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An exploration of the Rapid Prompting Method for students with autism

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An Exploration of the Rapid Prompting Method for Students with Autism

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An Honors College Project Presented to

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by Shea Colleen Manship

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Abstract

     The Rapid Prompting Method (RPM) was created by Soma Mukhopadhyay as an attempt

to provide a way for individuals with autism to learn and communicate. The method has been

said to give students with autism a means of communication. A facilitator quickly provides

verbal prompts to the individual, who then spells out messages on a letter board or a keyboard.

Very little research has been done on RPM, and it is not considered an evidence-based method.

Many professionals believe that RPM is not a valid method of communication, largely due to the

striking similarities it has with Facilitated Communication (FC). FC is another method of

communication for individuals with autism that was discredited in 1993 and 1994. It involved a

facilitator holding the hand or arm of an individual and helping them spell out messages. It was

found that the facilitators were actually authoring the messages, rather than the individuals with

autism. The present literature review compares the two methods and discusses the research that

has been done on both the Rapid Prompting Method and Facilitated Communication.

Literature Review

The Rapid Prompting Method (RPM) was created by Soma Mukhopadhyay as an attempt to provide a way for individuals with autism to learn and communicate. She initially developed this method for her son, Tito, who has autism. Through the use of RPM, Tito has written several books that detail his experiences through short stories and poetry. His writing was highlighted in the media and featured on *CNN* and *60 Minutes II*. Tito's story was also publicized in popular newspapers and magazines including the *New York Times* and *Scientific American* (Lang, Tostanoski, Travers, and Todd, 2014). This publicity sparked an interest among parents, teachers, and other professionals who interact with individuals with autism.

Soma states that RPM is a way to teach academics, but notes that communication is taught in the process. There are four basic components of RPM (HALO, 2018). These components include:

1) Teaching how to choose and what to choose

2) Building self-esteem, success, and interest

3) Providing patience and practice for motor skill development

4) Understanding the challenge — understanding the "plight of persons with

  ASD" (HALO, 2018)

Soma claims that the academic focus of each teaching session is designed to "activate the reasoning part of the brain by using a teach-ask paradigm" (HALO, 2018). However, this claim is not evidence-based and no explanation is provided as to what "activating the reasoning part of the brain" actually means (HALO, 2018). Despite the lack of explanation, Soma notes that she begins by presuming that her students are competent in order to increase confidence and interest. The goal is to "bring the student to maximum learning through the open learning channel and to

elicit the best… out of the child to enable maximum output in that given time," (HALO, 2018).

Soma states that finding a student's open learning channel is best done by identifying his/her primary self-stimulatory behavior, although details are not given as to why and how identifying this behavior assists in determining the open learning channel.

RPM is based on the use of prompts. According to Soma, prompting is used as a way to "compete" with the student's self-stimulatory behavior (HALO, 2018). Facilitators prompt the individuals to elicit a correct response. Students evolve from picking up answers that are written on torn pieces of paper (Soma claims that torn paper acts as a visual, auditory, and kinesthetic prompt), to pointing to letters on a letter board, and eventually to typing and writing. Soma matches her prompting speed to the pace of the individual's self-stimulatory behaviors. This is done through continuously asking questions and requesting responses (HALO, 2018). Soma claims that providing rapid prompts allows the student to remain focused.

While Soma created RPM as a method to teach academics, the focus for many parents, teachers, and other professionals has shifted more to the communication aspect. Soma explains that a certain level of communication can be expected when using RPM. First, she claims that it can allow the learner to demonstrate what he/she has already learned prior to using RPM. The use of RPM is said to give learners the tools (i.e. letter boards or keyboards) to communicate what they have learned both in school and at home. She also states that RPM can give the individual the ability to use and demonstrate his/her reasoning skills based on his/her prior knowledge (HALO, 2018). RPM is also said to give individuals the power to express their emotions and reactions to their surroundings.

Soma notes that RPM cannot always give the individual the ability to "generate an episodic memory with 100% accuracy" (HALO, 2018). The concept of episodic memory is also

up for debate among psychologists. It is a neurocognitive (brain-mind) "memory system that allows people to consciously re-experience past experiences" (Tulving, 2002). This memory system allows individuals to remember episodes of their life. Soma explains that the reason many individuals cannot always generate a perfectly accurate episodic memory is due to an error in the encoding process. The encoding process involves learning something, perceiving it, and then relating it to past knowledge. Soma does not provide an explanation as to how an individual with autism may make an error in encoding a memory.

One of the most prominent criticisms of RPM is that there is no evidence to suggest that the communicators are actually authoring the messages. Many professionals believe that the facilitators are heavily influencing the communicators. There is the possibility that they are moving the letter board or keyboard in such a way that only allows the communicator to touch the letter that the facilitator intends them to touch.

