Thanks to all the subscribers for you continued support in Busy Analytical Bee. The newsletter, and the Facebook page, has developed a lot in the past year. I am really grateful to everyone for subscribing!

I would like to say a special thank you to Jennifer Donnelly for her initial support in the newsletter

And also to the following people for being interviewed over the past year

Faryaneh Akhavan (Snowflake School)
Nicole Reynolds (The Children’s Place)
Kelly Taylor Saunders (ABA Matters)
Jennifer Austin (UK SBA)

Thanks again!

Kirsty Angel (aka Busy Analytical Bee)
Welcome to the First birthday edition of Busy Analytical Bee. I am super excited to be celebrating the 1st year of newsletter. Thank you to everyone for your support. This month treatment integrity has been reviewed which was chosen by you! We have an extremely exciting interview with Jennifer Austin from UK SBA! Hope you have an amazing month!

**TREATMENT INTEGRITY**

Behaviour Analysts working in applied settings rely heavily on the discoveries of experimental analysis and empirical investigation to help them make decisions around treatment. It is outlined in the ethical guidelines 2.10 Treatment Efficacy which makes it essential to use empirically supported interventions. Bear et al (1968) also make reference to this in their paper discussing the dimensions of Applied Behaviour Analysis (ABA). One dimension is technological which ensures that researchers ensure that their interventions are easy to replicate. They state that “The best rule of thumb for evaluating a procedure description as technological is probably to ask whether a typically trained reader could replicate that procedure well enough to produce the same results” (Baer, Wolf & Risley, 1968). This is essential for professionals working in an applied setting to be able to replicate. This means Treatment Integrity is an extremely important issue and is described as “The degree to which an independent variable is implemented as intended” (Gresham et al, 1993).

Ensuring that there is a high degree of treatment integrity ensures that therapists can obtain the best results and are implementing an ethically appropriate intervention. The BABC specifically discuss the importance of delivering the best intervention “Clients have a right to effective treatment” (2.10(b). BABC, 2010). This focus is placed on authors to ensure they use clear and concise descriptions and Baer, Wolf and Risley place focus on this also by stating “especially where the problem is application, procedural descriptions require considerable detail about all possible contingencies of procedure” (Bear, Wolf & Risley, 1968). If a description is incomplete or missing essential information then this means therapists and professionals may not be offering their clients their most effective treatment and may actually do harm. This highlights a significant ethical issue. With descriptions there is an issue with misplaced focus on the dependent variable. Some authors carefully describe the behaviour under observation and there is a loose or missing description of an independent variable. This is discussed by Peterson et al (1982) who state that “a curious double standard has developed in operant technology whereby certain variables (e.g. social behaviour, smiling, and attention) routinely have operational definitions and some measure of observer reliability when the observed behaviour is the target behaviour or dependent variable …. But no such rigor is applied to the same behaviours when they appear as antecedent or consequences to the target behaviour” (Peterson et al, 1982). This is extremely important as these social behaviours are extremely desirable and commonly used within the field as a positive consequence when reinforcing behaviours. These reinforcers are naturally occurring and are typically associated with other strong motivators in the early stages of a programme. If these are not described sufficiently then integrity may be at risk.

Peterson et al, (1982) also discuss an important issue of therapist drift, in which the therapist deviates away from the prescribed independent variables. This may be due to the therapist becoming relaxed with timings and delivery of reinforcer. Upon review of the papers within Journal of Applied Behavior Analysis (JABA) from the first edition (1968) up to the 13th edition (1980) they discovered that between 10-50% did not include an operational definition of the independent variable, when it was required (some papers did not include this and it was not required) and even more surprisingly 0-30% (across the years) used reliability checks to ensure the independent variable was being used as prescribed. This is an extremely important issue as it highlights the risk that therapist drift may have occurred, it was not investigated and the results presented in this papers may have been inaccurate. Any replication of these interventions could have been successful and may not have obtained similar results as described, or potentially could have caused serious harm.

