



# Using a blended format (videoconference and face to face) to deliver a group psychosocial intervention to parents of autistic children



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## ARTICLE INFO

**Keywords:**  
Stigma  
Blended format  
Autism  
Mental health  
Videoconference  
Parents

## ABSTRACT

**Background:** Parents and carers of autistic children report poor mental health. Autism stigma is a strong contributing factor to poor parental mental health, yet there are currently no interventions available that are evidenced to improve parents' mental health in part through increasing resilience to stigma. Childcare and travel are well known barriers to attendance and attrition rates for this population are high.

**Methods:** A blended format psychosocial group support intervention was developed with the aim to improve parental mental health. Three sessions were delivered face to face, and five sessions via videoconference. A secret Facebook group was set up to support the intervention and increase retention rates. Mixed methods were used to assess the feasibility and acceptability of this mode of delivery for both the facilitator and service users. Attendance rates, fidelity and implementation issues are discussed. A qualitative focus group was conducted ( $n = 9$ ) to explore the acceptability to the participants. Framework analysis was used to analyse the findings.

**Results:** Attendance rates were high with the online sessions having significantly higher attendance rates than the face to face sessions. The findings of the qualitative evaluation suggest that participants are positive about videoconferencing for a group support intervention. The facilitator reported sound quality, background distractions and late arrivals as challenges; the participants on the other hand, reported that the benefits far outweighed the negatives. Suggestions for improvement are made.

**Conclusions:** The results suggest that videoconference is a well-received method to provide a group support intervention to parents. Only preliminary conclusions can be drawn, owing to the small sample size.

## 1. Introduction

Autism Spectrum Condition (ASC) is a neurodevelopmental condition which is characterised by challenges in social interactions, verbal and nonverbal communication, sensory issues and specialised interests. Raising an autistic child can be challenging and parents consistently report higher parenting stress (Davis and Carter, 2008; Hayes and Watson, 2012), lower psychological well-being (Benson and Karlof, 2009) and higher depressive symptomatology (Shtayermman, 2013) compared to parents of children with other disabilities. The literature has identified various factors that contribute the poorer mental health of parents of autistic children including the child's cognitive impairment (Brown et al., 2011), externalising behaviour problems (e.g. aggressive behaviour) (Tomanik et al., 2004) and internalised distress, (Lecavalier et al., 2006) hypersensitivity (Nickel et al., 2019), toileting, (Tomanik et al., 2004) strict routines, (Hall and Graff, 2011; Ingersoll and Hambrick, 2011) and social difficulties (Gray, 2002). Another key risk factor identified in the literature towards parents experiencing poor

mental health is the stigma that surrounds autism (Kinnear et al., 2016; Mak and Kwok, 2010; Wong et al., 2016).

Autistic individuals and their families are one of the most highly stigmatised groups (Ali et al., 2012) and studies have shown that up to 95% of parents report feelings of exclusion, rejection, blame and devaluation (Gray, 2002; Kinnear et al., 2016). 'Autism stigma' has been defined as "the negative social labelling and stereotyping ascribed by members of the general public towards autistic people ('public stigma' or 'social stigma') and/or their family and close associates ('courtesy stigma,' 'associative stigma' or 'family stigma') (Papadopoulos, 2020: p1). Autism related stigma can manifest itself in parents through blame for their child's behaviour (Moses, 2014; Crabtree, 2007), social exclusion and rejection (Cantwell et al., 2015) or being judged negatively by those around them (Broady et al., 2017). A systematic review conducted by Papadopoulos et al. (2019) found that autism-related stigma is directly related to an increased risk of depression, anxiety and psychological distress among parents and family carers. Yet, despite the pervasive and harmful nature of autism stigma, there is no evidenced-

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based support available for parents and family carers of autistic children to cope with, resist or reject the stigma they experience.

To overcome this, a psychosocial group intervention, titled 'SOLACE' was developed aiming to improve parental mental health in part through increasing stigma resistance. One of SOLACE's principle design features is that is delivered through a 'blended format' i.e. a combination of both face-to-face and online-based group sessions. The use of videoconference as a mode of delivery was chosen to overcome the barrier of required continued face-to-face attendance given that this population are unlikely to be able to commit to due to time constraints, travel and childcare arrangement issues (Whitebird et al., 2011; Lodder et al., 2019a). An intervention that is evidenced to be easily accessible could, therefore, provide a practical, acceptable and cost effective way to provide support to this population and ultimately their autistic children.

