

# ONTABA: Bringing in the New Millennium



## From the President Desk

**Bill Kirby**  
Professor,  
Behavioural Science Technology  
St. Lawrence College, Kingston

For those of you who were unable to make our annual Toronto conference in November let me begin with my general comments from the conference and then conclude with some updates of ONTABA's activities since then.

As I begin my first term as President of ONTABA I feel more than ever that it is an exciting time to be a behaviour analyst in the province of Ontario. For some of us

with decades of time invested in behaviour analysis, it is gratifying indeed to see such interest in our field by so many. For those of us more recently arrived - your timing is excellent.

From a developmental perspective, we seem poised to evolve in some significant ways. The creation of our Standards of Practice document could be likened to our first born. While perhaps slow to develop, with some early infant stimulation soon its development toward becoming a useful and productive member of our family should be assured. With certification of behaviour analysts soon to follow, we are expecting our second child. As we take stock of our situation it may well be time to trade our original Volkswagen beetle for a Ford Taurus station wagon and our love beads for clothes from the GAP. We are about to settle down to some serious business, maybe even buying a house and making a commitment to some long term responsibilities, looking beyond ourselves to the greater community in which we are now being welcomed.

It seems timely to undertake the development of effective working relationships with our neighbours - namely the provincial government, post secondary educational facilities and other professional organizations that are involved with human services - both those within in Ontario and our near neighbours in Quebec and New York State.

Within our own house we need to make sure we have everything in order that our books ( bylaws) are up to date, our insurance coverage is there and our communication systems are optional. Recently we have established our phone line and an e- mail address, a brochure and a timely newsletter and defined ourselves in law through our incorporation. Now we need to make our page on the world wide web work for us. A new simpler address has been promised by St. Lawrence College and the potential for hot links to each member's e- mail will exist in the new year. The key to financial success and growth as young parents is to pay our bills as well as invest in ourselves.

As an organization we can build on our strengths. Our annual conference continues to grow in

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# the ONTABA ANALYST

## ONTABA

The Ontario Association for  
Behaviour Analysis

An Affiliate Chapter of  
The Association for Behavior  
Analysis International

Carol Drummond  
Editor, Production Manager

Gerald Bernicky  
Associate Editor, Submissions

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*From the President's Desk (Continued from page 1)*

Scope and significance. Can logo T - shirts and mugs be far behind? In addition to our annual conference, our first regional conference has also occurred and suggests yet another opportunity to be of use to our members and those interested in us and our work.

We are indeed involved as Dr. Skinner said, in a great societal experiment. There are no guarantees but there are tremendous opportunities for effective technologies. Building on our accomplishments for effective technologies. Building on our accomplishments, with the future assistance of many, not just the new Board of Directors, ONTABA is about to truly come of age. I invite you to share in this work and in our successes. The future is full of promise and the best is yet to be!

**An update since November's conference:**

As a new Board of directors we have already met twice and have agreed to systematically review our bylaws for completeness and appropriateness given the evolution of our activities that are underway or anticipated. Various committee members are researching the options and costs necessary as we begin to go beyond just the sharing of information between members.

The Board has also agreed to set up a separate set of files so that policy decisions taken by the Board can be easily accessed at any time without having to find the record of such decisions deep within the minutes of our meetings.

Rosemary Condillac and Tara Smith have agreed to take the lead in organizing our Toronto based conference in November 2000. Changes in conference format and presenter selection are being considered with the intent to develop a format and process that would support more of a continuing education credit system.

Amy Smith has agreed to lead the process for elections of new board members in November 2000 when the terms of some current members will expire.

Jim Reaume has assumed chair of the certification committee and Leanne Baldwin has agreed to be the link between the Board and the committee. The committee continues to meet and hopes to have a process for certification in place this year.

We will, at our February meeting, finalize this year's budget. As our scope grows so do our pro-

jected costs. A preliminary draft of this year's budget suggests the recent increase in membership fees will allow us to continue to maintain our current activities with the projected additional expenses necessary to establish our certification process.

