

Using behavioural contracting to reduce behaviours that challenge in a school setting: case studies

Emma Hawkins, Natalie Leow-Dyke, Hayley Locke and Rhys Jones

Abstract

Purpose – Behaviours that challenge in a school setting can lead to responses from teachers that are restrictive. It can impact learning and can limit opportunities for the future. These types of behaviours can also lead to exclusion from school. The purpose of this paper was to review the effectiveness of a non-restrictive strategy, behavioural contracting, in reducing behaviours that challenge.

Design/methodology/approach – Three case studies are included in this paper, showing how behavioural contracting can be used flexibly and individually to reduce behaviours that challenge. The specific behaviours focused on include pinching, hitting, grabbing, hair-pulling, disrobing, kicking, spitting and biting.

Findings – In all three case studies, the behaviours that challenge reduced significantly. This positively impacted the quality of life for these three individuals and has led to more opportunities for learning in the school setting.

Originality/value – Previous research has demonstrated the effectiveness of behavioural contracting to reduce a number of different behaviours that challenge. This paper showed how behavioural contracting can be simplified to make it more applicable to individuals with complex needs. It is important that non-restrictive strategies are used to address behaviours that challenge, and behavioural contracting can be a simple strategy that can be used across many different settings.

Keywords Behaviours that challenge, Intellectual disability, Autism, Intervention

Paper type Case study

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Challenging behaviour is defined by the [Royal College of Psychiatrists, British Psychological Society and the Royal College of Speech and Language Therapists](#) in a joint report (2007, p. 10) as behaviour of “such an intensity, frequency, or duration as to threaten the quality of life and/or the physical safety of the individual or others”. They also state that it is likely to lead to restrictive responses or result in exclusion. These behaviours can also impact learning, limit opportunities for the future and impact quality of life. The term “challenging behaviour” is the term most frequently used in the literature, but the term “behaviours that challenge” has gained more traction recently. The term “behaviours that challenge” will be used herein to reflect the view that the behaviour presents the challenge rather than the individual.

Applied behaviour analysis is one of the most frequently used interventions for addressing behaviours that challenge ([Matson et al., 2012](#)). It is important to focus on reducing such behaviours, and behavioural contracting is a straightforward example of one strategy from the behaviour analytic literature that can be used easily to support behaviours that challenge. [Bowman-Perrott et al. \(2015\)](#) conducted a meta-analysis of 18 single-case research studies on behavioural contracting. They concluded that, if used correctly and consistently, behavioural contracting has been shown to have a positive impact concerning

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Ethical approval: Ethics approval is in accordance with the ethical standards as laid down in the 1964.

Declaration of Helsinki and its later amendments or comparable ethical standards.

Informed consent: The study was approved by the School's Ethics Committee, and signed consent was obtained from the participants' parents. Participants' assent was also obtained.

decreasing behaviours that challenge and increasing contextually appropriate behaviours and academic outcomes regardless of the gender, grade or disability of the student.

Behavioural contracting has been used within educational settings for several decades (e.g. [Walker and Shea, 1999](#)). Behavioural contracting allows for the further individualisation of teaching and behaviour support for vulnerable students within an existing classroom management system. A behavioural contract refers to a document that is written and agreed upon by the individual who engages in the behaviour and another party, such as home or school. It can be used independently ([Kelley and Stokes, 1982](#)) or as part of a multi-element behaviour support plan ([Mruzek et al., 2007](#)). The contract should specify who is involved, their chosen reward and how it can be earned. It is essential that the contract is reviewed and negotiated by all individuals involved ([Maag, 2004](#)), in particular by the focal person.

[Walker and Shea \(1999\)](#) recommended several steps when introducing behavioural contracting. These included building rapport with a student before meeting with them and explaining the contracting process. When meeting the student, the teacher provides them with multiple examples of contracts before discussing and agreeing on the tasks to be included, discussing and agreeing on the reward to be provided as part of the contract, negotiating the ratio of tasks to reinforcement to be provided and when the reward will be delivered. Once these details have been negotiated, the contract is printed, and the student is given time to review the plan before both parties sign it and agree on a date for renegotiation.