Research in other caregiving populations has started to explore the use of videoconference to deliver psychosocial group interventions to overcome barriers to attendance and increase attendance rates. For example, Lipman et al. (2011) adapted a face to face group education intervention designed to improve the mental health of single mothers. They delivered the intervention via video conferencing to single and poor mothers in rural parts of Canada. Focus group interviews revealed that this mode of delivery was well received, and that participants reported videoconference to be less intimidating than face to face delivery. The participants in Lipman et al.'s (2011) study stated they were able to establish trust quickly and noted they preferred sharing experiences from the comfort of their own home. Banbury et al. (2018) systematically reviewed the literature on using videoconference as a mode of delivery for group therapy, education and support within health care. Seventeen studies were included, which all suggested that videoconference is an acceptable and feasible method of delivering group support to caregivers. The majority of the reviewed studies included caregivers of people with dementia, however, these results are promising for the use of videoconference in group support for caregivers. Hall and Bierman (2015) reviewed 48 studies that provided education and interventions to parents of young children using technology assisted methods including videoconference. The review included two studies with parents of autistic children (Wainer and Ingersoll, 2014; Vismara et al., 2014). These studies did not aim to improve parental mental health per se, yet did show that videoconference is a promising method for intervention delivery in this population. Some argue however that the quality of social interactions during group videoconferencing may be lacking and that group membership is inhibited through this mode of delivery (Kozłowski and Holmes, 2014). Nevertheless, overall, the evidence-based suggests that providing an opportunity for parents to interact with peers online is likely to be beneficial platform for interventions aimed at enhancing parental mental health (MacIntosh et al., 2005), and also potentially as a way to cope with stigma (Mak and Kwok, 2010; Papadopoulos et al., 2019; Wong et al., 2016). There also remains a clear need for more research on the feasibility and effectiveness of group-based psychosocial interventions that are delivered fully or partly via videoconference among parents and family carers of autistic children. Further, prior intervention studies that have adopted videoconference frequently omit an evaluation of the practicalities and acceptability associated with this mode of delivery, including the issues and challenges experienced by facilitators (Banbury et al., 2018). Therefore, the current study aims to address the need for this type of research by evaluating the procedural and implementation challenges of a blended, group-based psychosocial stigma protection intervention for parents of autistic children (SOLACE) as part of a pilot feasibility randomised controlled trial. The results of this pilot trial showed that the participants who took part in SOLACE reported significant improvements in their mental health compared to those allocated to the control group. The underpinning theoretical development and intervention mechanisms of SOLACE, including its preliminary effectiveness in relation to all measured outcomes

(courtesy and affiliate stigma; self-esteem; self-compassion, positive meaning of caregiving; self-blame; social support; and social isolation) are reported elsewhere (Lodder et al., 2019b, 2020).

## 2. Method

### 2.1. Recruitment

This study targeted parents and carers of children up to the age of 10 years who had been diagnosed as autistic within the past 12 months (since October 2017) or were still undergoing diagnostic assessment given the focus on new carers and early intervention with this population. Participants had to be able to travel to Bedfordshire, UK, for the face to face meetings and have access to the internet or a device able to take part in the online meetings (e.g. mobile, tablet, PC with a camera and microphone). Participants also had to be able to speak and understand English. Recruitment took place between June 2018 and September 2018 through a number of venues including special needs centres; local parenting groups, community forums on social media such as autism and special needs groups and advertisement via AUTISTICA's autism research registry and snowballing techniques.

### 2.2. Procedure

#### 2.2.1. The intervention

The intervention was developed following the Medical Research Council's guidelines for complex interventions (Craig et al., 2008) titled 'SOLACE' (Stigma Of Living as an Autism CarEr). The intervention aimed to challenge autism myths and stereotypes through psycho-education; help parents develop skills how to recognise and cope with stigma to prevent internalising stigma; reduce feelings of self-blame; increase self-compassion and positive meaning of caregiving; and increase self-esteem using a combination of cognitive restructuring techniques and psycho-education; increase social support and reduce social isolation through group discussions and sharing of experiences. SOLACE consists of eight weekly sessions lasting approximately 90 min each. A facilitator manual was developed outlining the topics and session aims for each week. Every session had a 'core topic' and finished with 'free sharing time' during which parents were encouraged to ask or share topics of their choice. A brief overview of the sessions is provided in Table 1, and a more detailed description of the intervention development is published elsewhere (Lodder et al., 2020). The intervention manual is available from the author.

The sessions were facilitated by a female doctoral student in Psychology who was experienced working with families of autistic children. During the face to face session an assistant facilitator, a Master level Psychologist, was present to take notes on fidelity.

The intervention ran from 2nd October 2018 to 20th November 2018. Three sessions were face to face at the University of Bedfordshire, and five were online via a videoconference program 'Zoom' ([www.zoom.us](http://www.zoom.us)). A Zoom 'pro' account was purchased for the duration of the intervention. Zoom was chosen because it can host online meetings that can accommodate group sessions without a yearly commitment as opposed to Skype for business which requires an annual subscription. Zoom has been successfully used in qualitative health research and several recommendations have been put forward for using Zoom as a qualitative data collection tool in health research (Archibald et al., 2019) which are in line with the current study. Participants can access meetings without having to purchase or install software via a tablet, phone, pc or laptop Zoom also has screen sharing facilities, recording options, and manages video stability relatively well. Only the facilitator could record and save the sessions. Participants could access the online meetings via a hyperlink or enter the meeting ID and were provided with a password to enter the meeting. During online meetings, all participants can be seen on screen with their name displayed under their picture. The picture of the one who talks is highlighted although

