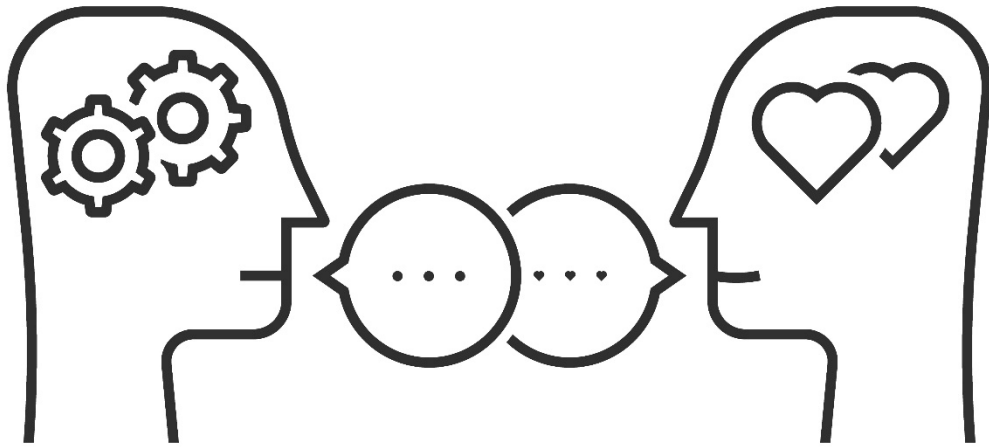


Hello, my name is Joe Falkner, and welcome to the Flexible Mind Therapy Podcast. Today we will continue the discussion of different factors that may impact on the sociosexual development of individuals with Autism Spectrum Disorders.

I've really debated what to talk about next. There were a couple more cognitive areas that I want to discuss: Cognitive Features (including Intelligence and Attention) and Thinking Patterns (including literal and rule-bound thinking). But, there were a couple of areas that didn't fit neatly in either of these categories, so I thought I would include them here. These areas are: Systemizing vs. Empathizing, and Interpersonal Synchronization. I don't know whether these count as Neuropsychological Frameworks, but they can have profound effects on both the learning related to and expression of sociosexuality in individuals with ASD. You may be familiar with one of these: Systemizing and Empathizing which is related to the Extreme Male Brain Theory proposed by Simon Baron-Cohen and his colleagues. The other, Interpersonal Synchronization, may not be as familiar to you. "Synchrony refers to individuals' temporal coordination during social interactions" (Delaherche, et al., 2012). The ability to remain in-sync with others is essential for effective sociosexual expression. We will discuss synchrony more, and its potential impacts on sociosexual development and expression, later in this podcast. These two areas share some common theoretical bases, which I will also discuss later.

But, let's begin with the more familiar topic, Systemizing vs. Empathizing. The Wikipedia entry for this theory describes it the following way: "*The **empathizing-systemizing (E-S) theory** suggests that people may be classified on the basis of their scores along two dimensions: empathizing (E) and systemizing (S). It measures a person's strength of interest in empathy (the ability to identify and understand the thoughts and feelings of others and to respond to these with appropriate emotions); and a person's strength of interest in systems (in terms of the drive to analyse or construct them)*" (Empathizing-systemizing theory, 2017).



Let's take a moment to unpack the concepts of Systemizing and Empathizing and then we can consider the impacts of these concepts on the development and expression of sociosexuality. Let's start with the Systemizing side of this theory. *"Systemizing is described as the ability to understand and build systems, and predict how a system will perform given certain conditions. Systems can be mechanical, natural, environmental, technical, abstract, or taxonomic"* (Paxton & Estay, 2007). *"A system is defined as something that takes inputs, which can then be operated on in variable ways, to deliver different outputs in a rule-governed way"* (Wheelwright, Systemizing and Empathizing in Autism Spectrum Conditions,

2007). Merriam Webster further defines systems as “a regularly interacting or interdependent group of items forming a unified whole” (System, 2017). So, two important features of systems are that: 1) they are they respond in predictable (or rule-governed) ways in response to specific inputs, and 2) there are a finite number of options for the operation of the system (sometimes as few as one possible way the system can function based on the input provided) (Wheelwright, Systemizing and Empathizing in Autism Spectrum Conditions, 2007). Individuals with Autism Spectrum Disorders are proposed to be more Systemizing in their thinking.

