-Kindern. *Kindheit and Entwicklung*. 19(1), 36-46. HogrefeVerlag, Gottingen.
- Harrison, J. (2006). *Evaluation of a Group Parenting Program*. Dissertation, Charles Sturt University.
- Jewell, M. (2011). Running Group Stepping Stones Triple P within a School: How successful is it? *CHW School-Link Newsletter; Mental Health and Intellectual Disability*. 2(2), 8-9.



Kleefman, M., Jansen, D.E. and Reijneveld, S.A. (2011). The effectiveness of Stepping Stones Triple P: the design of a randomised controlled trial on a parenting program regarding children with mild intellectual disability and psychosocial problems versus care as usual. *BMC Public Health*. 11, 676.

Lovibond, S., & Lovibond, P. F. (1996). *Depression, Anxiety & Stress Scales*. Sydney: The Psychology Foundation of Australia.

Mazzucchelli, T.G. and Sanders, M. (2011). Preventing behavioural and emotional problems in children who have a developmental disability: A public health approach. *Research in Developmental Disabilities*. 32, 2148-2156.

Myers, K. (2007). *Stepping Stones Triple P: A Group Delivered Behavioural Family Intervention for Children with Developmental Disabilities and Challenging Behaviours*. Dissertation, Curtin University of Technology.

Roberts, C., Mazzucchelli, T., Studman, L., & Sanders, M. R. (2006). A randomised control trial of a behavioural family intervention for young children with developmental and behavioural problems. *Journal of Clinical Child and Adolescent Psychology*. 35, 180-193.

Roux, G., Sofronoff, K. and Sanders, M. (2013). A Randomized Controlled Trial of Group Stepping Stones Triple P: A Mixed-Disability Trial. *Family Process*. 10 (10), 1-14.

Saleh, H (Eds). (2012). Beverly Park Triple P Stepping Stones Program. *CHW School-Link Newsletter*. 3 (3/4), 15. Retrieved from http://www.schoolink.chw.edu.au/newsletter/Vol3_Iss34_Finalb.pdf

Sanders, M. R., and Woolley, M. L. (2001). Parenting Tasks Checklist. PFSC: Brisbane.

Sanders, M., Mazzucchelli, T.G. and Studman, L.J. (2004). Stepping Stones Triple P: the theoretical basis and development of an evidence-based positive parenting program for families with a child who has a disability. *Journal of Intellectual and Developmental Disability*. 29(3), 265-283.

Speetjens, P., and de Graaf, I. (2010). *Stepping Stones Triple P Opvoedhulpvoorouders van kinderen met een beperking. Evaluatie van een pilot studie*. Utrecht: TrimbosInstituut.

Steiner, A.M., Koegel, L.K., Koegel, R.L. and Ence, W.A. (2012). Issues and theoretical constructs regarding parent education for Autism Spectrum Disorders. *Journal of Autism and Developmental Disorders*. 42(6), 1218-1227.

Walsh, N.K. (2008). *The impact of therapy process on outcomes for families of children with disabilities and behaviour problems attending group parent training*. Dissertation, Curtin University of Technology.

Whittingham, K., Sofronoff, K., and Sheffield, J. K. (2006). Stepping Stones Triple P: A pilot study to evaluate acceptability of the program by parents of a child diagnosed with Autism Spectrum Disorder. *Research in Developmental Disabilities*. 27, 364-380.