**Table 1**  
Overview of SOLACE.

#	Topic	Theme	Aim
1	Introduction	Exploration of autism and autism stigma. Autism myths and stereotypes will be challenged through psycho-education and a group discussion about common stereotypes.	To make introductions and provide an overview of the sessions. To increase knowledge about autism.
2	Coping with autism stigma	Group discussions of experiences of stigma using quotes from other parents. "How would you treat a friend" exercise.	To reduce feelings of self-blame and increase self-esteem.
3	Positive meaning of caregiving	Video clips of parents of autistic children showing how having an autistic child has changed them. Group discussion based on that. Free sharing time.	To develop skills how to recognise and cope with stigma and to prevent internalising stigma.
4	Resilience & Self-esteem (Face to Face)	Group task to work together to find "key phrases and responses" to stigmatising situations.	To increase the positive meaning associated with the caregiving role and increase self-compassion.
5	Social Support	Stress the importance of social support and discuss together how social support could be utilised and or improved.	To increase resilience and increase self-esteem.
6	Compassion & Acceptance	Discuss the importance of self-care and self-compassion as well as acceptance of the child. Use video clips of how other parents have achieved this.	To reduce social isolation and increase feeling of belonging.
7	Coping with autism stigma part 2.	Discuss the automatic thought cycle (self-fulfilling prophecy). Group discussion on how we can break this cycle.	To stress the importance of social support to help reduce social isolation.
8	Next steps	Group discussions on how to disclose the diagnosis to others and to provide list of support for future.	To increase feelings of self-compassion and acceptance.
			To further develop skills how to recognise and cope with stigma and prevent internalisation of stigma
			To further increase self-esteem and reduce social isolation To conclude the sessions and provide "next steps" for future reference

settings can be changed so that the one who speaks fills the screen. To facilitate group interaction, this setting was not recommended. The facilitator would log in about 10 min before the planned meeting and would see when participants joined the meeting. Participants were not able to join the meeting before the facilitator was present.

Participants were sent detailed instructions including screenshots on how to use Zoom, and an instructional video was provided. Participants were all given the opportunity to test Zoom with the facilitator before the start of the intervention. One participant used this opportunity and made an online call with the facilitator before the first online meeting took place. During the first face to face meeting, the facilitator talked the participants through the steps on how join the online meetings once more.

During the intervention period, a 'secret' Facebook group, which only the experimental group participants had access to, was used to support the intervention and to boost retention rates. This group was closed, meaning that the group cannot be identified by others through searching and only the participants attending SOLACE could see posts and comments. Only those invited by the facilitator could join the group. The Facebook group was used to share details about upcoming sessions, instructions on how to use 'Zoom' and to share details of the sessions for those who were not able to attend. After each session, information relevant to the session was shared in the Facebook group and participants were encouraged to use the group to ask each other questions, or to share their experiences or concerns. Participants all joined the Facebook group before the start of the intervention. A pinned post set out the rules of engagement.

### 2.3. Analyses

To test the feasibility and acceptability of using a combination of videoconference and face to face as a mode of delivery, attendance rates are described, as well as fidelity to the manual which was assessed using a checklist developed for the current study. This involved the group facilitator retrospectively noting down time spent on each topic, whether all topics were covered, and any deviations from the manual. An implementation log was completed by the facilitator after each session to evaluate the process of the delivery and to record any events that affected implementation. To evaluate the acceptability of the intervention, a qualitative focus group was carried out with the SOLACE participants after the intervention had been completed.

Two participants were absent from the focus group session and were

contacted to arrange an individual interview. One participant was interviewed individually and the second participant was unable to participate due to personal circumstances. The focus group interview was semi-structured using a topic guide as prompt, and was led by the facilitator of the intervention. Open questions were used as much as possible to encourage participants to elaborate on topics. Subjects of particular interest were explored further as they arose during the interview. The individual interview followed the same topic guide as used during the focus group interview. Topics included structure and format of the sessions, the mode of delivery (online versus face to face); suggestions for a future trial and any additional thoughts and issues. Both focus group interview and individual interview took place online via Zoom and lasted approximately 60 min for the group interview and 30 min for the individual interview.

### 2.4. Focus group analysis

The audio recorded interviews were transcribed verbatim as soon as possible after the interviews took place and imported into QSR NVivo v11 for analysis. Because this study aimed to explore participants' views on the mode of delivery, framework analysis (Ritchie and Spencer, 1994) was used to generate the main themes. The analysis began deductively from the objectives set for the focus group (i.e. explore participants' views on the acceptability of using a blended format of delivery of the intervention) followed by an inductive analytical approach being adopted, i.e. new themes can emerge from the discussion with the parents.

After close familiarisation with the data had been achieved through multiple listening and reading of transcripts, the data set was coded by one member of the research team by coding segments of text (words, parts of sentences or whole paragraphs) identified as interesting and meaningful. These codes were subsequently discussed and refined with the wider research team, with each code containing an agreed-upon brief definition before applied to the full data set.