When contracting with a student, it is important to individualise the approach adopted to the setting, the student's age, communication abilities and preferences. Consent and/or assent are crucial components of the behavioural contracting process. It is vital that the student and the teacher can alter the terms of the contract (e.g. the task-to-reinforcement ratio; [Maag, 2004](#)). It is equally important that the task demands placed on the student and the rewards used have social validity. Tasks should relate to skills and outcomes that will help improve the student's quality of life ([Schwartz and Kelly, 2021](#)), and items or activities that a student has a right to access should not be withheld as part of a behavioural contract ([Goldiamond, 1974](#)). Furthermore, teachers should exercise caution when contracting with students who are at risk of having experienced trauma ([Rajaraman et al., 2022](#)).

[Hawkins et al. \(2011\)](#) implemented individualised home-school behavioural contracts for four autistic males within a special education setting. Results demonstrated reductions in behaviours that challenge and an increase in more desirable behaviours, including following directions and school rules. Positive interactions with staff were also observed during the intervention. Thus, it is evident that behavioural contracting can be an effective intervention for addressing behaviours that challenge. Behavioural contracting also promotes self-management skills in the form of choice-making and goal-setting. Behavioural contracting can be adapted, simplified and individualised depending on the individual for whom it is being used and the extent of the target behaviours. Importantly, they can also be adapted while in use to increase the criterion to achieve a particular goal as the individual demonstrates improved behaviours.

This paper extends the research conducted by [Hawkins et al. \(2011\)](#). All the case studies in the paper by [Hawkins et al. \(2011\)](#) were home-school behaviour contracts with the contract written at school and the reward received at home (or vice versa). In this paper, all the contracts were only school contracts, with the contract written at school and the reward provided at school. The contracts were also simplified and highly individualised. This series of case studies demonstrates how behavioural contracting can be used to support with behaviours that challenge and shows how they can be used alongside other interventions.

Setting

The series of case studies took place at an independent special school for autistic pupils with an additional severe learning disability aged 4–19. Most pupils were supported on a

1:1 pupil-to-teacher ratio. However, learning opportunities in pairs and small group settings were embedded throughout the week. All pupils completed an individualised curriculum that focused on teaching communication and academic and functional life skills. All pupils also had individualised behaviour guidelines outlining proactive, active and reactive tactics in place to address any behaviour that challenges.

Case study 1: Nelson

Nelson was an 18-year-old autistic male with significant difficulties with language, social communication and social interaction. Nelson required 1:1 support at all times throughout the day due to the occurrences of behaviours that challenge towards both staff and peers.

Dependent variable

The dependent variable was behaviours that challenge, defined as pinching, hitting, grabbing and pulling hair directed towards either staff or peers, including attempts to emit any of these behaviours.

Data collection

Data were collected as the total daily frequency of behaviours that challenge, including the frequency of attempts to engage in these behaviours.

Procedure

Baseline data were initially collected on the frequency of the target behaviours. Attempts to engage in behaviours that challenge were redirected where possible. Nelson had a token board in place in which tokens were received for correct academic responses and for engaging in contextually appropriate behaviours, for example, using hands to engage in a particular task or making vocal requests. On completion of the token board, it was exchanged for a reward (e.g. access to a preferred activity). The token economy remained in place throughout the intervention.

