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Facilitated Communication and the Criminal Justice System

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FACILITATED COMMUNICATION AND THE CRIMINAL JUSTICE SYSTEM

By

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Abstract

Facilitated communication (FC) is an alleged breakthrough technique which allows individuals, previously thought to be severely mentally and developmentally challenged, to achieve a level of communication formerly thought to be impossible. Originally developed to assist individuals with physical disabilities and limitations, such as cerebral palsy, this technique has quickly been converted to one that aims to assist individuals with cognitive deficits such as autism toward achieving effective communication. This article explores the origins of facilitated communication, the ongoing debate in the scientific community regarding the reliability and validity of the technique, as well as facilitated communication's rapid integration with the criminal justice system. Additionally, this report will clearly defend the position that facilitated communication has no place in either the realm of science or the court room and will address the potential implications of its continued acceptance in the legal system.

Keywords: facilitated communication, criminal justice system, Frye, Daubert,

Table of Contents

Facilitated Communication – A Brief History

Inception - The birth of a Pseudoscience Phenomena

It is acknowledged that Rosemary Crossley is the developer of the facilitated communication technique[1]. During the 1970's, while working at the St. Nicholas Institution in Melbourne, Australia, Crossley had the opportunity to work with people that presented a multitude of disabilities, most of whom were perceived to have severe cognitive deficits (Simpson, Myles, and deBoer-Ott, 2005). It was during this time that Crossley became familiar with a young woman, Anne McDonald, who had athetoid cerebral palsy. Anne's condition had severe effects on her motor-sensory skills, such as her ability to walk and feed herself, as well as her ability to effectively communicate. Though most of the staff working at St. Nicholas believed this young woman to have extreme cognitive deficits, Crossley believed that Anne was capable of more, perhaps, even communication (Simpson et al., 2005).

Through the use of a procedure similar to what is now referred to as facilitated communication, Crossley was allegedly able to assist her young patient to both read and write. These tasks were achieved by supporting the index finger of the young Anne which in turn allowed the youth to point at objects and letters (Simpson et al., 2005). Shortly after an abrupt departure of Crossley and Anne, the St. Nicholas institution was forced to close due to accusations made by their former patient, now living with Crossley. These accusations included neglect, starvation, and inhumane treatment by the staff working at St. Nicholas (Crossley, 2010).

A few years after leaving St. Nicholas, DEAL, the Dignity through Education and Language Communication Centre opened, in Victoria, Australia, in 1986 to assist

individuals with profound communication disorders (Simpson et al., 2005). With Crossley filling the role of program coordinator, facilitated communication was promptly introduced to the DEAL curriculum (Jackobson, Mulick, and Schwartz, 1995). It was quickly determined that facilitated communication was "an effective communication option for many of DEAL's clients, including those thought to have mental retardation and autism" (Simpson et al., 2005, p. 201).

Introduction to the United States

Shortly following the introduction of facilitated communication to the DEAL program, Douglas Biklen, a professor of special education at Syracuse University with a background in sociology, observed the use of facilitated communication during a visit to the DEAL Centre (Jacobson 1995). Afterwards, Biklen returned to the United States and expeditiously introduced facilitated communication to speech pathologists and special educators in the Syracuse public school system (Jacobson, 1995; Simpson, 2005). Though the introduction of facilitated communication to the United States was intended to provide an opportunity for American youths with disabilities "to use their purported FC-supported skills in general education classrooms," there was one striking difference in Biklen's application of the FC technique (Simpson et al., 2005, p. 202). As Jacobson (1995) illustrates, "Biklen extended use of the technique to a group with marked cognitive impairments," while, "Crossley's work was initially with clients who were physically disabled" (p. 753). Regardless of the difference in intended target audience, the results were strikingly similar, "previously nonverbal students with autism were typing, with facilitation, words, sentences, and paragraphs of remarkable clarity and intellect" (Jacobson, 1995, p. 753).

Following its introduction to the Syracuse area schools, facilitated communication (Gorman, 1999) "spread rapidly throughout the educational communities that served individuals with autism and other developmental disabilities" (p. 518). This rapid spread was largely fueled by the sense of hope offered by the miracle technique. Additionally, Rimland (1992) "virtually every major newspaper, news magazine and news show ran stories on facilitated communication," further adding to the appeal and allure of a largely non-validated technique (p. 1).