Wheelwright & Baron-Cohen (2011) propose many different ways that Systemizing behavior may be exhibited in individuals with ASD depending on their functional levels. For lower functioning individuals with ASD, they propose that behaviors like tapping surfaces, obsessions with train timetables or routes, scripted responses where they say one part of the sentence and wait for the communication partner to complete it, and watching the same video over and over again are all examples of systemizing behavior (Wheelwright & Baron-Cohen, Systemizing and Empathizing, 2011). For higher functioning individuals with ASD, they propose that behaviors like insisting on the same foods each day, making lists and catalogs, analyzing when a specific event occurs in a repeating cycle, and taking apart gadgets and reassembling them are all examples of systemizing behavior (Wheelwright & Baron-Cohen, Systemizing and Empathizing, 2011).

We can see this systemizing in some of the behaviors that are used to diagnosis individuals with ASD, or that commonly occur in some individuals with ASD, particularly related to the restricted and repetitive patterns portion of the diagnostic criteria in the DSM5. This systemizing can be one explanation for individuals with ASD’s use of echolalia (or repetition of words, phrases, or scripts), echopraxia (or repetition of body movements), lining up of toys, insistence on sameness, inflexible adherence to routines, ritualized patterns of behavior, and highly restricted and fixated interests that are abnormal in intensity or focus (Association, 2013).



In both the lists from Wheelwright & Baron-Cohen (2011) and the examples of restricted and repetitive patterns of behavior described in the Autism Spectrum Disorder criteria in the DSM5, we see the two important features of systems that we discussed earlier. In the insistence on sameness, ritualized behaviors, echolalia, and scripting we see the response of the system in a predictable (even rule-governed) way (e.g., the insistence on sameness increases predictability because one always knows what one will be doing, or eating, etc. at a certain time or in a certain situation). In the watching of the same video over and over again, analyzing when a specific event occurs in a repeating cycle, and highly restricted and fixated interests we see examples of where the systems that the individual with ASD is involved in have finite numbers of operations or solutions (e.g., highly fixated interests keep the individual from being overwhelmed with too many options and limits the area that the individual has to attend to). In fact, for many individuals with ASD, the breaking of these patterns of behavior can cause distress and anxiety.

So, how can this systemizing behavior affect sociosexual development and expression. Wheelwright & Baron-Cohen (2011) explain that systemizing doesn't

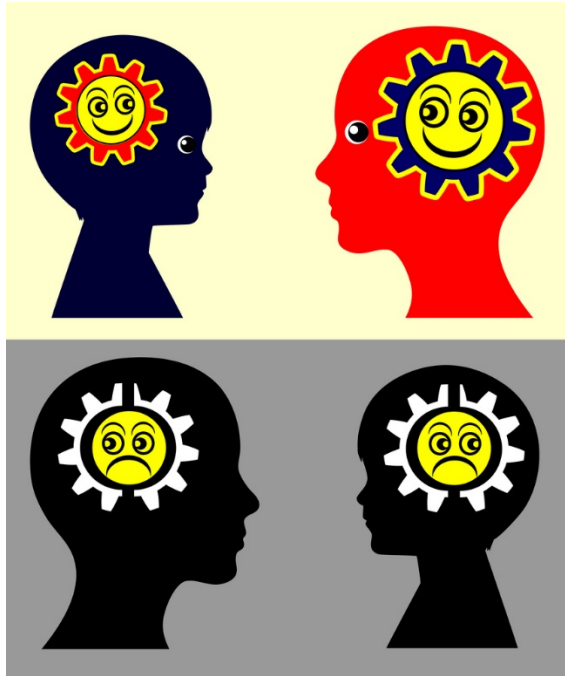
work as effectively with social systems (which in fact respond to the empathizing side of the Empathizing-Systemizing Theory). Acquiring mature sociosexual knowledge is a lifelong process, and the rules, expectations, and behaviors that are appropriate at one point in the process may be inappropriate at a different point in the process. One example of this is related to changes in masturbatory behavior over time. As I mentioned during the podcast on Neurotypical Sexual Development, between birth and about age 5 individuals are exploring their bodies and touch their genitals for pleasure and self-stimulation. This exploration continues into later years, but individuals demonstrate an increased desire to do these behaviors in private (from Hartman, 2014; and Realmuto & Ruble, 1999). This change requires that the individual be paying attention to changes in social rules and expectations. Individuals who are more focused on routines, rituals, and sameness (in other words, those individuals who exhibit more systemizing behavior) may not pick up on, or respond to, these cues for changes in behavior, and may exhibit behaviors that are now inappropriate for the new context.