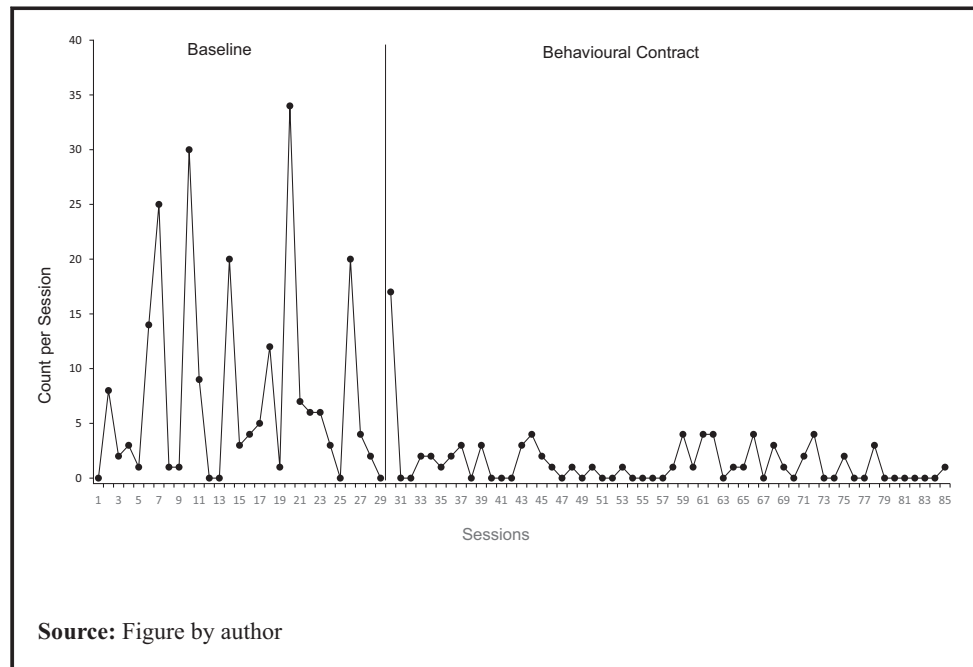
During the intervention phase, a behavioural contract was implemented to target occurrences of behaviours that challenge towards others. The selected reward for Nelson was to have the opportunity to phone a staff member of his choice at the end of the school day. He liked asking questions, so this was an opportunity to ask that question to someone he would not usually come into contact with. The contract stated the rule as follows: "If I use my hands nicely with my friends and teachers, then I can phone a teacher and ask them a question at the end of the day". If this rule was not followed, a box on the contract was coloured in. Provided no more than a predetermined number of blocks were coloured in, Nelson could make a phone call to any staff member to ask them a question of his choice. If all the boxes were coloured in by the end of the day (due to not following his contract rules) then Nelson could not phone a staff member.

Results and discussion

[Figure 1](#) shows the daily number of occurrences of behaviours that challenge for Nelson across baseline and intervention phases. During baseline, the mean daily occurrence of behaviours that challenge was 7.6, with a range of 0–34. After implementation of behavioural contracting, the mean daily occurrence of behaviours that challenge decreased to 1.3, with a range of 0–17.

The results of this study indicated that behavioural contracting was an effective tactic to reduce behaviours that challenge emitted by Nelson. There was a significant decrease in the frequency of behaviours that challenge, which remained low and stable. Consistent access to

Figure 1 Graph to show the number of occurrences of behaviours that challenge across baseline and intervention phases



a reward as per the contract may have been a key component of the effectiveness of the contract. As behaviours that challenge had not been eliminated entirely for Nelson, the next step would be to gradually increase the criterion for emitting appropriate behaviours within the terms of the contract. Once positive results are obtained, it would be necessary to consider how the contract could be faded out whilst maintaining positive outcomes. This case study supports prior research on the efficacy of behavioural contracting in decreasing behaviours that challenge. It demonstrates the need for a highly individualised approach.

Case study 2: Hannah

Hannah was a 6-year-old autistic female with associated learning difficulties. A package of interventions that included a behavioural contract was implemented in response to Hannah displaying disrobing behaviours at school for three consecutive days. Hannah had also recently displayed multiple behaviours that challenge and raised concerns from staff and her parent due to using incorrect language of concern to refer to staff's private body parts, attempting to touch their body parts, purposely urinating whilst disrobing and refusing to follow school safety rules. As well as the concerns for the dignity and safeguarding of the individual, staff and other pupils, this resulted in an increase in 2:1 staffing, time spent in isolated areas to protect the pupil's dignity and safeguard her and reduced instructional time.