Due to the nature of RPM and the question of validity, RPM has been compared to a similar method known as Facilitated Communication (FC). This method was discredited in 1993 and 1994. Facilitated communication requires the use of physical assistance from a facilitator to allow individuals to spell out words on a keyboard template or a computer. The purpose of the assistance was to help the individual control his/her hand movements more effectively (Wheeler, Jacobson, Paglieri, & Schwartz, 1993). The facilitators were using a hand-over-hand technique in order to assist the communicators. Researchers found that when using FC, the facilitators were generating the messages that were thought to be produced by the communicator (Shane and Kearns, 1994; Wheeler, et. al., 1993).

While there has not been any studies done that examine the validity of RPM, a significant amount of research has been done on the validity of FC. Wheeler, Jacobson, Paglieri, and

Schwartz (1993) conducted one of the first studies that looked into the validity of FC. The researchers conducted the study at the O.D. Heck Developmental Center, an Intermediate Care Facility for the Mentally Retarded (ICF-MR) in Schenectady, NY. At this care facility, three individuals had received training at Syracuse University in 1991. These three individuals then went on to train other professionals who worked at the facility (Wheeler, et. al., 1993).

The original purpose of the study was to validate FC, rather than to discredit it. All of the participants were identified from the Autism Program at the O.D. Heck Developmental Center and had been using FC for at least five consecutive months. They were selected based on what appeared to be a certain degree of success with FC. It was reported that of the 12 participants, nine were observed to have typed out full sentences and periodically engage in extended conversations (Wheeler, et. al., 1993). Each individual with autism was paired with a facilitator that remained constant throughout the course of the study.

The facilitator sat beside the participant when providing FC. Picture stimuli were used to elicit a response from the participants. The table the participants sat at had a wooden divider in a T-shape that split the table lengthwise. The stimulus cards were shown at the far end of the table inside the "T" (Wheeler, et. al., 1993). A smaller "T" was positioned in front of the participant and the facilitator to prevent them from seeing each other's stimulus cards. The participants used the same letter-board that they used on a daily basis during their FC training sessions (Wheeler, et. al., 1993).

Each participant took part in two sessions with each of the following three conditions, resulting in a total of six blocks. Each block of trials consisted of five stimulus trials that were presented in each session. Four different orderings of the blocks were presented. (Wheeler, et. al., 1993). The conditions used were as follows:

1. Facilitated Condition: The participant was presented with a stimulus card in position A, but the facilitator was not presented with a stimulus card. The participant was then asked to identify the picture via FC. The facilitator was allowed to make physical contact with the participant as they would typically do in their training sessions (Wheeler, et. al., 1993).

2. Non-Facilitated Condition: The participant was presented with a stimulus card in position A, but the facilitator was not presented with a stimulus card. The participant was then asked to identify the picture using the letter board, but the facilitator was not allowed to make physical contact with the participant (Wheeler, et. al., 1993).

3. Distractor Condition: The participant and the facilitator were shown stimulus cards. Both individuals were shown the same stimulus card 50% of the time (distractor-same). The other 50% of the time the participant was shown one stimulus card while the facilitator was shown a different one (distractor-different). The participant was then asked to identify the picture via FC. The facilitator was allowed to make physical contact with the participant as they would typically do in their training sessions (Wheeler, et. al., 1993).

Thirty stimulus cards were divided into six groups of five. The first group of cards were shown to all participants during the first session, the second group of cards in the second session, and so on. The order of the cards varied for each participant (Wheeler, et. al., 1993).

A team of five judges, all of which worked at the O.D. Heck Developmental Center, but not directly with FC, rated the responses. The results were divided into five categories: correct, pseudo-correct (i.e. the participant spelled out an accurate response to the facilitator's card under the distractor condition), facilitator stimulus correct response, incorrect object response, and

incorrect nonsense response (Wheeler, et. al., 1993). Under the facilitated communication condition, no clear correct responses were recorded, two partially correct responses were recorded, 80 incorrect object responses were recorded, and 38 incorrect nonsense responses were recorded (Wheeler, et. al., 1993).

Under the distractor-same condition, no clear correct responses were recorded, 14 pseudo-correct responses were recorded, 26 incorrect object responses were recorded, and 20 incorrect nonsense responses were recorded (Wheeler, et. al., 1993). Under the distractor-different condition, no clear correct responses were recorded, 12 facilitator-stimulus correct responses were recorded, 26 incorrect object responses were recorded, and 22 incorrect nonsense responses were recorded (Wheeler, et. al., 1993). It was also often found that the responses given in this condition correctly identified the facilitators' stimulus card rather than the participant's stimulus card (Wheeler, et. al., 1993).

