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Letter from the Student Editors

We are happy to announce that after months of hard work we can finally welcome you to the 5th volume of the *Gallaudet Chronicles of Psychology*. The *Chronicles* remains a prime conduit reflecting the uniqueness of work, life, and learning that happens here at Gallaudet University and within the Deaf Community at large. Through the *Chronicles*, students and professionals publish and share their ideas, both research and theoretically oriented through various formats such as essays, personal narratives, theoretical and empirical writings, case studies, critiques, etc. The *Chronicles* has and will continue to publish students' manuscripts that fulfill the requirements of professional publication, regardless of its form.

From the submitted works, with the immense help of our invaluable reviewers, we decided to accept four diverse yet remarkable articles. Thus, in this issue, you will find a varied range of styles from theoretical essays to a research study. First, the article of Mr. **Garry Wright** takes a look at the current research on telemental health and working alliance, as well as an extensive review of research in these areas involving deaf participants Mr. **Paul Silvasi** provides a theoretical take on the effects of terror on judgment and decision-making. Ms. **Denise Fedlan** discusses the complexities of between-group status on identity formation, social acceptance, and self-esteem in Hard of Hearing individuals to offer recognition of a group that is often overlooked or erroneously grouped. Ms. **Jessica Kales** investigates the stereotype threat on deaf individuals' verbal intelligence and performance.

In our final words, we would like to thank those who contributed to the development of the 5th volume of the *Chronicles*. We could not have succeeded in accomplishing this task without the tremendous work of the authors and reviewers. We also want to give a very special thanks to Dr. Lori Day who has overseen this project since its reactivation. We hope that you will find this issue interesting and that future volumes will continue to present the fascinating works of our students.

Sincerely,

Gregory Farber and Garry Wright,

Student Editors-in-Chief

Letter from the Faculty Editorial Supervisor

The latest 5th Volume of the *Gallaudet Chronicles of Psychology* offers a variety of relevant and thought-provoking articles. The *Chronicles* remains a truly student-led effort under the leadership of the student co-editors, Mr. Gregory Farber and Mr. Garry Wright. They have been essential to the continued publication of the *Chronicles* and deserve recognition for their work in producing this issue. This publication would also not be possible without the participation of student authors and reviewers.

Part of the mission of the Department of Psychology at Gallaudet University is to instill in students a scholarly understanding of psychology and its application to the lives of deaf and hard of hearing persons through the production of scholarly works. The *Chronicles* is one avenue through which students can obtain hands-on experience with the process of producing scholarly works.

The *Chronicles* aims to provide an atmosphere of collegial and supportive feedback to often first-time authors to orient them to the process of peer review. Reviewers are provided with clear instructions and guidance on completing a peer review, giving them a critical lens through which they can then apply to their own research.

I encourage all psychology graduate students to consider getting involved in some aspect of future editions of the *Chronicles*, and I look forward to reading issues to come!

Sincerely,

Lori Day, PhD

Faculty Editorial Supervisor

Working Alliance in Telemental Health with Deaf Clients

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Deaf and hard-of-hearing people currently face many obstacles, including access to mental health services. A serious problem facing the Deaf community currently is the paucity of sign language fluent mental health professionals. Although employing interpreter services is beneficial, it should be used secondary to having a mental health professional who is culturally-competent and language fluent (Leigh et al., 1996; Steinberg et al., 1998; Vernon & Leigh, 2007). These scarce professionals often have to travel far distances to provide these services, which can quickly become costly for both clinician and client. Videoconferencing technology may help alleviate the current shortage of linguistically and culturally competent clinicians to provide psychotherapy to deaf clients and increase access-to-care. However, despite being underserved in general mental health services and at risk for mental health problems, there has been a surprising lack of interest and concern to utilize telemental health technology with the Deaf community. The current manuscript reviews the current research on telemental health and working alliance, as well as an extensive review of research in these areas involving deaf participants. Considerations for the application of telemental health to deaf individuals are also included.