Seemingly overnight it appeared that this technique [FC] had successfully unlocked the previously silent world of autism, however several questions where still in desperate need of an answer. Where in the realm of science does this alleged breakthrough technique belong… science, pseudoscience, or anti-science? And perhaps most importantly, how will this new technique be represented when incorporated within the criminal justice system?

Facilitated Communication – The Technique

Facilitated communication (FC) is an alleged breakthrough technique which allows individuals, previously thought to be severely mentally and developmentally challenged, to achieve a level of communication formerly thought to be impossible[2]. Originally developed to assist individuals with physical disabilities and limitations, such as cerebral palsy, this technique has quickly been converted to one that aims at assisting individuals with cognitive deficits such as autism toward achieving effective communication.

As offered by Jacobson (1995), "facilitated communication (FC) is a method, or group of methods, for providing assistance to a nonverbal person in typing letters, words, phrases, or sentences using a typewriter, computer keyboard, or alphabet facsimile;" this process involves the use of "a graduated manual prompting procedure," which is intended to allow those receiving facilitation to select keys independently, thus avoiding key selection influence [leading[3]] (750). In order for the FC technique to be considered as an option for an individual, "he or she will

1. Have severe communication impairments
2. Not currently have a fluent alternative communication strategy
3. Not show the potential to acquire manual signing or hand writing skills easily or,
4. Live in an environment where manual sign or writing are not going to be viable communication options
5. Have difficulty with the clear, unambiguous selection of nominated items from functional communication displays
6. Not be able to use other direct or indirect access options (usually for practical reasons, such as the unsuitability of these options for individuals who walk and have to carry their communication systems with them),"

additionally, once it is determined if an individual is an appropriate candidate for the facilitated communication technique it then becomes necessary to

1. "Ascertain the nature of the problem(s) that currently preclude successful communication aid access
2. Select appropriate remedial strategies, including facilitation strategies if needed
3. Ascertain what representational system (concrete objects, pictures, pictographs, written words, letters) are currently meaningful to the potential user
4. Enable the individual with severe communication impairments to use the most empowering of the representational systems and selection strategies currently available to him/her by obtaining or making appropriate communication aids and teaching those in the individual's environment how the aids are used (Crossley, 1994, p. 13).

Current literature includes additional guidance as to the proper conduction of the [FC] technique. Several "elements of facilitated communication" are emphasized in current training, among these facilitators are encouraged to provide emotional and physical support as well as control "difficult" behavior. Physical support is described as providing "assistance in isolating the index finger, stabilizing the arm to overcome tremor, backward resistance on the arm to slow the pace of pointing or to overcome impulsiveness," and "a touch of the forearm, elbow, or shoulder to help the person initiate typing, or pulling back on the arm or wrist to help the person not strike a target repetitively" (Kasa-Hendrickson, Hanson, & Cardinal, 2000, p. 11). Additionally, it is

recommended that facilitators engage in communicative support by providing "various forms of prompts and cues" with the purpose of assisting "the FC user in clarifying unclear messages" (Kasa-Hendrickson et al, 2000, p. 12).

The Scientific Community and Facilitated Communication

Gorman (1999) "Unfortunately, FC was not subject to traditional scientific scrutiny in the United States before it was introduced to the American public" (p. 524). This led to "the widespread use of FC due to the lack of standards and the ease with which anybody can learn the technique." (Gorman, 1999, p. 519) Regrettably, this acceptance of an unproven scientific process elicited an un-realistic hope in a non-validated science which in turn led to a strong sense of belief in the process. This false sense of hope and unrealistic belief contributed to the rapid spread of facilitated communication throughout the country.