Shane and Kearns (1994) conducted similar research on the validity of FC. The researchers did a case study with one 38-year-old male participant with a diagnosis of "severe mental retardation" (Shane and Kearns, 1994). The participant had received very little formal education and primarily communicated gestures and vocalizations. The participant worked with a female facilitator for three years. The facilitator had attended a one-day training session on FC at the Syracuse University Facilitated Communication Institute (Shane and Kearns, 1994).

Shane and Kearns designed a procedure with two objectives. They wanted to determine whether or not the participant was authoring the messages and whether the messages were influenced by the facilitator (Shane and Kearns, 1994). This was done by presenting the participant and the facilitator shared and unshared information. The first task was labeling a picture that was presented. The same picture was shown to both the participant and the facilitator

for ten trials. For the other ten trials, a different picture was shown to the participant and the facilitator. The facilitator was unaware of when the pictures were the same or different. The picture was shown for five seconds and then the participant was asked to label the picture via FC. (Shane and Kearns, 1994).

The second task also required the participant to label pictures, but it included an auditory component. Twenty trials were completed, and both the participant and the facilitator were shown the same picture. Pre-recorded questions were also presented to both the participant and the facilitator, but the questions were the same for ten trials and different for ten trials. The questions asked the participant to identify a certain aspect of the picture using FC. Three of the questions were asked more than once. In this case the questions reversed, meaning that the facilitator heard the question the participant previously heard (Shane and Kearns, 1994).

The third task again required the participant to label, but instead of labeling pictures he was to label physical objects. For five of the trials, the participant was brought to a separate room and shown an object. He then rejoined the facilitator immediately following and was asked to identify the object using FC. For the other five trials, the facilitator and the participant were shown the same object. The participant was then asked to identify the object using FC (Shane and Kearns, 1994).

The last task required the participant to explain an unshared event. He was brought into a separate room and participated in one event per trial. The facilitator was unable to see or hear what was happening in the separate room. The participant was then brought back into the room with the facilitator and asked to describe what had happened using FC (Shane and Kearns, 1994). Of the 25 total shared context tasks, the participant correctly labeled the picture or object 100%

of the time. Of the 30 total unshared context tasks, the participant labeled the picture or object, or described the event, correctly 0% of the time (Shane and Kearns, 1994).

Both RPM and FC suggest that prompt dependency is more desirable than no response at all (Tostanoski, Lang, Raulston, Carnett, and Davis, 2014). When using FC, the facilitator moves the hand of the communicator. In contrast, when using RPM, the facilitator does not make physical contact with the communicator, but does have the ability to move the letter board. Some argue that the ability to move the letter board suggests the possibility that the facilitator is authoring the message rather than the communicator.

 Another similarity between FC and RPM is the lack of systematic prompt fading. Unlike most research-based practices, both FC and RPM fade prompts at the facilitators discretion. There are no criteria used to determine when the facilitator decreases both the level and frequency of prompts (Tostanoski, et. al., 2014). It is also entirely up to the facilitator to decide when the communicator progresses from making choices on torn pieces of paper, to spelling on a simple letter board, and so on.

One of the more notable similarities between FC and RPM is the strikingly high number of pseudoscientific characteristics they both have. According to Finn, Bothe, and Bramlett (2005), there are ten criteria that may help individuals identify a treatment as pseudoscientific. FC meets eight of these criteria, while RPM meets nine. FC is considered untestable, unchanged in the face of contradictory evidence, based only on confirming evidence (disconfirming evidence has been ignored), based primarily on anecdotal evidence, has little evidence at all, disconnected from other evidence-based methods, has grandiose outcomes, and is referred to as holistic. RPM has all of these characteristics, along with the avoidance of peer review (Finn, et. al., 2005).

Although most supporters of RPM avoid peer review, three studies have been done, but neither address the issue of whether or not the communication produced by RPM is genuine. The first peer-reviewed study conducted by Chen, Yoder, Ganzel, Goodwin, and Belmonte (2012) looks into the connection between RPM, joint attention, and repetitive behaviors. The researchers had five hypotheses:

1) Is RPM associated with an increase in joint attention?

2) Is RPM associated with a decrease in repetitive behaviors?

3) Are the open leading channel prompts delivered during RPM negatively correlated with repetitive behavior?

4) Does the complexity of response choices increase across RPM sessions without a decrease in response accuracy?

5) What types of prompts used in RPM sessions are correlated with accurate responding and decreased repetitive behavior?

The participants included nine children with autism (ages 8 to 14 years old) who all had expressive language deficits. The authors videotaped between four and eight RPM sessions for each participant. The middle 10 minutes of each hour-long session was coded for the percentage of the session spent in engaged attention, percentage of the session in which the therapist provided prompting, incidence rate of therapist prompts, percentage of the session spent engaged in restrictive and stereotypic behaviors (RSBs), incidence rate of RSBs, average number of choices presented, response success rate, and incidence rate of responses (Chen, et. al., 2012). Coders were blinded to the chronological order of sessions, but they were aware of the purpose of the study and the hypothesized relationships between the variables. The coders looked for subject behavior that included engaged attention, non-engaged attention, aggression to therapist,

self-injurious behavior, irrelevant and repetitive vocalizations, repetitive motor movement, repetitive object usage, verbal request, distal momentary prompt, proximal momentary prompt, distal extended prompt, proximal extended prompt, and choice complexity. Each behavior is clearly described and an example is provided for reference (Chen, et. al., 2012).