Keywords: telemental health, deaf, working alliance, videoconference

Deaf and hard-of-hearing people currently face many obstacles, including acquiring interpreting services, appropriate educational and vocational training, and assistive technology. Among these barriers, lack of access to mental health services has received little mainstream attention, despite its widespread impact. A survey by Feldman and Gum (2007) found more than 90% of deaf individuals reported there was a shortage of mental health services and nearly 95% were interested in more mental health services. However, until access-to-care issues are addressed, the deaf population will remain one of the most underserved populations in the mental healthcare field (Lopez et al., 2004; Vernon & Leigh, 2007; Wilson & Wells, 2009).

One of the largest impediments to access-to-care is the shortage of competent clinicians. A need exists for clinicians fluent in sign language, as well as knowledgeable about Deaf culture, including cultural norms and behaviors. Without these necessary skills, clinicians may not be able to appropriately treat the mental health needs of deaf individuals. One way to rectify the shortage of linguistically and culturally competent clinicians is to provide psychotherapy across distances through video technology, called videoconferencing.

A concern with videoconferenced psychotherapy is how using this technology will impact working alliance, or the bond between clinician and client. Results from videoconferencing studies have been supportive of the establishment of working alliance across distances, but researchers have yet to include deaf individuals in these studies. Before uptake of teleconferencing with the deaf population can begin, it will be necessary to examine how this population will respond to this technology.

Telemental Health

The mental health field has seen an exponential growth in technology in past years (Mokyr, 2006). This advancement in technology has brought with it a growing new area of research in the area of psychology, called telemental health. Telemental health, also referred to as telepsychiatry and telepsychology, has proliferated into many areas of mental health and impacted how providers assess, diagnose, consult, and counsel (Richardson et al., 2009). Individuals who were once isolated and unable to speak with a clinician, are now able to from across the state and country.

Telemental health is the use of telecommunication technology to provide mental health services and interventions across distances (Austen & McGrath, 2006a). Since its inception in

the 1960s, clients and professionals utilized telephone technology to exchange valuable mental health information. With the invention of the internet, electronic mail and internet chatting were used to exchange this information through text, rather than voice. More recent advances in video technology have allowed services to be delivered through videoconferencing. Videoconferencing technology allows real-time audio and video interaction between clinician and client (Austen & McGrath, 2006a).

A recent review on the efficacy of telemental health (Hilty et al., 2013) concluded that telemental health was an effective delivery system of psychiatric and psychological services, comparable to face-to-face interaction. Studies have shown the use of telemental health decreased patient length of hospitalization (O'Reilly et al., 2007; Pakyurek, Yellowlees, & Hilty, 2010), reduced psychiatric symptoms (De Las Cuevas, Arrendondo, & Cabrera, 2006; Fortney et al., 2007; O'Reilly et al., 2007), and improved medication adherence (De Las Cuevas, Arrendondo, & Cabrera, 2006; Pakyurek, Yellowlees, & Hilty, 2010). A small handful of studies examined telemental health with ethnoracial minorities which included Latinos (Chong & Moreno, 2012; Moreno et al., 2012; Nieves & Stack, 2007), Native Americans (Mucic, 2010; Shore et al., 2008), and Asians (Ye et al., 2012). Reliable diagnoses and clinical improvement were also demonstrated in both adult and child populations.

Hilty and colleagues (2013) reported that videoconferencing studies showed similar results in effectiveness as face-to-face care. Clinical outcome, follow-up use, and patient satisfaction were high in both conditions (i.e., telemental health and non-telemental health). Studies examined in the review included patients with posttraumatic stress disorder, depressive and substance abuse disorders, and developmental disabilities.

Access-to-care was shown to increase with telemental health use (Hilty et al., 2013). Patients' travel time and work absences decreased, and patients had more options with clinical services. Problems related to confidentiality, language, and payment were reported by patients as possible unresolved issues with telemental health.

An earlier review of telemental health (Richardson et al., 2009) found similar results to the 2013 review. In clinical trials, telemental health services were found to improve patient outcome similarly to face-to-face care. Studies showed a decrease in psychiatric symptoms and increase in

quality of life with telemental health services comparable to receiving in-person services. Additionally, telemental health services were superior to no given mental health services.

High levels of client satisfaction were also indicated in many of the studies. Richardson and colleagues (2009) noted many positive experiences reported by the participants in the telemental health group including increased sense of control over sessions, decreased travel and lost work time, and reduced wait for mental health services. However, there was some hesitancy related to telemental health use, including ignorance about and lack of exposure to the telemental health technology, which were usually surmounted by early support on-site and education.