So, systemizing behavior may restrict the development of more mature patterns as earlier routines, rituals, or behaviors are maintained. Let me give a few examples of this in different areas of sociosexual development to further explain this concept. This list shouldn't be seen as exhaustive in any way, but rather illustrative of some of the ways that systemizing behavior can impact on sociosexual development and expression.

- In the area of sociosexual development, the systemizing behavior may have the following types of impacts:
  - Maintenance of earlier sociosexual routines and interests
  - Delays in development of more mature sociosexual knowledge and skills
  - An unintentional reinforcement of the bias of others that the individual with ASD is “too young” or immature for sociosexual information and training due to restricted interests (e.g., Yu Gi Oh or Pokémon).
- In the area of relationship and intimate relationship development and maintenance, systemizing behavior may have the following types of impacts:
  - Focus on own interests, rituals and routines without taking into account partner's interests or needs

- A misinterpretation of polite behavior by another person as interest in engaging in a relationship (i.e., which may be due to the features of systems where the expectation is that the response of the other individual to the behavior of the individual with ASD should be a) predictable and b) limited to what is expected by the individual with ASD, in other words that they, the other person, want a relationship because that is what the individual with ASD wants)
- When a partner reacts emotionally, it may violate the rule-bound behavior of the individual with ASD and cause increased distress in the individual with ASD rather than inspiring an empathetic response.
- In the area of problematic sexual behaviors that some individuals with ASD may exhibit, the following may be influenced by systemizing behavior:
  - Masturbation in public (or touching of one's genitals in public)
  - Refusing to touch own penis while urinating (which may be a response to an earlier rule where they were instructed not to touch themselves)
  - Fixation or fetishism on certain body features, on favorite characters (e.g., anime), certain people (e.g., celebrities or a crush), etc.

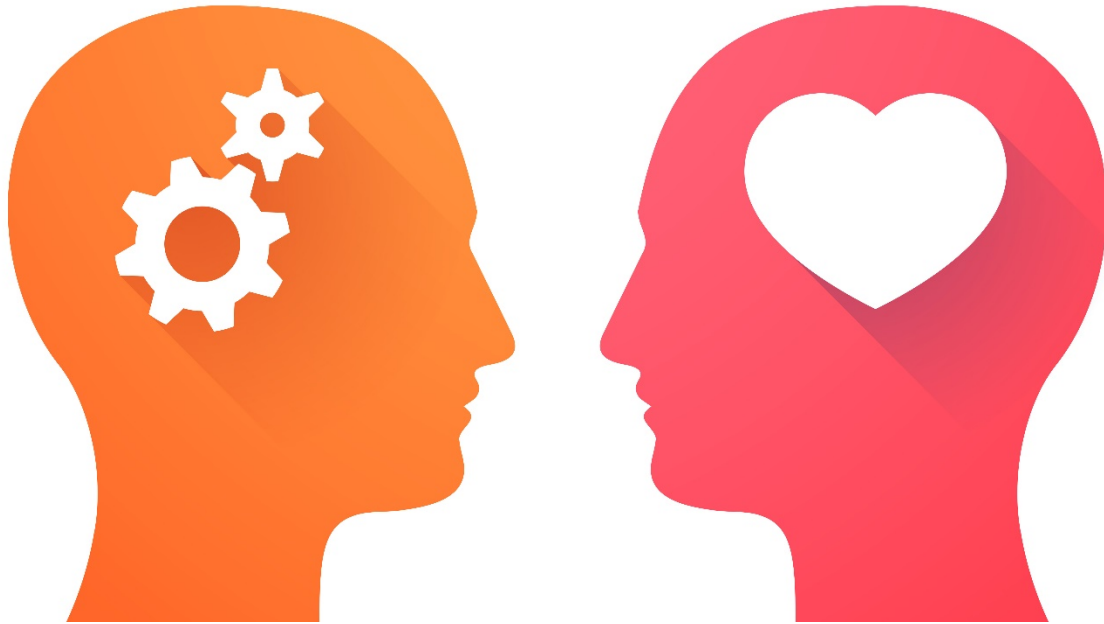
Some authors have tailored their information about relationships and sociosexual behavior to this more systemizing behavior. Books such as: *Troubleshooting Relationships on the Autism Spectrum: A User's Guide to Resolving Relationship Problems* by Ashley Stanford, *The Independent Woman's Handbook for Super Safe Living on the Autistic Spectrum* by Robyn Steward, and *What Men with Asperger Syndrome Want to Know About Women, Dating and Relationships* by Maxine Aston all seem to take the systemizing thinking pattern into account in their design and how they structure sociosexual questions and provide answers for individuals with ASD. All of these provide a system and structure to the presentation and discussion of sociosexual information that can be necessary for the more systemizing thinker. Other programs such as the BASICS College Curriculum to enhance college and workforce readiness or the PEERS program to enhance social skills, also draw upon this systematic type of approach.



