Expansion Activities

The Main Event

This issue our topic is **social rhythm.** Patricia Cretella is our guest author; she has written The Main Event.

**Good ideas for teaching students to better understand these social concepts include:**

- Talk about how the students in your group differ from one another in rhythm. Ask about their families; do they know entire families that are either very fast or very slow in their rhythm?

- Do your students know someone who is always late? This is an example of a social rhythm that can get you in trouble. Some people are always late and might joke about being late, but others might feel that being late is rude and feel offended by someone who is always wasting their time by making them wait.

- There are some well-known sayings that illustrate social rhythm, such as “He marches to the beat of a different drummer.” Can your group think of any others?

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I am Kari Dunn Buron, a teacher from Minnesota, and I just love this magazine!  

You betcha.
Departments

I Second That Emotion!
This issue talks about speed. It is good to go through the scale with students to get them thinking about when it is OK and when it is not OK to move fast.

- What do your students think about the train analogy? Sometimes analogies make it easier to understand a concept.

Coming to Our Senses:
Sitting still can be very difficult for some students. It can also result in other problems, like falling asleep!

- Talk about trying to remain still and still pay attention. Bring some “fidgets” to class and let students try different ones to see what works best for them.
- Ask the school’s OTR to come to your group as a guest speaker to demonstrate and talk about different techniques, like using a weighted lap pad.

Gets-It Knows!
In this issue, the letter to Roger is about personal space. This is a topic that is worth talking about a lot because it can be very difficult to understand, and invading other people’s personal space can be so offending.

- Discuss Roger’s advice to look at other people’s faces to “read” how they are feeling. Can your students do this? It helps to practice using each other or video clips from comedy shows such as Mr. Bean.
- Talk about differences in personal space issues. Have the students walk towards each other and stop when they feel they should to maintain a proper distance. Mark the distance at which each student stopped and compare. This is a very interesting exercise.

Remember to send letters to Roger at rogergetsit@aapcpublishing.net.

Puzzle Time:
- Use the puzzles as a supplemental activity to reinforce the topic lesson. The answers are posted on this website. You can expand on the use of the puzzles by listing the key words on the board and asking your group what they learned about the words.

Tip to Combat Bullying:
We have added this “tip” to the magazine as a kind of “safety vest” for students who might be targets of bullying. The tips are not meant to take the place of organized and schoolwide anti-bullying programs but to offer one tip at a time about simple defensive strategies for day-to-day living at school or in the community. They might open the door to discussion about problems happening in your school.
Animal Facts:
Throughout the magazine, fun facts involving animal behavior are interspersed. We hope this will increase the entertainment quotient of the overall magazine experience.
• Invite your students to submit their own trivia ideas to the magazine. If they excite us, we will print them in one of our future issues.

Something to Talk About:
This is an endearing story about wearing the same clothes over and over. Winston wore his sweater because he thought it made his mother happy. Some students wear the same thing over and over because it feels so comfortable to them. The point of the story is that people do notice what you wear.
• Talk about when this would matter. In what situations should you care about what other people think about you?
• Discuss famous sayings such as “The clothes make the man” or “She looks like a million bucks.” Ask your students where they think these sayings come from.

The Cartoon:
The abstract nature of the cartoon is purposeful. Social rules and social faux pas are subtle, and this activity gives students an opportunity to analyze the social information, point by point. It is expected that the teacher or group leader will support this using the following prompt questions:
• Why is this funny?
• Is this funny for everyone or just other students?
• “Bodily function” humor is really funny to some people but not at all funny to others. Talk about some of the problems this difference can cause and what to do to make sure you are using the right kind of humor.
Contributors to This Issue

Patricia Cretella is a speech-language pathologist and autism consultant for School District #622 in St. Paul, Minnesota. She has been teaching social language skills for students with autism spectrum disorders for over 10 years. Patricia also teaches a communication class in the autism certificate program at Hamline University and is a member of the Minnesota State Autism Network.