It was not until after facilitated communication was accepted by numerous families and classrooms throughout the United States that scientists began to objectively test the technique. Though a finite number of studies reported validation of FC, most initial reports were unable to validate the procedure (Gorman, 1999). Additionally, studies performed that offered validation for the FC process were often criticized for "having poor experimental controls," failure "to use objective standards," and publishing their findings outside the demands of a rigorous peer review journal (Gorman, 1999, p. 522). These critiques of proponent driven research were met with a criticism of their own involving issues regarding [opponent driven] methodology, specifically "claiming that the tests," those that are performed through objective scientific methods, "are designed to

produce failure" (Gorman, 1999, p. 522). Similarly, "Biklen and other FC proponents insist that informal evaluations based on qualitative evidence are most appropriate for determining the authorship or validly of FC messages" and that "for the most part, FC cannot be tested formally, or that objective evaluation methods are inappropriate" (Shane, 1994, p. 165). Additionally, Biklen and other FC advocates insist that,

1. "Experimental arrangements cause clients to become anxious or resistant in facilitated communication session, thus impairing their performance,
2. Testing destroys the rapport and trusting relationship between the client and facilitator, which also impairs performance,
3. Facilitators were not adequately trained in experimental studies,
4. Clients had not been in facilitated communication training long enough to be tested,
5. And the autistic subjects in experimental studies had word-finding difficulties (aphasia) and, therefore, that naming pictures or activities is not a valid way to evaluate facilitate communication" (Montee, Miltenberger, Wittrock, 1995, p.190).

As a result proponents of FC suggested that, Jacobson (1995) "instead of controlled situations… qualitative criteria for validity should be used:

1. Style, speed, accuracy of students' fine motor control movement to the letter of keys is fairly consistent across facilitators…

2. Individuals make typographical errors that are unique to them. Some individuals fairly consistently hit more than one key at a time when typing…
3. Many individuals produce phonetic or invented spellings that are unique to them and do not appear in the writings of others, despite the fact that several individuals sometimes share a common facilitator…
4. Some individuals type phrases or sentences that are unusual and would not be expected from the facilitators
5. Individuals sometimes produce content that is not known to the facilitator…
6. Through facilitated communication individuals reveal their personalities" (pg. 758; see Biklen et al., 1992, p.19-20)

Additionally, it is suggested that facilitators offer word and sentence completion as well as abbreviations, and avoid testing (Crossley 1994). Finally, it is advised that before seeking validation and/or authorship of facilitated communication, the type of tasks being performed must be established, familiarity and naturalness of the test site must be measured, and "both the facilitator and facilitated communication user's feelings about doing the test," must be taken into account (Kasa-Hendreickson, Hanson, Cardinal, 2006, p.23). Using this approach to scientific evaluation, proponents of FC have been able to achieve [qualitative] validity in several studies (see, Biklen, Saha, & Kliewer, 1995; Cardinal, Hanson, & Wakeham, 1996; Emerson, Grayson, & Griffiths, 2001; Grayson, Emerson, Howard-Jones, & O'Neil, 2011).

The widespread validation of FC by supporters of the method is due, in part, to the continued support of the idea that "any seemingly correct or meaningful answer 'proves' FC to be valid regardless of the number of incorrect answers that surround it" (Todd, 2012, p. 45). In fact, during Cardinal, Hanson, and Wakeham's (1996) study, FC was validated with as few as one correct answer, a tactic that, as described by Todd (2012) "is common in controlled studies said to support FC" (p. 45). Shocking as it may seem, not only is this type of practice common in proponent driven FC validation, it is actually advocated for. As Biklen contends, "it's very easy to fail in ones' attempt to demonstrate something, it's usually more difficult to be successful. So it almost doesn't matter how many instances of failed studies we have, what we need with any one individual are instances where the person succeeded" (Frontline).

In contrast to qualitative methods supported by proponents of FC, [quantitative] studies performed using single and double blind procedures in both natural and laboratory settings have shown that, not only were individuals unable to respond accurately to stimuli, but the responses were actually controlled by the assistants [the facilitators] (Jacobson, 1995). Gorman (1999) "as of October 1993, there were at least 21 studies on FC validation which cumulatively alleged 21 cases of FC validation out of 210 trials[4]" (p. 521). Similarly, between 1993 and 1994 alone, there were at least 15 studies that tested the validity of facilitated communication, collectively these studies analyzed 126 different participants and while using facilitation, only 4 were found to have some level of success (see Jacobson et al., 1995).

It would soon follow as offered by Mostert (2010) that "by 2001, Facilitated Communication had largely been empirically discredited as an effective intervention" (p.

31). Though thoroughly disesteemed, facilitated communication, "one of the most thoroughly discredited hoaxes in the history of pseudoscience," has made an alarming and potentially dangerous return; none more dangerous perhaps than its reemergence in the criminal justice system as forensic science evidence (Hagen, 2012, p. 14).