I want to take a brief moment to talk about the other side of this theory which is related to empathizing. A colloquial definition of empathy found on the internet is: *“the ability to understand and share the feelings of another”* (Empathy Definition, 2017). *“For many psychologists, empathy (has) three primary aspects: (1) an affective response to another person, which often, but not always, entails sharing that person’s emotional state; (2) a cognitive capacity to take the perspective of the other person; and (3) some self-regulatory and monitoring mechanisms that modulate inner states* (Decety, 2007). As can be seen from this description, empathy has both an affective component and a cognitive component, and it requires that the individual feeling the empathy enact a self-regulatory or monitoring mechanism that modulates their own inner states so that they are not taken over by the other’s emotional state (a process known as emotional contagion) but can instead respond *“...compassionately to another person’s distress”* (Decety, 2007).

Empathizing, then, is the experience of empathy. It responds to the types of moment-to-moment, more unpredictable, less structured social behaviors found in friendships, dating, intimate relationships, and family relationships. Empathizing responds to the types of subtle, quick, ever-changing cues that are involved in emotion sharing, connecting, and ultimately interpersonal synchronization (which we will talk about in a short bit). As opposed to systemizing, which depends upon predictability and a limiting of the options for

operations or solutions that can be enacted, empathy requires the “...*mental flexibility to adopt the subjective perspective of the other*” (Decety, 2007) which may not be as predictable.



These aspects of empathy highlight some of the challenges that individuals who are more systemizing in their thinking and those who are more empathizing in their thinking may have when interacting and in relationships. Systemizers may see the behavior of Empathizers as being more erratic and lacking logic. Empathizers may see the responses of Systemizers as more rigid and unfeeling. Both groups of individuals may struggle taking the perspective of the other.

This particular theory is not without its critics. The criticism of this theory is based on a number of different factors that are beyond the scope of this particular podcast. One key critique is that this theory doesn't account for all of the behaviors noted in some individuals with ASD (such as motor symptoms, sleep disorders, or seizures) (Empathizing-systemizing theory, 2017). Another key critique is that this theory has some basis in another theory from Baron-Cohen and his colleagues called the Extreme Male Brain theory. Briefly, this theory contends that Autism Spectrum Disorders are an extreme of the typical male profile, which is systemizing (Empathizing-systemizing theory, 2017). Critics point



out that this may be misinterpreted, and that there may be an association between systemizing and “typical” male *“qualities such as aggression”* (Empathizing-systemizing theory, 2017). I can also see the possibility for the opposite to be true. A focus on systemizing behaviors being an expression of the Extreme Male Brain may lead to an under-diagnosis of women and girls with Autism Spectrum Disorders because they do not exhibit the same types of behaviors as boys and men with ASD. They may in effect “camouflage” the behaviors that might qualify them for a diagnosis of Autism Spectrum Disorders. Their particular expression of Autism Spectrum Disorders, and the related systemizing, may be expressed differently than how diagnosticians are used to looking for the presence of ASD. Finally, this sex bias may lead to other diagnoses, or even diagnostic overshadowing (where the diagnostician’s own bias about ASD may bias the diagnosis in women and girls). Hopefully, we can do another podcast later on this subject.