Leah Kuypers earned a BS in occupational therapy (OT) from the University of Wisconsin-Madison, a graduate certificate in autism, and a master's in education from Hamline University in St. Paul, Minnesota. She has practiced as an OT/autism specialist in school and clinical settings specializing in self-regulation. She has worked with students of all ages and challenges, including anxiety, social cognitive difficulties, ADHD, and ASD. She has authored a curriculum to teach self-regulation, The Zones of Regulation (Think Social Publishing, 2011). She resides in Oakland, California, with her husband and son. She practices as an OT and autism/social learning specialist at Communication Works, a private clinic in Oakland. Besides working with students, she enjoys providing trainings and consultation to parents and professionals.
One of the subtlest forms of nonverbal social communication is our social rhythm. We resonate with each other’s rhythm and coordinate our interactions accordingly. Examples include the give-and-take of conversation; two people looking at each other for a moment and then looking away; and walking and talking in the school hallway.

Most of us don’t think about this rhythm, but we notice it if somebody is stiff and awkward in their rhythm. If someone’s voice seems choppy or his body movements seem odd, chances are he has a problem with social rhythm.

Interrupting is a common problem for people who have issues of social rhythm because they seem to lack the intuitive knowledge of when to jump into the conversation. Students on the autism spectrum have difficulty with social rhythm. Temple Grandin, a famous woman with autism, said that she feels she was born without “natural human rhythm” (presentation, Autism Society of America Conference, 1987).

This aspect of nonverbal social communication can lead to teasing or social exclusion since even very young children can sense that something is not quite right when somebody is out of sync socially. This is a problem that can affect even the smartest student with an autism spectrum or similar disorder.

Teachers can help by simply being aware of what social rhythm is and by protecting students from teasing or social rejection. A special education teacher can help by addressing social rhythm on the IEP.
Social Rhythm – Word Search Answers

Word Bank:  CLOCK, FAST, FINISHED, GAME, GROUP, MOVE, PROJECT, RATE, RHYTHM, SIMILAR, SLOW, TIME, WAIT, WATCH
Social Rhythm – Crossword Answers

ACROSS
2) done more than once
5) to do something with care
8) close to the same

DOWN
1) more than one person or thing
3) do many times to get good at something
4) receive new information
6) stop momentarily
7) a pattern
8) opposite of fast
9) quickly
Social Rhythm – Quiz

Name: ____________________________________

1) Which of the following is a characteristic of someone’s social rhythm?
   A) Getting all A’s
   B) Being able to read properly
   C) Having a conversation
   D) Winning the 50-yard dash

2) Which of the following has nothing to do with social rhythm?
   A) Working in a group
   B) Taking turns
   C) Playing basketball
   D) Writing a book report

3) Good ideas for learning more about social rhythm include:
   A) Watching other people
   B) Purposefully slowing down to match another person’s pace
   C) Eating with different people, each time trying to finish at the same time
   D) Playing a team sport
   E) All of the above.

4) People with slow rhythms have problems moving or doing things fast.
   A) True
   B) False

5) It is usually OK to rush through a test.
   A) True
   B) False
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The Undervalued Role of Over-regulation in Autism: Chaos Theory as a Metaphor and Beyond

Andrew Cashin, RN, NP, PhD, and Cheryl Waters, RN, PhD

TOPIC: A triad of impairment that consists of impaired communication, impaired social skills and over-regulated behavior characterizes autism. Causality of autism is yet to be identified. Therapy has been devised to apply to the work with children and adolescents with a diagnosis of autism in the domains of impaired communication and impaired social skills. Little attention has been paid to the importance of the over-regulated behavior that forms part of the triad of impairment.

PURPOSE: This paper considers this point of over-regulation in the triad of impairment in autism through the lens of Chaos theory.

SOURCES: Contemporary literature on autism and Chaos theory.

CONCLUSIONS: Implications for nursing practice and research are raised.