St. Lawrence College has now changed its' and therefore our web address. Our site can be reached at [sl.on.ca/ontaba/](http://sl.on.ca/ontaba/). If your search engine does not find us, go to the college home page either through [www.sl.on.ca](http://www.sl.on.ca) or [www.StLawrenceC.on.ca](http://www.StLawrenceC.on.ca) and then to LINKS, and you will find our page under the teaching section. We have added and updated a membership directory that will hot link you to any member listed there and provide you with address information of those not yet online. We are currently exploring the best way to let the various search engines know when we have updated our page. When that is determined we hope to keep the page more current with frequent updates.

Other committees such as newsletter and membership and recruitment committees have been active and their efforts continue to benefit all of us.

In closing, my thanks to all who have and continue to give of their valuable time and energy that ONTABA may continue to grow and represent the interests of Applied Behaviour Analysis in Ontario.

**Bill Kirby, President, ONTABA**

**EDITORIAL COMMENTS**

*It is with great pleasure that I see certification of Behaviour Analysts (Ontario - style) in our future! The Board and committee members must be commended on their commitment to the members of ONTABA in their continued effort in creating an inclusive and dynamic process to legitimize our profession and protect the public.*

*In moving toward certification, I see it as fundamental to pass this information on to those who would have a vested interest. I appeal to all members to contact your new and old colleagues and check through the membership and suggest they get involved with ONTABA. Everyone will benefit!*

**Carroll Drummond, Editor**

**ONTABA**

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1999 - 2001

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Maunee Feldman  
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Tara Smith

**Membership:**

Amy McParland

## Upcoming Events:

10th Annual Rotman Research Institute Conference  
 The Frontal Lobes  
 March 20-24, 2000  
 Metro Toronto Convention Centre  
 (416) 785- 2500 ext. 3550



O.A.D.D. Conference  
 April 7- 8, 2000  
 Sheraton Parkway Hotel  
 404 and Hwy. 7,  
 Toronto

O.A.D.D.-Research Special Interest Group (R.S.I.G.) Day  
 April 6, 2000

A.B.A. International  
 May 26-29, 2000  
 Washington D.C.

## Getting Connected

### ONTABA HOME PAGE

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## 1999 Membership Directory Omissions

The following are members from 1999 that due to printing  
 deadlines were not included in the 1999 ONTABA An-  
 nual Directory:

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## ONTABA Analyst Submissions

Your newsletter is only as good as your con-  
 tributions. The *ONTABA Analyst* is a forum  
 for us to stay connected in many ways. All  
 members are encouraged to submit articles on  
 topics related to behaviour analysis; theoretical,  
 practical or topical issues, perspectives from  
 different regions, jobs or schools, research ac-  
 counts, news, announcements, your biography,  
 reviews, student practicums, etc. Job ads in the  
*ONTABA Analyst* are placed for a fee payable  
 to ONTABA (\$50.00 1/4 pg., \$100.00 1/2 pg.,  
 \$200.00 full pg.).

**Article submissions:** We reserve the right to  
 edit without changing the intent of an article,  
 request further editing by the author, publish  
 articles relative to the content of the current  
 Newsletter, publish them at a later date with due  
 respect to the timeliness of a given article, or  
 refuse an article. You will be informed of accep-  
 tance, rewrite, or refusal of an article. Announce-  
 ments will be published at the discretion of the  
 editor. *ONTABA* is not responsible for the views  
 and opinions of *ONTABA Analyst* contributors.

**Submissions for the next *ONTABA Analyst***  
**must arrive to Gerald Bernicky by May 1,**  
**2000 to meet the, June 1, 2000, mail out**  
**deadline.**

## “From The Inside ”

### ***Membership Update:***

As of February 7, 2000, there are a total of 73 paid memberships for the ONTABA 2000 year. These consist of 50 full members, 12 sustaining members, 9 student members, 2 affiliate members, and 1 member emeritus (Dr. W. Larry Williams, University of Nevada-Reno). Of the 73 paid members, 19 are new members to ONTABA, and the remaining 55 are renewing members.