Facilitated Communication and the Criminal Justice System

"Forensic science evidence is the observation and opinion of a trained person and is designed to aid the jury in understanding the meaning or conclusions that are suggested by the factual evidence" (Shelton, 2012, p. 1). The application of [forensic] science has played an important role in the American criminal justice system since it was first introduced over a century ago (Shelton, 2012). As courts continued to accept "expert" opinion as testimony, chiefly in the area of fingerprint identification and medical attestation, "there were corresponding increases in both areas of claimed expertise and the technological innovations that were used or developed to apply them" (Shelton, 2012, p. 7). Though courts were initially reluctant in accepting testimony from those with [self] proclaimed expertise as scientific; in time, the idea of general acceptance led courts to an almost routine pattern of accepting testimony from expert witnesses as offered by the prosecution in an attempt to aid the jury in finding guilt (Shelton, 2012). The rapid increase in scientific innovation coupled with routine acceptance of "expert" testimony soon led to an increasingly strained relationship between law and science.

The relationship between law and science has always been one of tension, filled with unfortunate and unintentional contradictions and consequences. The competing theories' of truth and the process by which it [truth] is achieved is largely to blame. As

offered by the Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council (2009),

> "Since as far back as the fourteenth century, scientific evidence has posed profound challenges for the law. At bottom, many of these challenges arise from fundamental differences between the legal and scientific processes… The legal system embraces the adversary process to achieve "truth," for the ultimate purpose of attaining an authoritative, final, just, and socially acceptable resolution of disputes. Thus law is a normative pursuit that seeks to define how public and private relations *should* function… In contrast to law's vision of truth, however, science embraces empirical analysis to discover truth as found in verifiable facts. Science is thus a descriptive pursuit, which does not define how the universe should be but rather describes how it actually *is*. These differences between law and science have engendered both systemic and pragmatic dilemmas for the law and the actors within it… Moreover, in almost every instance, scientific evidence tests the abilities of judges, lawyers, and jurors, all of whom may lack the scientific expertise" (p.86).

To address growing concerns as to the balance between normative and empirical truths, the American judicial system adopted changes to the way in which scientific

forensic evidence would be admitted into [federal] court[5]. This process is governed by precedence set in Frye v. United States and the Daubert v. Merrell Dow Pharmaceuticals, Inc[6].

Frye v. United States

Frye v. United States established the idea of "general acceptance," also referred to as the "Frye Test," as the standard for how scientific evidence was admitted into the federal court system. This was a standard upheld in both federal and state courts for the better part of a century and is still used in several [state] courts today. Astonishingly, this landmark case which deeply impacted the American criminal justice system for over 70 years, arose from a decision made by an intermediate court of appeals in the District of Columbia (Shelton 2012). During the prosecution of a murder charge, the defendant attempted to introduce the results of a polygraph test known as the systolic blood pressure deception test, in an effort to prove his innocence. The judge proceeding over the murder trial decided against admitting the polygraph results as evidence. During the resulting appeal the Court of Appeals of the District of Columbia released the following in their official opinion.

> "The rule is that the opinions of experts or skilled witnesses are admissible in evidence in those cases in which the matter of inquiry is such that inexperienced persons are unlikely to prove capable of forming a correct judgment upon it, for the reason that the subject-matter so far partakes of a science, art, or trade as to require a previous habit or experience or study in it, in order to acquire a

> knowledge of it. When the question involved does not lie within the range of common experience or common knowledge, but requires special experience or special knowledge, then the opinions of witnesses skilled in that particular science, art, or trade to which the question relates are admissible in evidence (Frye 1923, para. 6). "...while courts will go a long way in admitting expert testimony deduced from a well-recognized scientific principle or discovery, the thing from which the deduction is made must be sufficiently established to have gained general acceptance in the particular field in which it belongs" (Frye 1923, para. 7).