It was found that participants' joint attention was not related to the session order, the percentage of the session in which the therapist provided prompting, or the rate of prompts. This finding disproved the author's first hypothesis. The researchers found that RSBs were not significantly predicted by total prompting during a session, or by any specific type of prompt. Not only did this data disproved their third hypothesis, but it made it impossible to identify the fifth hypothesis. The data also shows no significant relationship between number of sessions and choice complexity, therefore disproving the fourth hypothesis. The second hypothesis, however, was supported by data that showed that RSBs decreased as joint attention increased (Chen, et. al., 2012).

This study has a number of methodological flaws, as pointed out by Lang, Tostanoski, Travers, and Todd (2014). The amount of time between the recording of the first session and the recording of the last session was not documented. A certain degree of maturation is likely to have occurred if the sessions were recorded over a long period of time. This may suggest that the participants' joint attention and behavior may have improved for reasons other than the use of RPM (Lang, et. al., 2014).

Along with the omission of time elapsed between sessions, the participant selection process was not reported. It is also unknown how the videos were selected and who selected them (Lang, et. al., 2014). The authors omitted data that was collected as well. The coders reportedly took data on aggressive behaviors, self-injurious behaviors, and irrelevant

vocalizations, but this information is not present in the study. This exclusion of this information suggests that RPM may have caused an increase in problem behaviors, or that it had no effect (Lang, et. al., 2014).

Commentary based on their conclusions from the data was also included in the review. It is the belief of Lang, et. al. (2014) that RPM facilitators are prompting the communicators to spell out messages that are not their own. Similar to FC, it is thought that the facilitator is using the communicator as a means of expression (Lang, et. al., 2014). It is suggested that the individuals spelling out the messages are actually learning to follow subtle and rhythmic prompts, rather than learning to communicate. This points to the fact that individuals who use RPM become entirely dependent on facilitator. While the goal for most other evidence-based interventions is the independent use of a skill, the goal of RPM is the exact opposite (Lang, et. al., 2014).

A second peer-reviewed study by Gernsbacher (2004) analyzed the development of a child with autism from birth to age eight through a case study. When the child was five and a half years old, he and his mother learned of RPM from Soma. The family was not willing to implement RPM in the same manner as Soma, and therefore created their own version of the therapy. The method used by this family was similar to RPM in the sense that it provided a means of communication for the child through the use of choice cards, marking sheets, and a modified typing system. However, the method did not involve the use of rapid prompts, which is the key element to RPM (Deacy, E., Jennings, F., & O'Halloran, A., 2016). The family felt that Soma's methods were too harsh and wanted to adjust the idea of RPM to fit their values as a family. While Gernsbacher (2004) did not analyze the validity in the authorship of the messages

produced in RPM, she provided insight on how families may use and manipulate RPM to seemingly allow their children to communicate.

A third study was completed by Solomon (2006). This is an unpublished doctoral thesis that is included on HALOs informational website. The researcher also did not look into the validity of RPM, but instead examined video-recorded interactions involving children with autism in order to compare the use of RPM in the HALO clinic with parents and teachers who were trained by Soma. These parents and teachers are referred to as the "First Generation." Solomon also looked at the use of RPM by the "Second Generation," referring to parents and teachers who were taught but the "First Generation" (Solomon, 2006). Solomon notes that the HALO clinic sees RPM as a way to teach academics while developing communication in the process. On the other hand, most first and second-generation teachers used RPM solely to help the child develop communication skills.

RPM was initially created as an attempt to help individuals with autism learn academic content and communicate with those around them. To do this, Soma uses rapid prompts as a way to "compete" with the student's self-stimulatory behavior (HALO, 2018). Students begin by pointing to letters on a letter-board that is held by a facilitator. The need for a facilitator has led to the comparison between RPM and Facilitated Communication. Due to the fact that both methods of communication require the communicator to rely on a facilitator, as well as prompts, there has been a great deal of speculation on whether or not the messages produced using RPM are authored by the communicators (Tostanoski, et. al., 2014). Both RPM an FC possess at least eight of the ten pseudoscientific characteristics identified by Finn, Bothe, and Bramlett (2005). While proponents of RPM tend to avoid peer review, three studies have been done, but none of

them address the issue of the validity of the method. Further research is needed to determine who

is authoring the message produced by RPM.

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