Search terms: Chaos theory, autism, Asperger’s disorder, autistic disorder

Autism

Autism is a construct that points to a way of being-in-the-world that has been labeled a syndrome. It is characterized by altered communication patterns, social skills, and behavioral flexibility compared to those with more typical developmental patterns. The nature of the disability in autism has for some time been referred to as the triad of impairment. Although intense effort has been invested to discover a physical cause for the impairment that constitutes autism, as yet no one has succeeded. Some biological differences have been identified in some individuals with autism, but we are still a long way from claiming knowledge of causality. As we live in a social world that is heavily based on language as the primary vehicle of communication and social interaction, looking to these areas of development for a clue to the origins of autism would seem plausible. Equally plausible though and perhaps most illuminating is the third point of the triad of impairment, the point of restricted and repetitive behavior and thought. This paper considers a plausible role for restricted behavioral and cognitive flexibility in the genesis of autism. In this discussion Chaos Theory is used as a framework within which to make claims about the potential pathological impact of restricted flexibility.

Chaos Theory

Chaos theory provides a way to look at the health, or otherwise, of nonlinear systems. Chaos theory is a mathematical theory that posits that initial small
changes in systems can lead to chaotic and unpredictable changes in later systems (Barker, 1996). Not all systems are well-behaved and thus follow a linear cause and effect path as once assumed (Goldberger, 1996). Such systems are described as complex and nonlinear. Complex systems cannot be understood by individual analysis of the components of the system (Goldberger).

Chaos in Western thought, a tradition that historically has been consumed by the need to find order and predictability in nature, was a metaphor for disaster in systems (Capra, 1983). In psychiatry for instance, chaotic thought was associated with madness. This, however, was never congruent with the rigid patterns seen in neurosis and the accompanying relative predictability of behavior. Chaos theory contributed to the realization that, for many systems, over-regulation or linearity was unhealthy (Andrade, 1995). In fact regular behavior was periodic in mathematical models and represented decomplexification or ill health (Haigh, 2002). Healthy systems on the contrary maintain complexity and are chaotic. Such systems are dynamic and adapt. Loss of complexity, or chaos, is characteristic of disease and loss of adaptation (Andrade; Goldberger, 1996). Those wrapped up in a periodic, monotonous dynamic are in no shape to adapt to, and cope with, their environment (Smith, 1994).

Healthy systems maintain complexity and adapt. Loss of complexity, or chaos, is characteristic of disease and loss of adaptation. Examples of phenomena that illustrate the point are: an over-regulated heartbeat represents an arrhythmia, an extremely over-regulated brainwave represents a seizure, over-regulated breathing is equated with asthma or Cheyne-Stokes respiration, and over-regulated firing of muscle fiber bundles is found in parkinsonian tremor (Andrade, 1995). Over-regulated patterns in relationships may also reflect this loss of adaptability and represent ill health of the relationship (Smith, 1994).

Chaos theory embodies a move in the aim of science from the sole aim of the manipulation and control of nature alone, to the gaining of wisdom through understanding (Barker, 1996). Beings are seen as temporal, or in the language of chaos theory, dynamic and in a constant state of flux (Capra, 1983; Coppa, 1993; Barker; Copnell, 1998; Haigh, 2002). This makes sense with consideration of the rhythm of being (Newman, 1999), or the fluidity of being, and the analogy of flowing water (Capra; Barker). Being is not viewed as a point fixed in space but moving through time.

The Being is open to environmental stimuli (Coppa, 1993). However, the interaction is not unidirectional, and the Being is more thoroughly described as constantly interacting with the environment in which an open exchange between the individual and the environment takes place (Copnell, 1998). This in encompassed in the notion of adaptation.

The use of chaos theory as a tool to research issues in mental health has been advocated (Ethlers, 1995). It has been used to explore mood in bipolar disorder and thought processes in schizophrenia (Ethlers; Paulus, Geyer, & Braff, 1996): The notion of loss of complexity representing pathology in mental illness is partially supported (Paulus et al.).