### 2.5. Ethics

Ethics approval was granted by the University of Bedfordshire's Institute for Health Research Ethics Committee (ref: IHREC812) and complied with Europe's General Data Protection Regulations.

**Table 2**  
Participant demographics.

Demographics	(n)	
Gender	Female (n)	8
	Male (n)	2
Age	Range in years	26–42
	Mean (sd)	35.00 (6.42)
Ethnicity	White British (n)	8
	Black British (n)	–
	Asian (Pakistani) (n)	1
	Maori (n)	1
Marital Status	Married/cohabiting(n)	10
	Single(n)	–
Religion	None(n)	6
	Christian/Catholic (n)	3
	Islam(n)	1
Education	A levels (n)	1
	College (n)	2
	University degree (n)	4
	Masters degree (n)	1
	Doctorate (n)	1
Employment	Full time	4
	Part time	3
	Looking for work	–
	Full time carer	3
Income	Less than £10,000	1
	£10,000–£19,999	3
	£20,000–£29,999	2
	£30,000–£49,999	1
	£80,000–£99,999	1
	£100,000+	1
Child gender	Male	7
	Female	2
Age	Range in years	3–8
	Mean (sd)	4.83 (1.73)
Diagnosis	Autism	9
	ADHD	1
	Global developmental delay	2
	Speech and language delay	3
	Dyspraxia	1
	Down syndrome	–
	Dyslexia	–

### 3. Results

#### 3.1. Participants

Nineteen people were enrolled in the study of which ten parents (8 mothers and 2 fathers) took part in the group sessions. All ten were either married or cohabiting. The fathers were both part of a couple in the group. Ages ranged from 24 to 50 (mean age 37.00,  $sd = 7.71$ ). The majority of the parents were White British ( $n = 8$ ), other ethnicities included: Pakistani ( $n = 1$ ) and Maori ( $n = 1$ ). The participants' education levels ranged from A-levels to doctorate level and seven parents were employed full or part time and the other three were full time carer for their child. The age of the child diagnosed as autistic ranged from 2 to 10 with an average age of 5.91 ( $sd = 2.59$ ). Parents reported various sources of professional support yet only two reported to have received professional support aiming at the parents. Ten parents indicated to be a member of an (online) autism support group with an average of two groups per participant. The majority of parents reported to use these group sometimes ( $n = 6$ ), regularly ( $n = 2$ ) or rarely ( $n = 2$ ) and one parent reported to use this group often ( $n = 1$ ). A full breakdown of the participants' demographics can be found in Table 2. Digital consent was obtained from all participants.

#### 3.2. Attendance

Attendance rates for the intervention were good. One participant withdrew from the intervention after attending one online session but the remaining participants attended an average of six sessions

suggesting a high attendance rate. The online sessions were better attended (mean = 7.6,  $sd = 0.89$ ) than the face to face sessions (mean 4.67,  $sd = 1.15$ ). This difference was found to be significant ( $t(6) = 4.06, p = .007$ ). Reasons for not attending were lack of childcare, conflicting schedule, or child's bedtime routine.

#### 3.3. Fidelity

Fidelity to the manual was good. All topics were covered suggesting there was enough time for each topic. All topics were covered although not always in the order pre-planned. The facilitator would be guided by the preference of the group trying to re-direct back to the topic when appropriate. For example, during the final session (3rd face to face session) it was planned to 'practise' disclosing the autism diagnosis to others, including family members. Due to the small number of participants present, the group consensus was to do this as a group, instead of pairing up. However, the parents were less concerned about disclosing the diagnosis to others but were more anxious about when and how to tell their child about the diagnosis. This was discussed in the group and ideas and solutions were shared. Fidelity to the manual was higher and easier to maintain during the online sessions. The conversation style differed significantly during the online sessions and the face to face sessions. The participants would wait for the facilitator to talk and the facilitator had to give 'turns' to make sure everyone talked. This made following the manual easy.

#### 3.4. Implementation

The sessions lasted between 71 and 100 min. The face to face sessions were longer (mean 96.00,  $sd = 4.58$ ) than the online sessions (mean = 81,  $sd = 10.65$ ) although this difference was not statistically significant ( $t(6) = 2.26, p > .05$ ). Setting up Zoom seemed straight forward and there were minimal problems with starting the first session. The facilitator would make sure to be online 10 min before the start of each session. Participants would join one by one within the first 10 min. The facilitator would engage in conversation with the participants and make sure to acknowledge each arriving participant to check whether the audio was working and they were set up. The facilitator noted this as challenging and distracting, and in particular when the participants had not notified beforehand about late attendance.

There were no reportable serious adverse events during the intervention period. There were some minor events that were reported that interfered with the implementation of the intervention. None of these events were related to the participants' well-being but related to technicalities or practical issues which are reported below.