Our renewal and recruitment activities started at the 7<sup>th</sup> annual ONTABA conference in November of 1999. As usual this event allowed attendees to renew their memberships, or to join for the first time. Also in November, we commenced with our first of two renewal mailings for past members. With this mailing we revamped a procedure we started last year. We have included two membership application forms. One, having the past ONTABA member's name filled in (wow what lengths we are willing to go to, to help our members!), and a second one that is blank. We encourage ONTABA members to complete their renewal asap, and to forward the second application form to a friend or colleague.

Back to conference for a moment. During the conference, the Membership & Recruitment Committee held a book draw for those members who had renewed or joined for the year 2000. The winner of *'Principles of Behavior Analysis'* by Lyle Grant and Annabel Evans, was Michele Popynick, a long-standing member of ONTABA. This book and others have all been graciously donated by Prentice Hall Allyn and Bacon (PHAB) Canada.

Another book draw was just held in February again from those members who have already joined for the year 2000. The winner of *'Keys to Success: How to achieve your goals'* is Joel McCartney. Additional books we have in our possession to give away to paid members this year include: *Elementary Principles of Behavior Analysis* (4<sup>th</sup> edition), *Behavior Modification: What it is and how to do it?* (6<sup>th</sup> edition), *Behaviour Principles in Everyday Life* (3<sup>rd</sup> edition), *Behavior Analysis and Learning* (2<sup>nd</sup> edition), and *Supervision in Canada* (2<sup>nd</sup> edition). If you wish to be included in the draws for any of these books, submit your completed membership form for 2000.

We will be completing our second and last renewal mailing of past members in the near future (just in case you misplaced your form). We will also be doing an initial mailing to potential new members through contacting other associations, agencies, and individuals. Following this, we will be hitting the road to complete presentations about ONTABA when invited to different locations and events.

Just in case you thought we were not working hard enough, our committee has developed as one of its goals for 2000, to produce and prepare an Operational Manual for running this committee. We hope that this product will assist future Membership and Recruitment Committees to enjoy and experience a smooth transition into understanding how to get past members to renew, new members to join, and ensure that present members are reinforced for being such.. It will outline all the tasks and steps to engage in renewal and recruitment activities throughout each year.

If your organization or agency is interested in having a member of this committee come and provide an informative presentation on the goals, benefits, and areas of focus of ONTABA, please contact Amy McParland at (416) 243-3600, ext. 2605, or by email at [amcparla@westpark.org](mailto:amcparla@westpark.org)

**By Amy McParland and Gerald Bernicky**

## 7th Annual ONTABA Conference- November 1999

The 7th Annual ONTABA Conference and Annual General Meeting were held on November 18th and 19th at Metro Hall in Toronto to a resounding success!

With many members in attendance, this year's conference was one of our most successful to date. The first day began with the Annual General Meeting. Our new President, Bill Kirby, kicked things off with an update on the certification process. Afterward, our Board of Directors and Committee Chairs took the opportunity to update our members on ONTABA's activities. The conference presentations which followed covered a wide spectrum of topics of interest to Behaviour Analysts, ranging from the Provincial Initiative for Behaviour Intervention for Young Children with Autism, to the use of Applied Behaviour Analysis in geriatric care, the assessment and treatment of developmentally disabled sex offenders, guided practice and caregiver monitoring, and the use of support services by parents with a developmentally delayed child. A wine and cheese evening which followed allowed our members to view a wide variety of poster presentations.

The keynote speaker at this year's conference was Dr. Glen Dunlop, an internationally renowned Professor of Special Education at the University of South Florida. Dr. Dunlop called upon his vast knowledge and experiences in working with children in delivering his two keynote addresses. The first, "Effective Approaches for Early Intervention for Children with Autism" nicely conceptualized the importance of

Applied Behaviour Analysis in skill acquisition for young autistic children. Given the forthcoming Provincial initiative to provide behaviourally based, early intervention services for autistic children in Ontario, it was a timely presentation indeed. Dr. Dunlop's second address, "Assessment - based Strategies for Resolving Problem Behaviours in School" focused on his experiences working as an ABA practitioner in Florida. His presentation stressed the importance of the functional analysis as a cornerstone of behavioural assessment, as well as the necessity of using ABA to focus on skill development and empowerment to achieve socially meaningful outcomes while building effective support networks between the child, practitioner, school and their community.