The opinion of the Court of Appeals of the District of Columbia has had a lasting impact on the way in which forensic science evidence is admitted into both state and federal courts. Though the precedence established through Frye has been felt through all realms of science, perhaps none has been affected as thoroughly as those sciences commonly referred to as "soft sciences." Perhaps this is due, in part, to the nature of law; a continuation of the struggle between normative and empirical truths. Or perchance it is due to the imperceptible nature of social sciences, after all, "unlike physical evidence, behavioral evidence is intangible and subject to different perspectives and interpretations." (Bell, 2004, p. 258). Perspectives and interpretations that often times not only differ, but conflict with one another in their entirety. An ideal example of the

struggle to classify often differing perspectives and interpretations as "generally accepted" can be found in facilitated communication.

Facilitated Communication and Frye

The first case involving facilitated communication in the United States was Department of Social Services v. Mark & Laura S. (Gorman 1999). This case involved an allegation of parental sexual abuse which was made by a 16-year-old autistic child through the use of facilitated communication (Gorman, 1999). During seven days of preliminary hearings "the court held that the Department of Social Services failed to present sufficient evidence of testing of FC in order to determine reliability and validity of FC under the Frye test" and thus rejected the claims of abuse (Gorman ,1999, p. 525). In an attempt to bypass the guidelines set forth in Frye, an argument was put forth by an expert witness for the prosecution which "contended that FC was not a translation, but merely a transmission of communication from one modality to another" (Gorman, 1999, p. 525). Despite attempts to bypass standards established in Frye, the 'facilitated testimony' was not found to be admissible; this however, has not always been the case.

Throughout the history of 'facilitated testimony' some courts using the standards set forth in Frye v. United States, have come to reject facilitated communication due to its [FC] failure to meet the general acceptance rule, "while other courts have accepted FC evidence considering it akin to translation" (Gorman, 1999, p. 518). Historically, it would appear that those courts that have accepted FC as a form of translation do so in an effort to pursue prosecution in [child] sexual abuse cases, despite the obvious historic and ongoing dispute present in the scientific community.

This inconsistent pattern of acceptance and rejection of the facilitated communication process as forensic science evidence not only works toward further increasing the ambiguity surrounding the FC process, but also works toward discrediting the criminal justice system as a whole. Additionally, this inconsistent process for determining [FC] admissibility acts to threaten the integrity of the Constitution and the rights that are inherently established and protected through it. Chiefly, individuals involved in allegations made through FC are being denied their rights protected under the eighth[7] and fourtheenth[8] amendments.

Daubert v. Merrell Dow Pharmaceuticals., Inc.

Daubert established that "the newly enacted Federal Rules of Evidence[9] superseded Frye's general acceptance test," furthermore, "the Court directed the courts to examine the principles and methodology of proffered scientific evidence and not just whether its conclusions were accepted in the scientific community" (Shelton, 2012, p. 17). Additionally, instead of relying on only whether or not the science in question is generally accepted by the scientific community, Daubert established a nonexclusive five tier method to evaluate forensic science evidence. This method involves measuring and evaluating:

1. Testability – that is, is the theory and./or technique falsifiable, refutable, and testable.
2. Peer review – has this theory and/or technique underwent the peer review process.
3. Known error rate – has it been established.

4. Standards and controls – do they exist and are they maintained.
5. Generally accepted – does the relevant scientific community generally accept this theory and/or technique.

Though this method is seemingly more extensive with regards to evaluating "the principles and methodology of proffered scientific evidence," (Shelton, 2012, p. 17) the manner in which this evaluation is handed has unintentionally increased in subjectivity.

Although the intention of rule 702 was to "place appropriate limits on the admissibility of purportedly scientific evidence by assigning to the trial judge the task of ensuring that an expert's testimony both rests on a reliable foundation and is relevant to the task at hand," as previously mentioned, there were unintended consequences to the new standard (Daubert, 1993, p.579-58). "As offered by Gorman (1999), "Daubert expanded a judge's discretion and liberalized the admission of novel scientific evidence" (p. 537).

Similar to cases governed by the standards set forth in Frye, facilitated communication and its admissibility remains ambiguous and the very nature of a judges' gatekeeper role all but ensures it will remain that way. Ultimately, ambiguity and uncertainty are two concepts ill-suited for both science and the criminal justice system.