There were several technical issues reported to interfere with the intervention. The sound quality was poor for some participants. This made it hard at times for the facilitator as well as for participants to have a natural conversation. After the first online session, an email was sent to the participants to use a headset if possible and to remind participants that being in a private quiet place would work best. The participants were also asked to select 'mute' when not talking. The facilitator also had the ability to mute participants when needed. Two participants used this function properly, the remaining participants did not use mute. Two participants used a headset during the remaining online sessions. The two couples who joined during the online sessions shared a laptop and were therefore unable to use a headset.

Other technical issues included bad sound feedback, and a high pitched tone from one of the participant's computers and there was one occasion that the facilitator's screen froze. This lasted about 40 s and Zoom re-connected automatically when connection was re-established. It did not seem to interfere with the group dynamics and atmosphere, however it was challenging for the facilitator.

Distractions in the background were noticeable events that occurred during the online sessions and interfered with the delivery of the intervention. For example, children or other family members would

appear onto the screen or talk to the participants. The facilitator also noted how the communication style differed between online versus face to face sessions. During the online sessions, participants would wait to be called on to talk. Participants took turns, and checked in one by one for each question or topic of conversation, and spoke directly to the facilitator. This made the facilitator having to work hard to get participants to speak, which was in contrast to the face to face meetings where the participants would talk more freely, and it was the facilitator's role to make sure everyone would get a chance to speak. Participants also behaved differently online than face to face. For example, some participants would engage with family members or leave the discussion to prepare a drink. One participant joined the session whilst driving which made it near impossible for the facilitator to include her in the group discussions.

The facilitator noted that online sessions with more than six participants were challenging to facilitate and that smaller groups were easier to create a more natural group conversation. The facilitator did note, however, that online facilitating became easier during the 8 week period and had adapted her style. For example, the facilitator would ask less 'open questions' but would ask directly a participant's thoughts and then relay this back to the group instead of waiting for someone to offer to talk. A summary of implementation issues is provided in Table 3.

### 3.5. Focus group findings

The focus group interview and individual interview revealed that participants found the way SOLACE was delivered acceptable. Participants responses fell into three categories relating to being part of a group (group format); the mode of delivery; and suggestions for improvement. The codes under each theme with accompanying illustrative quotes are provided in Table 4.

#### 3.5.1. Group format

Being among other parents with autistic children in a non-judgmental environment seemed to be one of the most important aspects for the parents. Parents mentioned the importance of receiving practical and emotional support from others and appreciated listening to others' experiences. Participants noted they learned from others' experiences and valued being able to share tips and advice about available resources and in particular school related issues. Being among peers also provided parents the feelings of being understood without having to explain their situation. As one participant explained: *"We have support from friends and family but they just don't get it, they can sympathise but they don't understand"* (P1) All parents appreciated the opportunity to share their experiences or 'to vent' without the fear of being judged: *"In this group you know you are not being judged and it is nice to have that security that you can say something about how you feel and that everyone is going through very similar things"* (P2) It did not appear to be a limitation that people did not know each previously, or even met face to face. In fact it was mentioned as one of the advantages of SOLACE: *"It is nice to talk to someone who doesn't know you. You can just say what you think and not worry that the next time you bump into them in the street. They just get that sometimes you just want to vent about things and I think that is easier with the online sessions."* (P4).

#### 3.5.2. Mode of delivery

Parents found setting up Zoom on their phone or tablet straightforward and easy. There were a few technical or practical issues related to Zoom that were mentioned. Four parents mentioned that the sound was not always of good quality and that it could be difficult to hear everything. This would make the conversation feel less 'natural' and as one participant noted the lower sound quality meant *"one would get about 80% or 90% of the conversation"*. (P3) Another participant who used their phone to join the online sessions, was unaware that the settings could be changed in order to see all participants simultaneously: *"I couldn't see anyone, the person who would be talking would*

**Table 3**  
Summary of implementation issues and deviations from protocol.

Session	Duration	N	Technical events	Other notable events	Deviations from protocol
1 (face to face)	100 min	6	None		Free sharing time happened naturally, without being 'announced'
2 (online)	72 min	9	● Low sound quality	● Phone use in car ● Late comers	
3 (online)	85 min	7	● Screen sharing failed first video(pp only heard audio)	Facilitator felt more like a 'teaching' role and had to get participants to talk. The facilitator had to initiate the free sharing time.	
4 (face to face)	97 min	4		● Late arrival ● Small number participants	Task not completed as intended but good discussion. Free sharing time at start of sessions as waiting for 4th participant to arrive (20 min)
5 (online)	85 min	7	● Low sound quality few participants	● Background distractions ● One participant half in camera ● One couple far away on screen ● Participant battery died on phone. ● Participant face not visible (phone to ear)	
6 (online)	71 min	8	● Frozen screen (40 s)		
7 (online)	70 min	7	● Feedback which lasted a few minutes		
8(face to face)	91 min	4	None		Minimal deviations but focus of task adapted to suit participants' wishes

sometimes come on the screen but I mainly just saw you (the facilitator)" (P9).