Our many thanks are offered to the various presenters, those who submitted posters, as well as the conference committee members and all those who attended this year's conference.

We hope to see you all again this November, for our 8th Annual conference!

**Scott Bark, Secretary, ONTABA**

**Come to the  
A.B.A.  
International Conference  
May 26 - 29, 2000  
Washington D.C.**

## Just the Facts: Your Feedback, Your Conference

### Feedback :

- Increase in poster presentations this year
- The "City Room" at Metro Hall, Toronto accommodated the crowd, but the room with a view is preferred
- More offers this year to do presentations than could be fitted into the schedule
- The purchase of poster boards was a bonus
- Door prizes were much appreciated
- Parents came that were interested in Autism
- Having specific themes for the day was good, it allowed some to come to the events they were interested in
- Participants came from all corners of Ontario and Quebec
- Increased interest in membership
- Having the membership table and registration separate was an excellent idea
- Speakers were not pleased with having to pay for conference

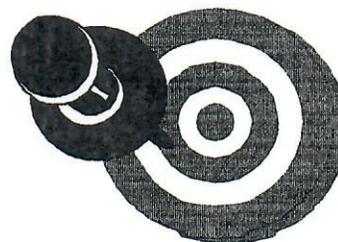
### Considerations :

- Use a facility that has more predictability for room locations, this would decrease the stress for organizers
- Send out conference notices at least two months in advance
- Have a larger committee
- Make educational material available for sale i.e. books
- Have some workshop options instead of all lecture format
- Continue with door prizes
- Give prizes for posters
- Have a standard brochure to advertise the conference every year
- Have less speakers, but give them more time
- Choose a Canadian as a guest speaker

Thank you for your feedback and ideas, it makes the Conference better every year!

*The 1999 Conference Committee*

## Your AD could be here!



Check for details on page 3

## Behaviour Analysis on the World Wide Web

Gerald R Bernicky, BST, RRP  
GRB Information & Performance Management Group

**Website: The Cambridge Center for Behavioral Studies [www.behavior.org](http://www.behavior.org)**

Home of the virtual behavior community. This area of the website is set up as a 'click' through and read postings that are arranged according to a topic or you can subscribe to the listserve. A listserve is an automated email distribution system, whereby one individual's email posting is distributed to all members of the listserve. You can have these postings emailed to you instead of going to the site. Members are educators, researchers, students, practitioners, and others with an interest in behavior analysis. The content will vary over time from one member looking for an address of a colleague, to clinical questions and suggestions about behavioural assessment and treatment, discussions about principles and theory of behaviour analysis, and my personal favourite, references to books and journal articles for further reading in areas that are currently being discussed. With the listserve function on a typical day, I may receive between 15 to 45 emails. I scan through these and delete about 80% that do not interest me, however, I actually save 3-5 each week. The site also has other areas dedicated to providing information and links in the following groups:

**Autism:** includes a brief description of causes, educational issues, use of applied behaviour analysis for treatment and teaching, evaluating treatment and teaching programs, advice on how to select a behavior analyst, a bibliography, and links to other sites.

**Behavior Analysis Digest:** a collection of the table of contents and a brief description of each article within this digest. This digest includes a wide range of content from golf, to staff management, to teaching communication, and after reviewing the content, information on subscribing is just a click away.

**Book Reviews:** presently there is a limited selection of book reviews by educators and/or practitioners. Over time and with an increased database, this could be a useful resource before you spend that 50-100 dollars per book.

**Education:** a small area with some references and resources about ABA and education. I was surprised that this area was not more comprehensive then it is.

**Parenting;** a small selection of materials on parenting and including subjects like encouraging learning, nightmares, home token economies, etc. However, most of the books and materials covered are what the owners of this site have for sale.