Dependent variable

Disrobing was the dependent variable. This was defined as removing clothing to expose private areas.

Data collection

Data were recorded as a correct response if there were no occurrences of clothing removal to expose private areas and an incorrect response if clothing was removed to

expose these areas. These data excluded changes for physical education lessons, changing by request and toileting.

Procedure

The independent variables for this study consisted of a series of packages of interventions, specifically:

Intervention Package A: The behavioural contract which Hannah read through with her teacher each morning. The following rules were included in the contract: If I keep my clothes on at school, then I can choose a treat at the end of the day. I can always ask my teacher if I would like to get changed or use a nappy instead of taking my clothes off, and I can still get my treat. A picture of her pot of treats was displayed on the contract. In addition, a daily educational PowerPoint-based lesson was presented to her, which included further safety rules. At the end of the day, if the behavioural contract was met, Hannah could choose a sweet from her pot.

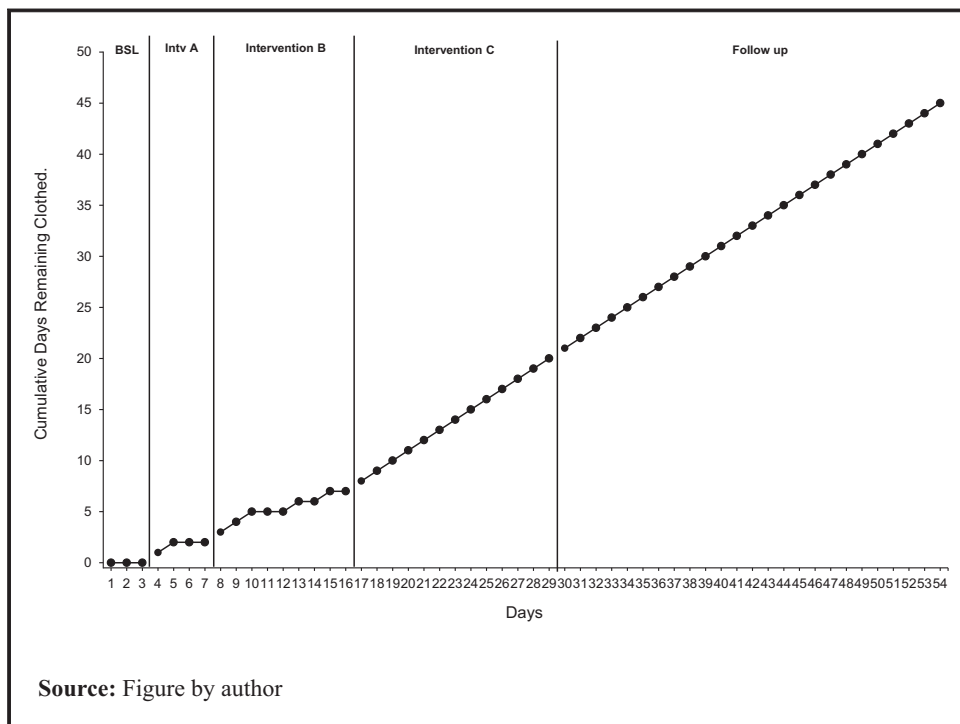
Intervention Package B: As Package A with the addition of regular opportunities to earn stickers from a member of staff from the Senior Leadership Team.

Intervention Package C: As Package B with the addition of an extra behaviour contract related to toileting. The rule on this contract stated: Each time I use the toilet, I get a tick, and when I have all my ticks, I get a special treat. Hannah ticked her chart each time she went to the toilet during the school day, and she had the opportunity to receive an extra treat after ten visits.

Results and discussion

Figure 2 shows the cumulative days Hannah remained clothed in school. During baseline, there were three consecutive days of zero occurrences of remaining clothed at school.

Figure 2 Graph to show cumulative days remaining clothed across phases



Learning was also significantly impacted during this time, and no long-term or short-term curricular objectives were achieved.