Gresham et al (1993) continued this and did another review for JABA from 1980-1990 and found little improvement. They found that only 15.8% of the experimental studies they reviewed reported the integrity of the independent variable. In their discussion they state that “the paucity of studies assessing or reporting treatment integrity over the past 11 years limits the confidence in the functional relationships reported”. Peterson et al discuss in their paper that functional relationships that are discovered, although integrity is not reported, may mean their discovery may have been due to undiscovered and/or uncontrolled variables; results were due to a fluke. Gresham et al (1993) discuss that a operational definition of...
the independent variable should include each of the following dimensions verbal (what was said), physical (any guidance given and to what degree or any movement made), spatial (placement within the environment) and temporal (time, delays, etc.). This would ensure the highest degree of treatment integrity.

A further investigation for JABA from the years 1991-2005, by McIntyre et al (2007), shows some improvement. With 98% of experimental studies using a operational definition of the independent variable, and 46 studies (30%) reported integrity. It should be noted that of the 46 studies, 36 (78%) reported treatment fidelity of 90% of greater. This means that the studies that ensured that the procedure was implemented as prescribed was implemented with a high degree of accuracy. This increases the confidence professionals can have in the success of this interventions when implementing them with their clients. All these reviews, which span across 25 years, demonstrate a slow increase in the awareness of the importance of treatment integrity and highlights that it is still missed by many authors. This is an increasingly important issue that may have implications for the further development of ABA. ABA prides it self on making data driven decisions, ensuring the use of empirically supported interventions and adherence to the Dimensions outlined by Bear, Wolf and Risley (1968) and the ethical guidelines outlined by the BACB. Professionals working within the field need to ensure they consider studies that are able to demonstrate high treatment integrity to ensure that our clients receive the most effective treatment.

All the reviews discussed so far have been specifically of JABA, although another review was conducted on the Journal of Positive Behavior Interventions (JPBI). Positive Behaviour Support (PBS) shares many common features of ABA, including the importance of using operational definitions. The review of the JPBI conducted by Sanetti et al (2012) showed similar results to other reviews. They reviewed 72 studies and 59.7% included a operationally defined independent variable and 41.7% used a quantitative description of treatment integrity. This is higher than the integrity reported by previous reviews, however this is still only just over half of studies ensuring reviewed that ensure a degree of integrity. When looking at specific studies that investigate integrity and implications it has on treatment results there are two types of integrity errors that are discussed. These are omission errors, not reinforcing the target behaviour during the intervention and commission errors, implementing the procedure at the wrong time (reinforcing a incorrect response). Many researchers have adjusted differing levels of integrity to investigate the impact it has on treatment effectiveness. Fryling et al (2012) discuss a experiment by St Peter Pipkin et al (2010). In this experiment the authors adjusted levels of both omission (condition group 1), commission (group 2), varying levels of both errors (group 3) and 50% integrity of omission and commission errors (Group 4). The results indicated that omission errors did not affect levels of problem behaviour, however commission errors impacted levels of problem behaviour when integrity was lower than 40%. The third groups behaviour appeared to match the schedule of reinforcement being used and the fourth group had two patterns of responding. Another paper conducted by Groskreutz et al (2011) found contradictory results, that omission errors had an impact of the development on play skills for two participants. The authors stated “low integrity (i.e., 10%) was ineffective, moderate integrity (i.e., 50%) was variably effective, and perfect integrity (i.e., 100%) was most consistently effective at increasing appropriate toy manipulation” (Groskreutz, et al, 2011). These contradictions in results highlight the importance of continuous investigation into integrity. The impact of poor integrity has a direct impact on the application of behavioural procedures, as “integrity may be compromised when behavioural interventions are employed in natural settings and treatment is carried out by individuals with little or no specific training in behaviour analysis” (Fryling et al, 2012).

Investigation into integrity has highlighted some important conflict in the results which means it is difficult to draw conclusions about the direct impact of integrity on treatment efficacy. However for a field that prides itself on the use of data and empirical investigation to devise interventions to ensure our clients receive the best treatment, the lack of consideration given to integrity seems extremely inconsistency with the approach. Further research is necessary to fully understand this issue and more awareness within the field is important.
Jennifer Austin

Interview

Thank you for joining us for this interview. Please could you first tell us a bit about your career, how you got involved in ABA and also how you became associated with the UK Society of Behaviour Analysis?