Nevertheless, these technicalities were not seen as particularly problematic and the overall response from parents was that the positives of the online meetings outweighed the negatives. The main benefit of the online sessions according to the parents was that they did not have to arrange childcare: "What makes it that much easier to attend, especially if we had done tonight as a face to face and with [daughter] playing up how she was we would have had to cancel at the last minute". (P7) Other benefits mentioned were that it was easier not to have to rush out and to be able to join the session from the comfort of their own home. One of the couples mentioned they enjoyed that they were able to both benefit from the sessions as that would not have been possible if the sessions were all face to face. Another participant explicitly mentioned it was easier to talking to people online than face to face: "I find it easier online talking to others. I am not very good face to face talking out loud in front of everyone so I like this, find it a lot easier". (P9). However, eight out the ten participants noted they preferred a combination of the two delivery methods. Parents maintained that face to face sessions are easier to establish trust quickly: "I think when you meet people face to face you build trust that bit more, for this sort of thing being able to open up and sharing of experiences." (P6). Distractions from children at home was given as another reason why face to face may be better in some instances: "I find it easier to speak face to face because you are all in a room and there are no children around. No noise or nothing, so you can literally just concentrate on what people are saying whereas when I am doing this I can hear her (child) talking and she is asking for my attention". (P4).

The two parents who did not attend the face to face sessions argued they missed out on meeting everyone, and would recommend others to make sure they would at least attend the first face to face session: "I feel like I missed out on something, so I think especially in the beginning coming in and not having met everyone was quite difficult during that first session to then start talking to people you didn't know and you hadn't met about things that are quite personal". (P5).

For these reasons, the participants overall response seemed that a blended format worked best: "I think the mix was good. I think face to face was nice because you can like develop that trust but equally like just now when you are just able to sit and flick it on is quite helpful. Like [my son] hasn't actually gone bed yet... it is quite nice for me not rushing out the door and our children settle better if one of us hasn't gone out so I think a mix is good" (P6). Parents stated that although face to face is optimum in term of quality of communication, two or three face to face sessions would be sufficient.

The opinions about the Facebook group were not particularly strong. The participants said they found it useful to be reminded about upcoming sessions but few parents were frequent Facebook users and did not engage frequently with the Facebook group. The participants commented it should not be used as a substitute for the online sessions. One participant expressed her concern about visibility on Facebook despite the group being 'invisible' to others. Parents did not discuss any concerns about privacy or confidentiality using Zoom.

### 3.5.3. Future suggestions

All parents felt the sessions ended rather abruptly and responded that they would have liked it to continue for longer. Some parents suggested that weekly sessions may be too much commitment but that a monthly on-going session would be beneficial and appreciated:

"I would have liked it little bit longer. I feel like that there is still so much to talk about to discuss and listen and things like that, I feel 9 weeks has gone really quick. And although we have learned so much and gained a lot more experience I think that it would be nice to have it that little bit longer." (P2). Five participants did suggest that to improve the online sessions it may be beneficial to provide materials (e.g. the video clips) beforehand so that they would have more time to process the content of the video clips for group discussion during the online sessions. However, another participant argued that busy schedules would make this an unrealistic

task for most parents. Participants also suggested using WhatsApp compared to Facebook as they felt that would be easier and a more useful method to communicate with the other parents between sessions. No negative comments or suggestions were made for change about the actual content of SOLACE. As one participant commented: "Nothing was negative or upsetting or anything like that, it was all positive and about sharing your experiences and understanding more about different people. Every session was different, I found every session helpful". (P7). That the parents viewed SOLACE positively was also reflected in that they would all recommend SOLACE to other parents: "I'd love to see something like this rolled out, like the Early Bird. It is very helpful for us and other parents who don't have any support or anyone to talk to turn to". (P8).

## 4. Discussion

This study set out to test the feasibility and acceptability of delivering a psychosocial stigma support intervention for parents of autistic children in a blended format. The findings from this study support that videoconference can be an acceptable delivery method to parents of autistic children. The attention rate was promising which could be due to the blended format where videoconference was supplemented with face to face meetings. However, the online sessions were better attended than the face to face sessions which suggest that despite some of the limitations of video conferencing, parents found it easier to attend the online sessions. This was supported by the feedback from the parents who stated that the benefits from the online sessions outweighed the negatives. It seemed the participants accepted technical limitations as part of the process. With regards to the feasibility of delivering the intervention, the technical issues that arose during the intervention, and were noted by the facilitator as distracting and/or challenging for the delivery of the intervention are similar to those reported in the literature. Banbury et al.'s (2014) review found that audio difficulties such as delays, dropouts and background noise were among the most commonly reported problems. Nevertheless, the issues were noted as minor and fidelity to the manual was maintained throughout the study period suggesting the delivery of the intervention was feasible to both the facilitator and the participants. However, it could be that the participants in the current study were aware of the feasibility nature of the study and therefore more forgiving for some of the challenges.