Despite these concerns, I feel the discussion of Systemizing vs. Empathizing is an important one. I have had students and clients over the years who have complained about the unpredictable and/or illogical nature of others. These individuals have wondered why others can’t act in the way that they (the person with ASD) want or need them to, and/or why others are so focused on emotions in a way that seems nonsensical. It is not that these individuals with ASD are uncaring in any way. In fact, I’ve often found the individuals with ASD that I work with to be highly sensitive. But, they rely on systems to make sense of things. Emotions can be overwhelming; particularly when these emotions come from outside of themselves. They may lack some of the aspects of empathizing behavior (such as the self-monitoring, self-regulation, and or perspective-taking) that goes into: 1) being aware of the difference between their own and others’ emotions; 2) the ability to be mentally flexible and take the subjective perspective of others; and 3) being able to monitor and regulate their own inner states so that they can respond compassionately to others’ distress and not become overwhelmed by the other’s emotions (Decety, 2007).

The second area that I wanted to discuss today was interpersonal synchronization. Interpersonal synchronization is closely related to empathizing, and that’s one of the reasons why I wanted to discuss it after the discussion of Systemizing and Empathizing. As I mentioned earlier, interpersonal “synchrony

refers to (an) individuals' temporal coordination during social interactions" (Delaherche, et al., 2012). And when we think about it, many of the activities and relationships that are involved in sociosexual expression require some degree of interpersonal synchronization, particularly those that involve a partner. Rules and expectations can provide the parameters for expression in this area. They can answer for us the big questions of what we can do, with whom, when we can do it, and how we can do it. But, as I hope will become apparent in this part of the discussion, some degree of successful interpersonal synchronization is essential to effective, mature relationships, especially more intimate relationships. We need to be in-sync with our family members during social interactions, peers during friendships, and partners during dating and intimate relations. The "if we are going to be able to do it at all" question (of sociosexual expression with a partner) is only answered by our degree of interpersonal synchronization with others.

Kinsbourne & Helt (2011) write about this in their chapter in *The Neuropsychology of Autism*. One of the things that they discuss is the process that occurs when a couple (whether intimate or otherwise) converses with each other. When they do so, they engage in a process called entrainment. Entrainment, in this instance, refers to the synchronization (or coordination) of internal rhythms, actions (including posture and body language), and speech patterns between individuals. This type of entrainment can be seen in mother-infant dyads, where each mimic the expressions of the other. It can be seen in peer groups where the biological motion of peers can sync up over time, so that when these peers are together they move similarly; mirroring the social rhythms that are essential for close friendships. Kinsbourne & Helt (2011) report that, as an extreme example, "*long-married couples look more alike than they did at their wedding, apparently because years of mimicking one another in silent empathy shapes facial similarities and wrinkle patterns; indeed, the more they resemble each other at a silver anniversary, the greater marital accord they report.*"

This synchrony enhances the connection and the closeness of those involved. It leads to the attachment that occurs between mother and child. The affiliation that we feel towards our peers. And, ultimately, the intimacy that partners experience in a mature relationship. It occurs, often, at a subconscious level during face-to-face interactions with others. In many ways, it is a dance whose

moves begin tentatively early on, that continues to be worked on and refined throughout our lives and interactions with others.

And, like any dance with a partner, interpersonal synchronization requires our ability to monitor both our own rhythms and actions, and those of our partner. It requires that we can fine-tune our actions in response to those of our partner. And, finally, it requires that we are able to do all of this in “temporal coordination” with our partner. Dancers look quite strange when they are temporally out-of-synch. No matter how precise their motions may be, unless they occur in a coordinated manner with their partner, the dance that these dancers produce together will not appear fluid and smooth.