I found behaviour analysis purely by chance. As an undergraduate at Florida State University, I happened to register for a module called Behaviour Analysis in Business and Industry, simply because it sounded interesting. Prof Jon Bailey taught the module and he well and truly changed my life. I went on to complete my MSc and my PhD with Jon as my supervisor. Although my initial interests were around Organisational Behaviour Management, my practicum work in schools quickly shaped the direction of my work in behaviour analysis. I realised that I wasn’t quite as interested in helping businesses improve productivity – my true passion was working with children with behaviour problems and their teachers.

For nearly 20 years, I have worked as a behaviour analytic researcher and clinician, whilst also playing a key role in the development of behaviour analysis courses in the United States and the United Kingdom. I currently direct the MSc Behaviour Analysis and Therapy course and the PgCert Behaviour Analysis Supervised Practice courses at the University of South Wales, as well as providing behavioural consultation services to local schools. My research and clinical interests centre on behaviour analytic applications in educational contexts, especially with regard to intervention planning and evaluation for typically developing children with behavioural challenges, parent and teacher training, and behaviour analytic teaching strategies for university students. I have published numerous peer-reviewed journal articles and book chapters, as well as serving as an Associate Editor for the *Journal of Applied Behavior Analysis and Behavior Analysis in Practice*. I am currently an Associate Editor for the *European Journal of Behaviour Analysis* and serve on the editorial boards of the *Journal of Applied Behavior Analysis and Education and Treatment of Children*.

I volunteered to assist in the development of the UK Society for Behaviour Analysis in 2011, alongside a number of other highly committed individuals who were interested in advancing behaviour analysis in the UK. When the Society launched in 2013, I was nominated for a position on the inaugural Board of Governors and subsequently was elected. I was then appointed as President by the other elected Board members. I served two years as President and am now am serving my final year on the Board as Past President.

What does UK SBA aim to achieve for its members?

The UK-SBA is committed to advancing the science and practice of behaviour analysis in the UK. We also aim to increase public awareness of behaviour analysis, particular with regard to those consumers who are likely to benefit from interventions grounded in behaviour analysis. Our membership is comprised not only of those individuals who are behaviour analysts (or are students of behaviour analysis), but also those who have an interest in the field and wish to support its advancement. Many individuals in the latter category are parents of children whose lives have been changed by behaviour analysis. Because of the breadth of our membership, our commitments must ensure that all our members benefit from participation in the Society. However, we also have a commitment to protect the public from misinformation about behaviour analysis, as well as unethical and ineffective practice.

Given our many obligations to the field and its consumers, one of the major aims of the Society is to gain professional recognition for behaviour analysts (e.g., by the Health and Care Professions Council, HCPC). Although the BACB certifies individuals as behaviour analysts, the BCBA and BCABA credentials are not necessarily recognised by many UK organisations, including many charities and schools. Although the process for becoming recognised as a new health and care profession is a long and arduous one, the UK-SBA has begun this process with the establishment of a voluntary register for behaviour analysts practicing in the UK. This is the first step on our road to professional recognition and members can expect the register to be active sometime this autumn. Interested individuals may check the UK-SBA webpage (uk-sba.org) for updates.

What are benefits of joining UK SBA and who should join?

Anyone interested in promoting behaviour analysis in the UK should join the UK-SBA! Our members enjoy a range of benefits, including reduced registration to UK-SBA Speakers’ Series Events and other behaviour analytic conferences (i.e., EABA and EABG). We have now held three Speakers’ Series events, which have featured Prof Greg Hanley, Dr James Partington, and Prof Rob Horner. These events offer BACB Continuing Education Units (CEUs) to BCBA and BCABAs as part of registration fees. Our next event will feature Dr Pat Friman, who will deliver a two-day workshop on behavioural paediatrics and mental health applications of behaviour analysis. Our website will provide further details on the event in the coming weeks. We also offer free access to ProQuest, which allows members to access full-text copies of journal articles from over 1350 scientific journals.