During Intervention Package A, the participant remained successfully clothed for the first two days of this phase, followed by two unsuccessful days. The participant remained clothed for 50% of the days in this session (i.e. 2/4). Learning remained significantly impacted during this phase.

During Intervention Package B, three consecutive successful days were achieved, followed by two unsuccessful days, then alternating between successful and unsuccessful across four days. The participant remained clothed for 56% of the days in this session (i.e. 5/9). Learning started to improve, and one long-term objective was achieved during this phase.

During Intervention Package C, the participant was successful for 13 consecutive days (100%), and it was then a scheduled school break (one week). Learning improved significantly, and an average of one long-term objective was achieved weekly. Following the school break, Hannah successfully remained clothed at school for 25 consecutive days (100%). The learning rate was also maintained, with an average of one long-term objective achieved weekly.

Discussion

Hannah demonstrated her understanding of the safety skills she had been taught by generalising these to different situations at school. She started to request a screen across when changing for “privacy”. She observed a peer removing clothes and commented this was “not being safe”, and she also told her toy dolls they were “not being safe” as they were unclothed, so she put the screen across and then dressed them.

The addition of the toileting reward chart was included as it was observed on several occasions that immediately following disrobing, Hannah would urinate; it was therefore hypothesised that the feeling of needing to urinate may be acting as a prompt for her to disrobe. It is important to consider non-observable behaviours such as these when evaluating triggers to behaviours that challenge.

The rate of daily learning and objectives met increased in correlation with reducing the disrobing behaviours. This further supports the social validity of the use of behavioural contracts. As well as increasing dignity and reducing behaviours that challenge, the intervention resulted in Hannah participating in daily class activities and engaging with her learning.

As the intervention comprised several components, a component analysis would be required to identify the individual strengths of each independent variable. However, due to the sensitive nature of the targeted behaviour, it was not ethically appropriate to do this. Anecdotal observations suggested that once the safety skills were mastered, implementing the behavioural contract maintained the reduction in behaviours that challenge as Hannah would independently announce at the end of the day, “I have been safe; I can get my sweet!” It was also observed during an unsettled day, if she threatened to remove clothing and urinate on the floor, if she was reminded of the conditions of her contract, she did not emit the target behaviour, despite emitting other behaviours that challenge.

A year after the intervention, only Intervention Package A remained in place. Hannah requested that the contract wording be changed to remove the mention of a nappy as she said she was “too grown up and sensible”. The contract was therefore rephrased to state that she needed to remain safe in her school uniform with a picture of her favourite Barbie character in uniform alongside. This highlights the importance of regular reviews of behavioural contract conditions to ensure they appropriately reflect the individual’s current needs.

There continue to be no occurrences of full clothes removal, with occasional attempts to remove clothes resolved when Hannah is reminded of her contract. Rates of learning also remain at a higher level than before the intervention.

The long-term aim should be to remove the behavioural contract entirely. This could be phased out gradually by increasing the days needed to gain the reward. However, this does risk a resurgence in the target behaviour, and this needs to be ethically considered due to the nature of the behaviour. As Hannah demonstrates other behaviours that challenge that are still occurring it appears more appropriate to work on these first whilst keeping the current behavioural contract in place.

Case study 3: Robert

Robert was a 16-year-old autistic male. He had some vocal speech but also used an augmentative communication device or Makaton sign to communicate.

Dependent variable

The dependent variable was the occurrence of behaviours that challenge, which were defined as kicking, spitting, grabbing, biting, hair-pulling and hitting.

Data collection

Data were collected as the total daily frequency of behaviours that challenge.

Procedure

Baseline data were collected on the frequency of the target behaviours. Several strategies were in place to address these behaviours that challenge, including the use of a token economy, rewarding appropriate behaviours and the use of visual support when changing activities.