**Chaos Theory a Window to Autism**

The first use of the modern notion of autism, as we now understand it, has been attributed to Leo Kanner in his 1943 paper, “Autistic Disturbances of Affective Contact.” Kanner presented a series of 11 case studies that illuminated a common pattern of development that varied from the typical: he referred to his work as, “a consideration of fascinating peculiarities” (Kanner, 1943, p. 217). He observed that difference occurred in both the form and content of communication that altered the success of, and pattern of, interaction with the world. If words were used, then an idiosyncratic pattern of usage was observed. Since Kanner’s time we have come to recognize in those with autism who use words a relative strength in labeling and a relative weakness in formation of concepts, or thought retrieval based on engrams. “An engram is the residual trace of an adaptation made by an organism to a stimulus”
The Undervalued Role of Over-regulation in Autism: Chaos Theory as a Metaphor and Beyond

(Ogden & Richards, 1952, p. 53). To be successful in the building of concepts, and retrieval of conceptually based information on the strength of a partial stimulus, such as a smell, word, or sight that one has previously encountered, one must have the ability to form a unified base of knowledge. People with autism, however, have a chunk style of learning that requires specific stimuli for retrieval of chunks (Scott, Clark, & Brody, 2000).

Because of the impaired communication referred to in the triad of disability in autism, and a relative weakness in mentalese formation, individuals are linguistically isolated.

Doubtless, people with autism, who have a relative weakness in the use of language as a tool of social interaction, are disadvantaged as such a weakness represents a disability in a society that is heavily reliant on language. Language represents more than a vehicle of social exchange. Language represents not only how meaning is constructed, but it also constructs the boundary of meaning, as thought primarily occurs linguistically (Ogden & Richards, 1952). The way we use language individually is not exactly in the form of words but more as a personal jargon or “mentalese” (Pinker, 1997). Ideas are linked and concepts formed and stored on the basis of language. Words are signs that point to a referent, which is a portion of thought, of how we describe and classify the world. Because of the impaired communication referred to in the triad of disability in autism, and a relative weakness in mentalese formation, individuals are linguistically isolated.

Furthermore, because of the way we organize our thoughts linguistically and hence negotiate society, the individual with autism also experiences social isolation as a result of the second point of the triad—impairment of social skills. As elegantly stated by Weeks and Ward (1988, p. 89), “It is the degree of linguistic isolation, that some would call autistic, that could separate not only the sign from its meaning, but one person from another.”

When people with autism attempt social interaction, it has been noted that they treat the other as object as opposed to subject. From this and the work of Moustakas (1998) we have come to understand that people with autism, although they can gain an understanding of their own self, inclusive of wants and needs (the monadic), have great difficulty attributing wants and needs to others (the intermonadic). This lack of awareness of their part in a social interaction based on an inability to attribute a mental state to others, or form a theory of what others are thinking and feeling, has come to be referred to as a theory of mind deficit.

Although the first two points of the triad are of compelling interest and involve the very stuff of which thoughts are organized, produced, and stored, the third point of the triad and its potential contribution to the origin of autism demands attention. Kanner (1943) wrote, “the child’s behavior is governed by an anxiously obsessive desire for the maintenance of sameness that nobody but the child himself [sic] may disrupt on rare occasions” (p. 245). The current tool for classifying people’s behavior based on clusters of symptoms, the DSM-IV, describes this as restricted repetitive and stereotyped patterns of behavior, interests, and activities (American Psychiatric Association, 1994).

For those who have a diagnosis of autism, it is now assumed that the traits that constitute autism are present from, and potentially before, birth (Bolton, 1997). What is the effect of an approach to the world that constitutionally avoids novelty and reacts rigidly? Novelty and how one deals with it reaches beyond behavioral flexibility in any one circumstance right to
the aforementioned unified base of knowledge from which concepts emerge (Cashin, 2005). Is it possible that a refusal to attempt adaptation to novel circumstances antecedes even the difficulty with linguistic coding and theory of mind?