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psychology and education journals. Members also have the opportunity to form Special Interest Groups (SIGs), which provide networking and professional development opportunities for members interested in particular topics. Currently we have SIGs for PBS, ABA Schools, and ABA Tutors. Each SIG has its own webpage, which links from the UK-SBA page. Students comprise a large proportion of our membership and we’re especially committed to supporting the development of up-and-coming researchers and clinicians. This year we initiated the UK-SBA Student Research Award, which recognises outstanding research or data-based clinical practice. The first of these annual awards was presented at the EABG meeting in March. The Board also are considering the possibility of student research scholarships in the future.

Members also have requested assistance in meeting BACB requirements for CEUs in ethics and supervision, so we are working to organise events to meet these needs.

**Could you tell us a bit more about the meetings you hold?**

The UK-SBA Board of Governors meets quarterly in London. These meetings typically last around six hours. Although these meetings are attended only by members of the Board and our administrative assistant, members are welcome to submit any concerns or agenda items for discussion during the meetings. Members may also obtain copies of the minutes of the meetings by contacting our administrative assistant.

We hold an Annual General Meeting (AGM) each year (typically around January) which is open to all members of the Society. This provides a face-to-face forum for sharing the Society’s progress and accomplishments over the year, as well as allowing members to provide feedback and voice any concerns or queries.

**What are your thoughts about the future of ABA in the UK?**

I think this is an incredibly exciting time to be a behaviour analyst in the UK. We have a number of rigorous postgraduate courses that are training the new leaders in the field and I’m excited to see all the things they will accomplish. I also think we are seeing a growing recognition of the importance of incorporating the science of human behaviour into assessment and intervention strategies for a range of populations, settings and behaviour challenges. I think the growth of PBS in the UK is a positive development, but I also think we need to be careful that those developments stay close to the science and that we move forward **together** as a field. I think the PBS Competencies Framework, which was recently endorsed by UK-SBA, is a very positive and important step in that direction.

The UK-SBA is poised to play a key role in moving behaviour analysis forward in the UK, but it will depend on the patience, cooperation, commitment, and diligence of our members. I hope that those who are interested in our mission will take an active role in the Society.

**Thank you again for taking the time to talk to Busy Analytical Bee and the readers. The work on the UK Society of Behaviour Analyst is extremely important to the development of ABA in the UK. If you want to find out more about UK SBA then go to the website http://uk-sba.org/ and membership**

**EVENTS**

Ambitious about Autism have announced many new dates for 2015. Be sure to go to their webpage to find out more and see all available dates.

Jigsaw School are offering numerous workshops and open mornings for professionals and parents. There are a variety of dates available so please go to their website to find out more.

Knopse ABA is offering two workshops for delegates to learn more about Applied Behaviour Analysis - Verbal Behaviour (ABA-VB). The workshop is split into two parts and part 1 will be 12th-13th June and part 2 on the 14th-15th June. The workshop will be help in Hannover, Germany. For more information, go to the website by clicking here.

Keys for Learning have announced a two day workshop hosted by Tom Caffrey (BCBA, M.E.d), in Edinburgh on the 19th and 20th of June. The cost is £199 for professionals and £149 for parents/grandparents. For more information or to book a place email Gemma at gemma@keysforlearning.co.uk

Peach are offering many courses across 2015. Courses are typically £65 per day (one two day workshop costs £130). For more information regarding other workshops (workshops are being held at a Manchester or Ascot location), then please go to their page.

**ABA DEVELOPMENT**

ABA Focus in Bolton and Manchester areas are organising a Saturday school. Any parents in this area, who are interested in obtaining a place for their child, then please give your feedback, by going to https://www.surveymonkey.com/s/YDKHSWP to fill in the survey. Thank you

Comments, questions or feedback? Please contact busyanalyticalbee@gmail.com
This month we will be looking at the various reinforcement schedules.

**Fixed Interval (FI):** Following a set length of time the first response is reinforced. For instance with a FI 1 minute, after 1 minute the therapist delivers a reinforce following the first response to occur after the 1 minute.