**Performance Management:** a nice short introduction about performance management. Too short!

**Animal training and enrichment:** an interesting area for those with pets or a love of animals in general. It includes a brief description of how training using ABA is completed in zoos and aquariums, training your domestic pet, and animal learning resources for use in the classroom.

**Behavioral safety:** an introductory level of information about the use of ABA to increase employee safety in the workplace. There is information on joining a behavior safety network. However, the highlight of this area is one of the most extensive and impressive reference list on this topic that is a 'must read' for anyone interested in this field.

This site provides an introductory level of information about different areas of applied behaviour analysis. The information is useful for individuals seeking a starting point in learning more about these topics and locating some materials. The content is written with parents or other non-behavioural practitioners to read and understand. If you are a researcher or practitioner with experience, there may be other sites that will better assist you and your needs. This site's claim for fame is that it is the home of the virtual behaviour community (the previous behav-an listserve).

## Using PND and PZD Scoring for Evaluating Behavioural Treatments

Gerald R. Bernicky & Andrew W. McNamara  
ABI Behaviour Services, West Park Hospital, Toronto

### INTRODUCTION

Single-subject methodology allows for the study of behaviour change in individuals across time, rather than in-group comparisons. Over the past forty years, and with continued research and careful study, a variety of procedures have been reported to be effective in the treatment of socially significant maladaptive behaviours (e.g., aggression and self-injury). Numerous journals have emerged over this period of time increasing the number of available forums for such publications. However, due to geography and/or financial limitations, many clinicians often have reduced access to this large body of printed research publications. This limited access may reduce the availability of review articles and comparison studies of treatment effectiveness. In the absence of such studies, the clinician must become responsible to undertake and complete this activity him/herself.

Clinicians need a method that is quick, easy to use, and reliable to review reported clinical outcomes within an available body of literature to determine which treatments should be used to improve our client's lives. Scruggs & Mastropieri (1986) reported an alternative to visual inspection of graphical information and complicated analysis of variance. They developed a method to determine the percentage of nonoverlapping data (PND scores) between baseline and treatment phases for use in the analysis of single-subject research where data is presented graphically. The assumption for this type of analysis, is that the greater the PND score, the greater the effect between phases (albeit, we hope in a desired direction). This

method is presented as a common outcome metric that can be calculated easily and applied fairly to study the treatment outcomes across articles being reviewed. PND scores have been found to be strongly correlated with expert ratings of treatment effectiveness (Mastropieri & Scruggs, 1985-86).

Scotti et al (1991) reported the use of a second metric for completing a similar analysis of reported treatment outcomes. Percentage of zero data points (PZD) can be used to estimate the degree to which the intervention sustains complete suppression or elimination of the behaviour (reduction of socially significant maladaptive behaviours, e.g., aggression, self-injury).

For this study, we wanted to 'test' and use the PND and PZD scoring systems to determine if either or both would be useful tools for clinicians to use.

We came up with several hypothetical questions.

1. What does the use of PND score tell us about the effectiveness of different treatments for aggression and self-injury?
2. What does the use of PZD scores tell us about the effectiveness of different treatments for aggression and self-injury?
3. What were our impressions from using these different analyses to determine effective treatments?

We used these two scoring metrics to look at a

sample of applied single-case studies reported in the Journal of Applied Behavior Analysis (JABA), specific to the assessment and treatment of socially significant maladaptive behaviours (i.e., aggression and self-injury).