Discussion

Despite copious amounts of systematic, objective, and quantified research that completely discredits the process, proponents of facilitated communication continue to invest in and defend the technique. The continued use of facilitated communication as forensic science evidence not only works to discredit other seemingly reliable and valid scientific practices, but also threatens both the integrity and effectiveness of the criminal justice system. As offered by the Committee on Identifying the Needs of the Forensic Sciences Community, National Research Council (2009),

> "There are two very important questions that *should* underlie the law's admission of and reliance upon forensic evidence in criminal trials: (1) the extent to which a particular forensic discipline is founded on a reliable scientific methodology that gives it the capacity to accurately analyze evidence and report findings and (2) the extent to which practitioners in a particular forensic discipline rely on human interpretation that could be tainted by error, the threat of bias, or the absence of sound operational procedures and robust performance standards" (p. 87).

The report concludes that every effort must be made to "limit the risk of having the reliability of certain forensic science methodologies condoned by the courts before the techniques have been properly studied and their accuracy verified" (Committee on Identifying the Needs of the Forensic Sciences Community, 2009, p. 109).

Facilitated communication fails to meet the criteria for legal reliance as a forensic science. Not only is the method not founded on reliable scientific methodology, failing to adequately and objectively meet standards established in both Frye and Daubert, proponents of the FC technique have even argued that it isn't a scientific process. Additionally, the entire process of facilitated communication is ambiguous in nature and subject to bias; as previously mentioned, it is suggested that facilitators offer word and sentence completion as well as abbreviations…(Crossley 1994). Having facilitators offer word and sentence completion while providing physical support meant to assist in overcoming impulsiveness, initiate typing, and prevent repeated target striking while being able to account for and avoid the tendency for bias seems an extremely blatant fallacy.

In closing, keeping with the findings offered by the National Research Council, it is imperative that facilitated communication have no place in the realm of science or in the criminal justice system. The continued use and acceptance of this technique in academia does well only to threaten the credibility and reliability of the institutions that support its use. Additionally, the continued naive acceptance of FC in the criminal justice system not only acts to threaten the integrity and efficiency of the courts that deem the method admissible, but also works toward threatening the integrity of the Constitution and the rights that are inherently established and protected through it.

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Footnotes

[1]Though it is widely acknowledged that Crossley is the original developer of the facilitated communication technique, Crossley herself suggests that "since the 1960's facilitated communication has been used occasionally with people with autism" (Crossley 1994, p. 5).

[2]Shortly following facilitated communications introduction to the United States, it was alleged that 90 percent of [autistic] individuals were able to effectively communicate through the use of assisted typing (Gorman, 1999, p. 518).

[3]"Facilitator leading refers to the unconscious or deliberate manipulation of the child's hand, which results in answers originating from the adult facilitator rather than from the child" (Gorman, 1999, p. 519).

[4]See Table 2 for a complete listing of validation summaries (Gorman, 1999, p. 522).

[5]Currently, federal courts have adopted standards established in Daubert v. Merrell Down Pharmaceuticals, Inc. Though most States have also adopted this standard, some have not. For a complete listing of admissibly tests by state refer to Table 1.

[6]Daubert [v. Merrell Dow Pharmaceuticals, Inc.] and two other Supreme Court decisions, General Electric Co. v. Joiner and Kumho Tire Co. v. Carmichael, are generally referred to as the Daubert Trilogy (Shelton 2012). Though all cases that compose the Daubert Trilogy influence admissibility of forensic science evidence, this article only explores Daubert v. Merrell Dow Pharmaceuticals, Inc.

[7]Amendment VIII – Excessive bail shall not be required, nor excessive fines imposed, nor cruel and unusual punishments inflicted.

[8]Amendment XIV Section 1 – All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the State wherein they reside. No State shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any State deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws. The 14th amendment establishes and protects several rights for born and naturalized citizens of the United States. Specifically, this article is interested in the clause providing equal protection of the laws.