Although findings from the 2009 review are promising, methodological issues were noted. The vast majority of the telemental health studies were non-randomized and non-controlled, and oftentimes included a very small sample size, limiting the power to detect significant differences between groups (Richardson et al., 2009). These factors limit the applicability and generalizability of the findings and call into question clinical effectiveness.

Many of the studies in the 2009 and 2013 review examined psychiatric services as a means to provide telemental health services, rather than psychotherapy. A large number of these studies have not used manualized interventions or treatment approaches making it difficult for these studies to be replicated. Richardson and colleagues (2009) suggest in addition to using larger sample sizes, particularly for studies examining specific psychological disorders or symptomatology, utilizing a randomized, controlled design approach and a standardized method in which the experimental (telemental health) and control (face-to-face) groups are assessed.

Working Alliance

A concern when using telemental health in psychotherapy is the difficulty for therapist and client to establish a strong working alliance (Cook & Doyle, 2002). Greeson (1965) coined the term "working alliance" and conceptualized it as both the client's ability to work in therapy and his or her affective feelings toward the therapist. Similarly, Bordin (1979) described the working alliance, which he posited as being the key contributing factor to the change process, as composed of three components: development of bonds between client and therapist, agreement on therapeutic goals, and assignment of tasks.

Utilizing research from a four-year psychotherapy project, Eaton, Abeles, and Gutfreund (1988) examined the relationship between pretreatment symptomatology, length of treatment, and outcome on working alliance. The researchers found that working alliance is not only predictive of client outcome, but it is also established within the first three sessions, regardless of length of therapy. Following the third session of psychotherapy, there is little significant change in working alliance. Short length of therapy (20 sessions or less) was associated with lower levels of positive working alliance. Results also showed that working alliance was negatively affected by pretreatment symptomatology, in that clients with more severe symptomatology before entering therapy tended to rate working alliance lower than clients with less severe symptomatology.

Given the importance of the client-therapist relationship and its predictive ability on treatment outcome (Bordin, 1979; Eaton et al., 1988; Gaston, 1990; Horvath, 2001; Lambert, 1992; Lambert, Shapiro, & Bergin, 1986), it is important to determine how telemental health impacts this relationship. Although limited, research on working alliance in psychotherapy delivered through telemental health has been encouraging.

Cook and Doyle (2002) studied working alliance with geographically isolated participants using online therapy. Participants ($n=15$), who were primarily female and European American, received counseling through email, online chat, or audio conferencing from psychotherapists with varying theoretical orientations. Participants' primary issues included relationship issues and depression. Participants completed up to five counseling sessions, depending upon the needs of each participant. Working alliance was measured by the Working Alliance Inventory (WAI; Horvath & Greenberg, 1989), which measures alliance on three subscales: goal, bond, and task. The WAI composite and subscale scores were significantly higher in the online therapy condition compared to a representative face-to-face condition from a previous working alliance study. Scores did not significantly differ between psychotherapists, presenting problem, or treatment modality.

A similar study by Day and Schneider (2002) examined using psychotherapy with telemental health (called distance technology), specifically if working alliance differed depending upon mode of delivery. Participants were randomly

assigned into one of three conditions all of which received 5 sessions of cognitive behavioral therapy. Participants in the first condition ($n=27$) received therapy in the same room as the therapist in the traditional face-to-face manner. Those in the second condition ($n=26$) received therapy through a closed circuit television monitor with the therapist who was in a separate room. Participants in the third condition ($n=27$) received therapy through a hands-free audio system with a therapist who was also not in the same room. Presenting problems among participants included relationship issues, self-esteem, and work and school problems. Working alliance was measured by the Vanderbilt Psychotherapy Process Scale (VPPS; Strupp, Hartley, & Blackwood, 1974). The scale consists of eight subscales, however only the Client Participation, Client Hostility, and Therapist Exploration subscales were used to avoid redundant variables. The authors also measured client outcome using the Brief Symptom Inventory (BSI; Derogatis, 1993), Global Assessment of Functioning Scale (GAF; American Psychiatric Association, 1994), Target Complaints (Battle et al., 1966), and Client and Therapist Satisfaction Scales (Tracey & Dundon, 1988). Results showed the scores on the Client Participation subscale differed significantly in the face-to-face condition compared to the other two conditions, in that clients participated less in the face-to-face condition than the other conditions. Furthermore, working alliance was significantly positively correlated with overall client outcome. There was also no significant difference between the three conditions in client outcome.