### METHOD

#### JABA article inclusion / exclusion criteria:

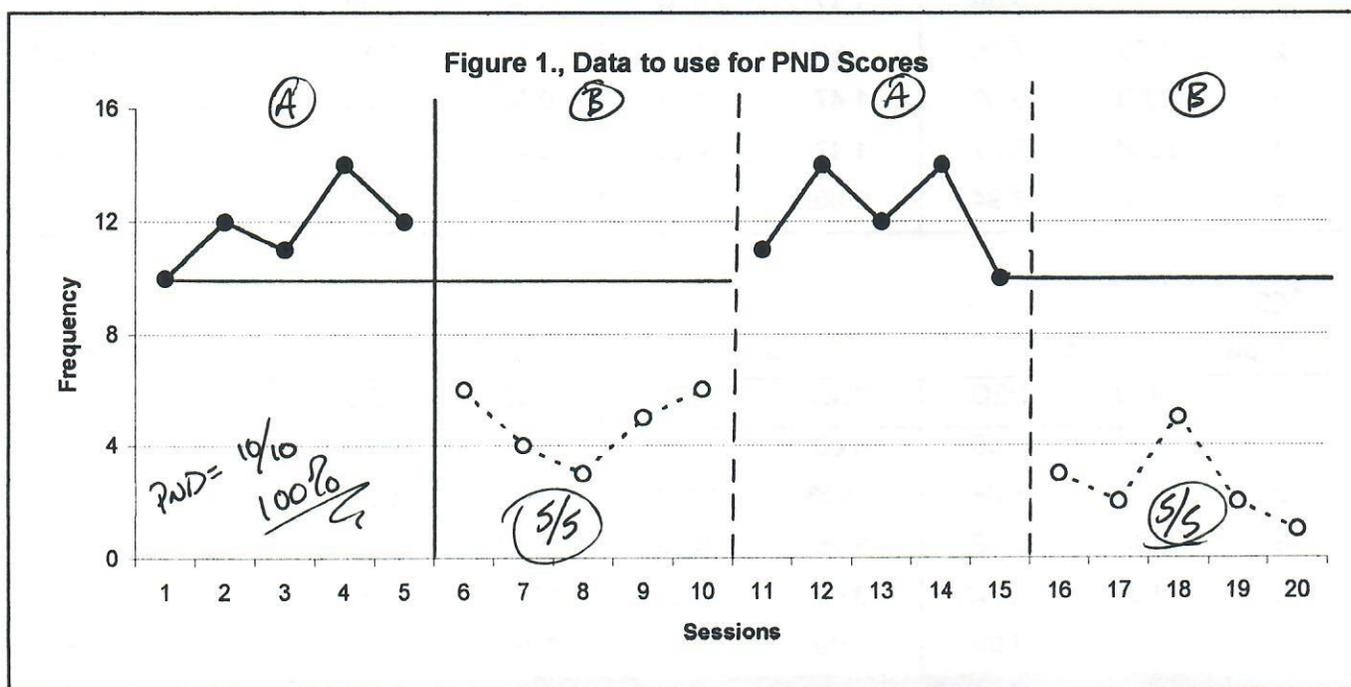
1. Applied single-subject research studies appearing in JABA between 1977 and 1987.
2. The article addressed the treatment of either aggression or self-injury.
3. Studies examined had to have discrete aggressive or self-injurious behaviours and treatments, e.g., studies where aggression was 'blended' with other disruptive behaviours were excluded.

#### Determining the Percentage of Nonoverlapping Data (PND) scores:

1. Draw a line through the lowest data point in the baseline phase, parallel to the abscissa and through the treatment phase(s).

2. Count the number of treatment data points that are found below this line and divide by the total number of treatment data points to determine the PND score. Note: If evaluating for treatments to increase behaviours, one would count the data points above this line.
3. If an ABAB design, two lines are drawn through each treatment phase, one from each baseline through its subsequent treatment phases. The 2 PND scores are summed if the same treatment.
4. If an ABCD design, the line is drawn across all treatments.
5. PND scores can be aggregated to determine the mean and variability of PND scores associated with commonly used behavioural treatments with either aggression or self-injury maladaptive behaviours.
6. Note: All zero data points in the baseline phase and the corresponding number of zero points in treatment phase are excluded. Select the lowest data point above zero as step 1 above.

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The interpretations of PND and PZD scores may be considered as: 90+ = very effective, 70 to 90 = effective, 50 to 70 = questionable, and <50 = ineffective. Very effective is defined as most or all treatment points exceeding the baseline or other phase points in a desired direction.