**Fixed Ratio (FR):** Following a set number of demands a reinforcer is delivered. This means if there is a FV 6 then reinforcement would be delivered after every 6th demand.

**Variable Interval (VI):** After an average time the reinforcer is delivered. For instance this means that for a VI 2 minutes the first response 1 minute, then 3 minutes and then 2 minutes would be reinforced. \(1 + 3 + 2 = 6 \text{ then } 6 \div 3 \text{ (3 represents the number of trials) } = 2\)

**Variable Ratio (VR):** As a consequence of a mean number of demands a reinforcer is delivered. If a VR 5 is being used then a reinforcer would be delivered after the 2nd demand, 15th demand, 8th demand and the 5th demand would be reinforced. \(1 + 6 + 9 + 4 = 20 \text{ then } 20 \div 4 \text{ (4 represents the number of trials) } = 5\).

**Noncontingent Reinforcement (NCR):** This is a schedule of reinforcement that is noncontingent of responses. A reinforcer is delivered regardless of the behaviours that occur. This usually occurs after a set time (Fixed-time) or an average time (Variable-time).

**NET IDEAS**

As the warmer weather approaches you may be thinking of moving your NETs outside. Water play is always a great hit on those hot summer days and also can contrive motivation for many mands and opportunities to generalise to a new environment (Mand 3M). If your client has a paddling pool that would work, although a big tray or plastic box would work well. If your client requires assist to get into the paddling pool/tray then you could contrive motivation for help or pick me up (play 4c). You could have more jugs of water to add more water, which can be given for free or to reinforce a mand for ‘water’. (Mand 1M, 2M). You could also add bubbles or glitter to the water for a bit of variation. You can generalise motor movements during the play, including kicking, splashing with flat palms, etc. (MI 1M, 2M and 3M). There are also many prerequisite play skills that can be developed during this NET, including cause and effect by splashing water (play 2b, 2d, 5M, 6d) shared attention (2e) and toy manipulation by pouring water from cups or carrying cups (play 1c, 3c, 3e)


**STUDY TIPS**

A great website to check out is www.scienceofbehavior.com. There is an extensive glossary with many terms for you to reference. There is also many tutorials that you can buy. The prices of the tutorials range from $2-$5, although there are a few tutorials that are free. It uses a series of fill-in statements with a text box to complete the statement. Immediate feedback is delivered.

**PEOPLE WHO INSPIRE US**

This month we are going to look at a Behaviour Analyst who is renowned for developing an assessment tool which used by many to assess and develop targets and goals for programmes. This assessment tool is the VB-MAPP (Verbal Behavior Milestones Assessment and Placement Program) so of course we are celebrating the work of Mark Sundberg. Mark L. Sundberg, Ph.D., BCBA-D has over 40 years of experience working in schools that serve children with Autism. He studied at Western Michigan University and obtained his doctorate degree in ABA in 1980. Whilst studying he worked under Dr Jack Michael. As well as being the author of the VB-MAPP he is also the co-author of ABLLS (The Assessment of Basic Language and Learning Skills). Sundberg has published 50 papers and has also written 4 book chapters (including one in the “White bible”, ‘Applied Behaviour Analysis by Cooper, Heron and Heward, 2007). He has also founded and worked as an editor of The Analysis of Verbal Behavior journal. He has received many awards, including “Jack Michael Outstanding Contributions in Verbal Behavior Award” in 2013 from ABAI’s Verbal Behavior Special Interest Group. Sundberg regularly speaks at conferences and offers workshops in America and Internationally. To learn more about Mark Sundberg or the VB-MAPP you can go to his website www.marksundberg.com/

**PRODUCTS**

Get ready for the big exam using the items in this wish list http://www.amazon.co.uk/registry/wishlist/I9DPB5P15U7R

Also look for online courses and look into purchasing BDS for the best chance of success it is important you use a variety of revision supplements. Good Luck!

Remember to contact us at our email account busyanalyticalbee@gmail.com and like our Facebook page and Twitter page @AnalyticalBee

Next month we will be looking at the Reinforcement, so be sure to subscribe so you receive the next exciting edition.

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