The group mentioned they would prefer Whatsapp over Facebook and did not continue to use the Facebook group after the intervention period had finished. Although it may have aided in the attendance rates, the added value of the Facebook group needs further investigation. All participants wished the group continued and subsequently set up their own Whatsapp group. This indicates the group felt socially connected and valued engaging with each other. This supports previous research that found that videoconferencing groups can help reduced feelings of isolation, and loneliness (Damianakis et al., 2016; Khatri et al., 2014; Marziali et al., 2009) and were able to provide emotional and social support (Astrom et al., 2015; Banbury et al., 2014). Albeit limited, there are mixed findings regarding the process of feeling socially connected online. Banbury and colleagues describe how sometimes participants take a while before feeling at ease with others in an online environment. Two studies combined face-to-face meetings with online meetings (Burkow et al., 2013; Lundberg, 2014). Burkow et al. (2013) reported that, for those who could not attend the face-to-face meeting, engagement with others during the intervention was not compromised. This is in contrast to our findings as the participants who did not attend the face to face meetings mentioned they felt they had missed out meeting people face to face. They would have preferred to meet everyone face to face, and said they wished they could have come to at least the first face to face session. The parents in our group felt that trust is quicker established during face to face sessions which is in contrast to Lipman et al.'s (2011) study where participants reported that videoconference is less threatening than face to face meetings. The participants in Lipman et al. (2011) felt that they were quickly able to

establish trust and felt more able to share experiences talking from the comfort of their own home than they would have in a different group setting. This view was shared by a father in our group and future research should explore individual differences in preferred method of delivery.

Kozłowski and Holmes (2014) explored the experiences of group counselling delivered via videoconference. Their participants were more outspoken about the difficulties they experienced with technology and blamed technological issues for not being able to hold a normal conversation and its interference with the group process. It should be pointed out that their participants were students from a counselling degree and would therefore have had a different perspective than our target population. Kozłowski and Holmes (2014)' participants also talked about the videoconferencing process being very different from face-to-face groups. The online group environment was described as being linear with participants waiting their turn to talk. Further, their participants stated that the lag time could lead to awkward silences and hesitations during the group because participants did not know how or want to interrupt. Although the facilitator of the current study noted the same experiences as described by Kowolski and Holmes' participants, none of the participants in the current study brought this up during the focus group interviews although it was reported that face to face sessions felt more 'natural'. It could be that there were different expectations from our participants and that they were expecting more of a psychoeducative environment. Future research should explore how to create a more natural environment online that mirrors face to face sessions.

#### 4.1. Limitations

There are several limitations worth noting. Firstly, given the small sample size no firm conclusion can be drawn. Also, the qualitative analysis may have been more sophisticated and rich had there been a larger sample size with more focus groups or if the evaluation was done via one to one interviews. The participants were mainly positive in their feedback on the delivery of the intervention even though the facilitator noted some challenges in delivering the online sessions such as technical difficulties and less natural conversations. It could be that due to the close rapport that was established between the facilitator and the parents during the intervention, participants felt hesitant to share negative views about intervention.. This is a common limitation in intervention research. Wynter et al. (2015) point out that the negative experiences of support groups are underreported in the literature and that collecting information about less positive experiences is important for the refinement and improvement of support groups. The same could be argued for psychosocial interventions, particularly those at the feasibility stage. An anonymised evaluation survey form may have provided additional information not captured during the focus group interviews. Similarly, although a detailed implementation log was kept by the facilitator and notes were kept by the assistant facilitator, monitoring of the intervention implementation and fidelity could have been more rigorous if sessions had been assessed by a third (independent) party which is something that should be considered for a future larger study.

The current study did not report the facilitator's or participants' internet connection speeds which may be of interest to researchers wishing to use videoconference to deliver group sessions in future research. The focus group interview was held via videoconference based on the participants' preference. However, some reluctance exists to accept online methods as an appropriate alternative to face to face focus groups. For example, Greenbaum (2008) argued that the concept of Internet focus groups is not sound and that these methods are not sufficient to capture essential elements such as the role of the facilitator, the ability to note nonverbal responses, and group atmosphere and dynamics (Greenbaum, 2008).

Further, although parents were asked if their child has received

additional diagnoses, this was not included in any of the analysis given the small sample size. It could be that the group was less homogenous than anticipated. A future larger study may wish to account for the variance in autism and additional diagnoses children may have. A future larger study would also benefit from including an online only group to learn more about the acceptability of using videoconference as a mode of delivery. A larger study is also necessary to account for contextual factors such as the role of the facilitator. The current study was delivered by one facilitator and it is therefore difficult to untangle the role of the facilitator in the research process.