[9]Federal rule of evidence 7.02: if scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if(1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Appendix I

Table 1

Rules of Evidence and Admissibility Tests Applied by States (Shelton, 2012, p. 13-16)

State	State Rule	Admissibility Test
Alabama	Ala. R. Evid. Rule 702	Daubert (eff. 1/1/12)
Alaska	Alaska R. Evid. 702	Daubert
Arizona	Ariz. R. Evid. R. 702	Daubert (eff. 1/1/12)
Arkansas	A.R.E. 702	Daubert
California	Cal. Evid. Code § 720	Kelly/Frye
Colorado	C.R.E. 702	Daubert
Connecticut	Conn. Code Evid. § 7-2	Daubert
D.C.	N/A	Frye
Delaware	Del. Uniform R. Evid. 702	Daubert
Florida	Fla. Stat. § 90.702	Frye
Georgia	O.C.G.A § 24-9-67.1	Daubert
Hawaii	Haw. Rev. Stat. Ann. § 702	Some Daubert Factors
Idaho	I.R.E Rule 702	Daubert
Illinois	There is no substantial equivalent to Fed. R. Evid. 702	Frye
Indiana	Ind. R. Evid. 702	Daubert
Iowa	Iowa R. Evid. 702	Daubert
Kansas	K.S.A § 60-456	Frye
Kentucky	Ky. R. Evid. 702	Daubert

Louisiana	La. C.E. Art. 702	Daubert
Maine	Me. R. Evid. 702	Some Daubert factors
Maryland	Md. R. Evid. 5-702	Frye
Massachusetts	N/A	Daubert mostly
Michigan	Mich. R. Evid. 702	Daubert
Minnesota	Minn. R. Evid. 702	Frye/Mack
Mississippi	Miss R. Evid. Rule 702	Daubert
Missouri	Mo. Rev. Stat. § 490.065(1)	Daubert civil/Frye criminal
Montana	Mont. R. Evid. 702	Daubert
Nebraska	Neb. Rev. Stat. § 27-702	Daubert
Nevada	Nev. Rev. Stat. Ann. §50.275	Some Daubert factors
New Hampshire	N.H. R. Evid. 702	Daubert
New Jersey	N.J. R. Evid. 702	Daubert fir toxic tort cases, certain medical causation cases, Frye other civil cases; Frye for criminal
New Mexico	N.M. R.E. 11-702	Daubert
New York	N.Y. C.P.L.R. §4515	Frye
North Carolina	N.C. Gen. Stat. § 8C-1	Some Daubert factors
North Dakota	N.D. R. Evid. 702	Frye
Ohio	Ohio R. Evid. 702	Daubert
Oklahoma	12 Okl. St. § 2702	Daubert
Oregon	Oregon R. Evid. 40.410	Daubert
Pennsylvania	Penn. R. Evid. 702	Frye

Rhode Island	RI R. Evid. 702	Daubert
South Carolina	Rule 702, SCRE	Daubert factors
South Dakota	S.D. R. Evid. 702 (SDCL § 19-15-2)	Daubert
Tennessee	Tenn. R. Evid. 702	Daubert factors
Texas	Tex. Evid. R. 702	Some Daubert factors
Utah	Utah R. Evid. Rule 702	Unique Test
Vermont	Vermont R. of Evid. 702	Daubert
Virginia	Va. Code Ann. §8.02-401.1	Unique Test
Washington	Wash. R. Evid. 702	Frye
West Virginia	W. Va. R. Evid. 702	Daubert
Wisconsin	Wis. Stat. Ann. §907.02	Daubert
Wyoming	Wyo. R. Evid. 702	Daubert

Appendix II

Table 2

Validation Summary (Gorman, 1999, p. 522)

Study	Validated
1. Cummins & Prior (1992)	0 of 9
2. Hudson et al. (1993)	0 of 1
3. Moore et al. (1993)	0 of 8
4. Hudson (1992, Sept)	0 of 2
5. Bitiski (1992, Sept)	0 of 1
6. Green et al. (in prep)	0 of 3
7. Markowitz et al. (in prep)	0 of 40
8. Wheeler et al. (1993)	0 of 12
9. Shane & Kearns (und sub)	0 of 1
10. Beck et al. (1992)	0 of 17
11. Eberlin et al. (1993)	0 of 21
12. Szempruch & Jacobson (in press)	0 of 23
13. Shane (1993, March)	0 of 9
14. Bligh & Kupperman (in press)	0 of 1
15. Smith & Belcher (1993)	0 of 8
16. Regal et al. (und sub)	0 of 19
17. Calculator & Singer (1992)	3 of 5
18. Smith et al. (in prep)	0 of 7

19. Eberlin et al. (und sub)	0 of 1
20. Attwood & Remington-Gurney (1992)	17 of 20