The ability to adapt in novel circumstance is inherent in most individuals with typical development. Such ability is linked heavily to the ability to find sameness in a different circumstance. This rests on the inherent ability to recognize similarity, an ability based on abstraction. Aristotle referred to this as the great gift of abstraction: a gift in the sense that it is inherent in nature as opposed to learned. People with autism have a marked deficit in abstraction ability (Scott, Clark, & Brody, 2000). Once sameness or similarity is identified based on conceptual learning or engrams, a potential solution in the form of a pattern of behavior is brought forward. The person is able to trial the behavior in the closest or most similar circumstance and proceeds to modify it as needed to adapt to the current situation. As people with autism have a relative deficit in the formation of conceptual links represented as a chunk style of learning and retrieval of information (Scott et al.), in a novel situation behaviorally they may have nowhere to start: no clue at all. This is most certainly the origin of much of the anxiety that coexists with autism. In novel situations it is commonly observed that people with autism attempt to get things on their terms through behavioral outbursts, a fight type response, or withdrawal into obsessive or ritualistic patterns, a flight type response. The outcome is that feelings associated with the presentation of a novel circumstance are dealt with, such as anxiety, but adaptation does not occur.

Could it be that if present from birth a pattern of behavior dominated by dealing with the demands of adaptation as opposed to adaptation itself results in entrenchment of autism? Of course, if a person does not adapt in some form they would not have the blocks of experience to build into a unified base of knowledge. If this were the case, and if this characteristic need for sameness had a primary part to play in autism, it has implications for therapy. People with autism are often involved in speech therapy to work on their communication issues. Much effort goes into teaching social skills, and people with autism often have some form of social skill instruction. Yet what is in place to deal with the third common characteristic of the triad—over-regulation? Chaos theory may provide some clues for a possible new direction in this area.

The idea that over-regulation represents loss of complexity and health, at least metaphorically, provides some insight into the difficulty faced by a Being whose way of being is autism: This way of being-in-the-world that is characterized by a need for sameness and predictability in action and communication. Adaptability to change is impaired by their restricted and repetitive way of being-in-the-world. This need for sameness also translates to thought through obsession. No studies have been identified that apply chaos theory as a metaphor, or use the mathematical applications as a tool in research, in any area related to autism.

If the over-regulation is a more precise way to discuss the need for sameness seen as an integral part of autism, the tools of chaos theory may provide a tool to measure and map it.

The over-regulation in autism may reflect problems at a deeper level than those presented outwardly as difficult and rigid behavior. ‘Conventional developmental psychology has tended to concentrate on young children for an examination of less complex
The Undervalued Role of Over-regulation in Autism: Chaos Theory as a Metaphor and Beyond

developmental stages, but the neurological picture suggests that adults whose early life is spent in fairly static environments may retain neurological patterns that are more reliant on lower brain centres” (Wade, 1996, p. 78).

If the over-regulation is a more precise way to discuss the need for sameness seen as an integral part of autism, the tools of chaos theory may provide a tool to measure and map it. It seems plausible that if over-regulated systems represent a lack of health that this point of the triad may be central to the pathology in autism. Intervention may emerge in line with that used by many intuitive parents that have constantly presented their children with novel situations while remaining mindful of the child’s comfort. Outcomes of intervention may be plausibly evaluated by the relatively more objective means of changes in adaptation and responsiveness to the environment as mapped with the tools. This may be more sensitive feedback than traditional measures of gross behavior change. Chaos therapy may prove as important as speech therapy and social skills training in the arsenal of tools to promote the well-being of those with autism.

Implications for Practice

Chaos theory may lead to interventions that get the balance of optimal gain for the minimum distress right. Exposing people with autism to new experiences even when supported is stressful. Parents only have behavior to rely upon as feedback of success. Often the distress of the person is represented outwardly in behaviors that are painful to observe such as self-harming or withdrawal if internalized, and destructiveness and overactivity if externalized. These behaviors are difficult for parents to observe, and without any feedback to reinforce the effort, it becomes understandably easier to abandon any form of novelty (Cashin, 2004). Chaos theory as a rationale and foundation for therapy that is communicated to parents may provide the momentum to persist.