Several suggestions for improvement are made based on the findings. We suggest that all participants use a headset or are provided with a headset if budget permits. Poor sound quality can interfere with the flow of conversation. The most important suggestion is however to encourage use via laptop or tablet so that all participants can be seen at the same time. The importance of being in a private quiet place should also be emphasized. Although a major benefit of videoconference is that participants can take part from the comfort of their own home, background noise and activities interrupt the sessions. People 'behave' differently online than during face to face sessions and perhaps some 'group rules' should be set beforehand to minimise background distractions. Stressing the importance of joining the sessions on time, or notifying the facilitator beforehand if not possible, should also improve the ease of facilitating an online sessions. Facilitators should be prepared for a different communication style during the online and face to face sessions and should adapt the methods and materials in line with this. Also, a group size of six or seven is recommended as the maximum per groups. A group size larger than this makes facilitating difficult for the facilitator and creates an even more challenging environment to have group discussions. Research with parents and carers is often criticised for an overreliance on data provided by mothers. The current study included two fathers who both had a high attendance rate. It could be that this mode of delivery is more appealing to fathers although the sample is too small to make any generalisations. Furthermore, in the current study, one mother attended one session only, and did not attend the focus group interview. She wanted to remain part of the study and later joined the Whatsapp group the other participants created however it would have been useful to explore her reasons for not attending further.

In conclusion, this study was among the first to deliver group support via videoconference to parents of autistic children. Very few interventions have used videoconference to provide group support interventions, where participants were not in the same vicinity (Banbury et al., 2014). The few studies that have used videoconference with parents of autistic children delivered educational intervention focused on the child and not the well-being of the parent (Wainer and Ingersoll, 2014; Vismara et al., 2014). This study shows that this mode of delivery was acceptable and although some recommendations are made to improve the running of the intervention, this is a promising method of delivery and should enable greater accessibility to support. This could be of particular benefit to a population who is at risk of social isolation, like parents of autistic children.

#### Declaration of competing interest

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

#### Acknowledgements

##### Funding

This work was supported by Autistica (grant number 7241). The content of this article is solely the responsibility of the authors and does not represent the official views of AUTISTICA.

Appendix A

Table 4  
Framework matrix.

Group format				
	Shared understanding	Practical support	Emotional support	Accepting environment
P1	“Friends and family just don't get it, they don't you know, they can sympathise but they don't understand like people here.”	“I have tried and it didn't work, has anyone got an idea... and you know.... so and so said this and I tried it and actually thank you very much it has helped .....	“We used each other as sounding boards and got some good ideas for coping mechanisms”	
P2	“Just to talk to people who just understand, what it is like, has been great.”	“Even sharing things like the horse-riding and things like that and other people's experiences”	“You do sometimes think that, it is all your fault and things like that and I definitely shifted how I feel about things through talking to everyone.	“In this group you know you are not being judged and it is nice to have that security that you can say something about how you feel and that everyone is going through very similar things”
P9	“Yeah just been able to vent a little bit I think, talk to people who just understand, what it is like”	“I have got a lot of practical things that I always like to ask other people and to get real practical information what has been useful for them.”		“It's good to hear other people going through similar things and it's not just you and your crazy kid its everyone else as well.”
Mode of delivery				
	Online sessions (benefits)	Face to face (benefits)	Blended format	Facebook
P4	“You don't have to worry about getting somewhere or childcare”	“I find it easier to speak face to face because you all in a room and there is no children around. No noise or nothing so you can literally just concentrate on what people are saying”	Although face to face is easier conversation wise, the benefits of online are that we get still 80 or 90% of it...	“I don't have Facebook on my phone so I have to log onto the laptop and it is not really a substitute for doing teleconferencing or you know meeting up”
P6	“You are just able to sit and flick it on which is quite helpful. Like my son hasn't actually gone bed yet... it is quite nice for me not rushing out the door and our children settle better if one of us hasn't gone out.”	“I think what face to face does is you that you can't really do remotely, is that when you meet people directly you build trust that bit more, for this sort of thing being able to open up and sharing of experiences.”	Yes I think it was good to have both.”	“It would come up in my feed and I was like I hope no one can see that but then I remembered it was a secret group.
P7	“It makes it that much easier to attend, especially if we had done tonight as a face to face and with our child playing up how she was we would have had to cancel at the last minute”.	“I feel like when you sitting around others in a room, sometimes it is easier to be able to just sort of continue the conversation”	“I think the mix of both works, I think sort of one or 2 or 3 face to face sessions is probably sufficient, that is how I feel”.	“It was good for reminders but I don't really use Facebook, its just something I avoid a little bit”
Future suggestions				
	Continuing sessions	Resources in advance		WhatsApp
P3	“It seems to have finished quite quickly. It would have been nice if it was kind of like an on-going thing. Not every week, but like maybe every other week. Or maybe it went like to once a month after or something.”	“Yes having the clips beforehand I think would be good because then you can kind of watch them and think about them, or maybe things to read beforehand would be good”		“We had the Facebook group but WhatsApp would be easier for me really”
P8	“I actually think we would have liked it a little bit longer, personally, just because I find that I've learned lots of stuff and so much and I feel I could learn a lot more about situations.”	“Maybe the video clips a couple of days before would have been nice. To be able to think about it more beforehand probably would have been beneficial.		
P9	“It is quite good to have like a block of sessions but then something you can return to. I guess you can return to the Facebook page if you need to.	“Yes pretty much of what everyone else said so just having the processing time really for video clips and anything beforehand having the time to process it and think about it and process it a bit more. But equally everyone is so busy so you know watching at the time is if fine as well.		“I tend to do WhatsApp, so that would be helpful for me”

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