#### Determining the Percentage of Zero Data (PZD) scores:

1. Determine the first zero data point in the treatment phase(s).
2. Calculate the percentage of treatment data points, from the first zero point onwards that remain at zero in that phase. For example, if the treatment phase had five data points and the 3<sup>rd</sup>, 4<sup>th</sup>, and 5<sup>th</sup> were zero, then the PND score would  $3/3 \times 100 = 100\%$ .
3. PZD scores can be aggregated to determine the mean and variability of PZD scores associated with

ated with commonly used behavioural treatments with either aggression or self-injury maladaptive behaviours.

#### RESULTS:

The criteria described above resulted in the selection of twelve articles containing data on 32 subjects. Twenty-six of the subjects were presenting self-injurious behaviour while six were treated for aggression.

Treatments (Trt Types) were classified according to the following scheme: 1 – extinction; 2 – differential reinforcement procedures; 3 – punishment, removal of a stimulus contingent on a target behaviour; 4 – punishment, addition of a stimulus contingent on a target behaviour; 5 – other. The following table presents the percentage of treatment types resulting in different levels of effectiveness.

Trt Type	90+		70-90		50-70		<50	
	PND	PZD	PND	PZD	PND	PZD	PND	PZD
1	1.47	0.00	1.47	0.00	0.00	0.00	1.47	4.41
2	7.35	7.35	5.88	1.47	2.94	1.47	17.65	23.53
3	0.00	0.00	1.47	1.47	0.00	0.00	1.47	1.47
4	32.35	8.82	1.47	7.35	4.41	10.29	5.88	17.65
5	8.82	2.94	0.00	1.47	2.94	4.41	2.94	5.88

Trt Type	90+		70-90		50-70		<50	
	PND	PZD	PND	PZD	PND	PZD	PND	PZD
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	5.26	5.26	10.53	10.53	10.53	5.26	5.26	5.26
3	0.00	0.00	5.26	0.00	0.00	10.53	5.26	10.53
4	31.58	10.53	0.00	5.26	15.79	10.53	10.53	31.58
5	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Based on the results of the PND analysis, punishment procedures involving the presentation of a stimulus contingent on the occurrence of a target behaviour seem to be most effective (i.e., 90+% reduction) in the treatment of self-injury and aggression. The PZD analysis suggests that differential reinforcement procedures and punishment procedures involving the presentation of a stimulus may be equally effective.

The significant percentage of treatments that result in 50% or fewer data points being at zero (i.e., PZD analysis) seems to call in to question the durability of the effects of many of the procedures presented in these articles.

## DISCUSSION

A quick overview of the table reveals that the PND and PZD could result in quite different conclusions about the effectiveness of a procedure. This finding is not surprising as one statistic is simply looking at reduction from baseline (i.e., PND) while the other is a measure of suppression (i.e., PZD).

One of the major difficulties with using these metrics was the determination of the position of some of the data points relative to each other and relative to the zero line. The use of photocopies of articles may present problems with these determinations dependent on the quality of the photocopy.

In general, these metrics were very easy to compute and interpret. They may add an additional dimension to the evaluation of treatment effects but they do not replace traditional visual analysis of data. There is considerable debate about the statistical validity of these measures (e.g., Salzberg, Strain, and Baer, 1987), consequently they should be used with caution.

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- Mastropieri, M.A., and Scruggs, T. E., (1994). The utility of the PND statistic: A reply to Allison and Gorman. *Behaviour Research and Therapy*, 32, 879-883.

## MEMBERS

Would you like to see your article published in the *ONTABA ANALYST* ?

Your contributions are welcomed and appreciated.

See submission instructions and deadlines on page 3

## Contact: ONTABA Board Members and Committee Chairs

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**ONTABA, the Ontario Association for Behaviour Analysis,**  
is an affiliate Chapter of the Association for Behavior Analysis International.  
ONTABA currently has members from professions such as  
education, nursing, health care, and psychology.  
The objectives of ONTABA are to promote behaviour analysis in the province of Ontario,  
to facilitate interactions between professionals engaged in behavioural activities,  
to monitor and participate in legal and professional issues related to behaviour analysis,  
and to initiate standardized practices and certification of Behaviour Analysts.

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