Many aspects of social and sexual expression are the same way. Merely understanding the rules does not mean you will be successful in relationships. Even the ability to take the perspective of others is insufficient in many situations if you can't do so in a manner that is timely and coordinated with others. *“The temporal extent and organization of interactional behaviors both within and between individuals critically determine interaction success”* (Schirmer, Meck, & Penney, 2016). This, for me, is one of the least discussed aspects of social interactions when it comes to individuals with ASD.

Often, some individuals with ASD can seem out-of-step with others during social interactions. Beyond difficulties with interpretation of nonverbal cues, they may also exhibit difficulties mimicking, or producing the nonverbal cues that are similar to their communication partner, in a timely fashion. Their emotions may not coordinate with those of their partners, or they may be prone to more emotional contagion where they take on the emotions of their partners without an awareness that this is their partner's emotion and not their own. Delaherche, et al. (2012) list two additional areas that I have noted over time that individuals with ASD may have difficulty with synchronizing with their social partners:

1. *Content Coordination: the coordination of what is being said and reaching a common understanding.*
2. *Process Coordination: prediction of the beginnings and endings of conversational phases.*

These may play out as some of the difficulties that are noted that some individuals with ASD have in social interactions where the topics of conversation do not match their partner's interests (or even what their partner is talking about at the time), as well as the pragmatic (or social use of language) components of conversations where they have difficulty with topic initiation, maintenance, repair, and termination.

The impacts of difficulty with Interpersonal Synchronization on sociosexuality are, I hope, fairly clear. It is hard to develop and maintain a relationship with a significant other if we are not in-synch with them emotionally, conversationally, or physically. Being temporally out-of-synch with others can be off-putting to potential partners. It can appear as if the person isn't as interested in the partner, or even at a subconscious level can be interpreted as being threatening. Sexual expression between two individuals requires coordination of emotions, body movements, and even sexual responses. If the individual has difficulty being in-synch temporally in all of these areas, their partner may experience the situation as awkward, unsuccessful, or again as threatening. Our abilities to synchronize these many aspects of social interactions leads to more successful sociosexual experiences.

There are many theories related to the underpinnings of these difficulties with interpersonal synchronization in some individuals with ASD. A thorough and complete discussion of these underlying theories is outside of the realm of this podcast. The Kinsbourne & Helt (2011) chapter in *The Neuropsychology of Autism* does an excellent job of reviewing many of these theories.

But, it is my belief, that difficulties with interpersonal synchronization can be worked on if they are recognized and understood. Minimally, awareness of these difficulties on the part of the individual with ASD (if they have them), allows the individual to better monitor their own actions and more intentionally monitor the actions of others. It has also been my experience, that working with others (speech therapist, occupational therapist, mental health therapist, etc.) on this can have profound effects on Interpersonal Synchronization over time. Some treatments, like Interactive Metronome, more directly focus on Neurotiming or synchronization. Others, like the Integrated Listening System, the Safe and Sound Protocol, Rhythmic Entrainment Intervention, and The Listening Program harness

the power of music, and in some cases paired movements, to enhance neural connectivity and synchronization. Authors like Louis Cozolino and Daniel Siegel have written on the subject of Interpersonal Neurobiology (a subject closely related to interpersonal synchronization in many ways), and have suggested techniques and interventions to enhance connection and attachment that can have profound effects on Interpersonal Synchrony. I have included a few books by each of these authors in the bibliography that is attached to this transcript on my website. Finally, mindfulness training, with its focus on awareness of self, being in the present moment, and cultivating kindness toward self and others (which is a part of the Mindfulness Based Stress Reduction program) can have profound effects on Interpersonal Synchronization. I have included some resources on Mindfulness in the attached bibliography.

I hope that you have found this discussion as interesting as I did. Hopefully, through understanding these two concepts of Systemizing and Empathizing and Interpersonal Synchronization you've found some new areas of awareness and/or focus for improvement or training.

A transcript of this podcast, along with citations and a related bibliography, can be found on the [flexiblemindtherapy.com](http://flexiblemindtherapy.com) website. Images in this transcript are from shutterstock.com.

Thank you for joining me today.

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