The intervention phase included the above strategies plus the addition of the behavioural contract. The behavioural contract was presented to Robert at the start of each school day with a number of smiley faces on his contract. If Robert displayed one of the target behaviours, a smiley face was removed from his contract. It was explained to Robert the importance of keeping teachers safe, and if teachers were not kept safe, then a face would be crossed off from the contract. Robert required at least one face left on the board to go on an off-site visit during the week. These were extra off-site visits, including trips to the local café and supermarket, scheduled above his usual off-site visits, which took place on Wednesday and Friday afternoons. Initially, Robert had 100 smiley faces; each week in which he successfully accessed his reward, the number of smiley faces was reduced on his contract.

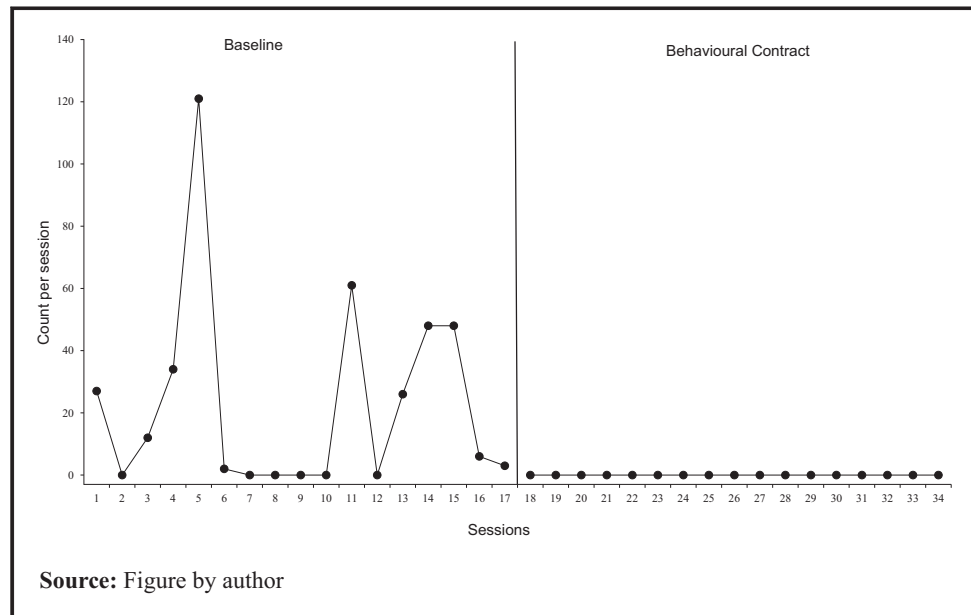
Results and discussion

The results are shown in [Figure 3](#). During the baseline of 17 school days, the average number of occurrences of behaviours that challenge was 15, with a range of 0–121. Following the implementation of the behavioural contract, the number of occurrences of behaviours that were challenged reduced immediately to zero. The number of smiley faces available was, therefore, also significantly reduced from 100.

Overall discussion

This paper extends the research conducted by [Hawkins *et al.* \(2011\)](#) and provides evidence of further case studies demonstrating the effectiveness of behavioural contracting

Figure 3 Graph to show the number of occurrences of behaviours that challenge across baseline and intervention phases



in reducing behaviours that challenge. In contrast to the case studies published by [Hawkins et al. \(2011\)](#), none included a home-school contract, but all were entirely delivered in school. Simplified versions of behavioural contracts were used. It was demonstrated that relatively straightforward strategies can be implemented and tailored to suit the needs of the individual. It was the highly individualised element of each intervention that potentially led to the positive impact and it is this aspect that must be considered for future implementation.

Behavioural contracting appears to be an effective non-restrictive strategy for reducing behaviours that challenge. There are limitations to case study research, however, and it should be highlighted that a functional relationship has not been shown between behavioural contracting and behaviours that challenge. It would, therefore, be difficult to replicate these exact results with a broader population. Nevertheless, the use of behavioural contracting positively impacted these three individuals, providing more time for learning, interacting with others and accessing the community. This series of case studies demonstrated the versatility of behaviour contracting in a specialist educational setting.

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