Case Example

Charles is a 6-year-old child with autism who has a special school placement at the School for Children with Autism. His pediatrician diagnosed Charles at age four with Asperger’s disorder. As implied by the diagnosis Charles’s IQ is in the average range based on standardized testing conducted by the Department of Education. Charles has an extensive vocabulary and, while fluent in labeling objects, is unable to participate in a reciprocal conversation. Charles talks at people and in no way moderates his conversation based upon the response of others. Charles is unable to judge the response of others to his actions unless this is specifically labeled for him. As a consequence of his inability to appreciate the wants and needs of others, Charles has marked difficulty in the context of social interaction that demands reflexivity. As the negotiation of family life and school depends heavily on communication and social skills, Charles is frequently tripping over social conventions, confused and anxious. As a way of navigating a world that is confusing, Charles restricted the amount of anxiety-producing novelty to which he was exposed by demanding sameness. This debilitating sameness touches on every aspect of his life. Charles demands that the same things happen in the same order each and every day. This includes eating the same food, having the same content and order in conversations, and even driving by the specific fast-food restaurant drive-through each day on the way home from school even if his mother does not buy anything for him. In fact he is so well-known the young attendants wave and say hello to him by name. All free time is spent immersed in material related to his current obsession of planets. Any change to this over-regulated daily routine is met by externalizing behavior of screaming and physical assault upon anyone present. Charles’s parents resist no longer as any perceived short-term gain is outweighed by the immediate cost in the terms of the consequence of the behavioral outbursts. As a result, Charles is growing in a static environment of his own creation.
Application of Chaos theory as a metaphor helps to understand the repetitive and restricted behavior in terms of the debilitating contribution to autism through the impact on adaptation. It makes sense that the world was scary to Charles and hence his subsequent attempts to get things on his terms by demanding sameness. It also makes sense that this sameness results in over-regulated behavior that is pathological. Use of Chaos theory beyond that of metaphor, to an application in the mapping of behavior is also pointed to in this paper as a real and potentially valuable possibility. Charles’s parents’ application of a cost-benefit ratio to their decision of whether to pursue the introduction of change is typical. As Charles’s behavior is so dramatic, incremental progress is often hard to detect. Parents enmeshed in the turmoil may not see the small changes. A way of mapping progress that is sensitive to change may allow the reinforcement Charles’s parents need to continue with challenging his dependence on sameness through gradual and supported exposure to novelty. Although the process of the application of gradual and supported exposure to novelty is frequently used in practice by parents and professionals as a construct, it is not named and the application varies widely based on personal interpretation of what constitutes support. Chaos Therapy may provide a framework in which to develop and research such practice using the tools of Chaos theory as a way of evaluating outcomes. For children like Charles the hope of a more standardized intervention is the benefit of refinement and increased therapeutic potency based on reflection in a variety of contexts.

Conclusion

Understanding the need for variance will in no way justify a therapy based on flooding in which unprepared people are exposed to change. Any intervention must be holistic and personalized, taking account of each aspect in the triad of impairment. What this paper proposes is that a more concerted effort be given to the idea that the treatment of young people with autism might of necessity involve moving them regularly and with appropriate support for both them and their carers, beyond the comfort zone of their over-regulated lives and routines.

The proposition is that to do so may prevent the over-regulation from in effect becoming hard-wired and as a result far more difficult to modify. This idea is not so radical as some fairly solid theorizing in the chaos literature supports it. The literature also proposes the mathematical applications that may be used to develop tools to map the degree of change or adaptation, but a discussion of this is beyond the scope of this paper. However, such tools may afford a means of showing altered outcomes of this approach to therapy when compared to more traditional approaches.

What this paper proposes is that a more concerted effort be given to the idea that the treatment of young people with autism might of necessity involve moving them regularly and with appropriate support for both them and their carers, beyond the comfort zone of their over-regulated lives and routines.

Demonstrable outcomes may also lend rational weight to arguments to fund respite to allow parents time to maintain their sanity. Over-regulation in one family member often pervades the family system, leading to wider-spread health breakdown (Cashin,
The Undervalued Role of Over-regulation in Autism: Chaos Theory as a Metaphor and Beyond

2004). This argument is especially the case where the rationale for project funding is defined by demonstrable outcomes in the forms of numbers and graphs.

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References