Morgan, Patrick, and Magaletta (2008) compared inmates' perceptions of working alliance, client satisfaction, and post session mood in psychological and psychiatric services delivered through telemental health and face-to-face modes. Nearly half of the 186 participants were European American, and African Americans and Latinos each made up about a fifth of the sample. Inmates were placed into a modality group (telehealth or face-to-face) and then assigned to a service group (telepsychology or telepsychiatry). Telepsychology focused on institutional adjustment and coping skills, and lasted for about 30 minutes, and telepsychiatry focused on symptom management as it related to the inmates' medication, and lasted for about 20 minutes. Both service groups were videoconferenced. Assignment was based on availability and what was deemed "clinically necessary" for the inmate, and therefore not randomized. All participants were housed in general population correctional facility, with the exception of the face-to-face psychiatry condition which was in a psychiatric prison.

Working alliance was measured using the WAI, client satisfaction with the Client Satisfaction Questionnaire (CSQ-8; Larsen, Attkisson, Hargreaves, & Nguyen, 1979), and post-session mood with the Session Evaluation Questionnaire (SEQ; Stiles, 1980). Participants completed these measures following regularly scheduled sessions with prison staff. A one-way MANOVA indicated no significant differences in WAI and SEQ scores between the two modality groups and no significant differences in WAI and SEQ scores between the two service groups. Participants in the telehealth groups reported similar satisfaction scores with participants in the face-to-face groups.

Similar levels of working alliance were found in a single subject design study by Simpson, Bell, Knoxl, and Mitchell (2005) whose focus was on individuals with bulimic disorders in Scotland. The six participants, who were all of European descent and almost entirely female, received 17 sessions of videoconferenced cognitive behavioral therapy. Every third session and at the one-month follow up, participants completed the Agnew Relationship Measure (ARM; Agnew-Davies et al., 1998) to measure working alliance. Results showed that participants reported high levels of working alliance. Additionally, at the end of treatment, three participants no longer met the DSM-IV criteria for an eating disorder, and of those three, two no longer met the criteria at the one-month follow up.

As telemental health research continues to grow alongside technology, studies examining working alliance and how it is affected by this delivery service are uncommon. Even more uncommon is research examining the effects of working alliance and telemental health within specific clinical populations. A number of telemental health studies have focused on clinical populations including military personnel (Morland et al., 2010), inmates (Morgan et al., 2008), children (Nelson, Barnard, & Cain, 2003), and older adults (Cullum et al., 2006), among others. However, only a small minority of telemental health studies have incorporated working alliance into the study design. One clinical population that has received almost no research is the deaf and hard of hearing population.

Deafness and Mental Health

The deaf and hard of hearing community remains marginalized in terms of mental health research, despite there being an overwhelming need given the population's barriers to mental health services and unique mental health needs. There is a high prevalence rate of mental health issues in people

who are deaf or hard of hearing (Bridgeman et al., 2000; Dammeyer, 2010; De Graaf & Bijl, 2002). Adults with some degree of hearing loss are up to four times more likely to experience severe psychological distress than adults with no hearing loss (Schoenborn & Heyman, 2008). Compared to their hearing peers, deaf people report poorer quality of life (Fellinger et al., 2005) and significantly more feelings of fearfulness and hopelessness (Kvam, Loeb, & Tambs, 2007).

Given the heterogeneity of deafness, many factors play a role in the development of mental health problems, including the severity and etiology of hearing loss, onset of deafness, parental involvement, and school environment (Barker et al., 2009; Fellinger et al., 2005). A study by Polat (2003) examined the impact of environmental factors on the psychosocial adjustment of deaf students. She found age of onset of deafness, additional handicap, and the degree of hearing loss were all negatively correlated with psychosocial adjustment. Specifically, those with a higher degree of hearing loss and later onset of hearing loss had more psychosocial difficulties.

Although deaf people are at an increased risk for mental health issues, they are still faced with significant barriers to these services. There is a lack of mental health services focused on deaf-related issues and therefore, access is extremely limited (Feldman & Gum, 2007; Leigh et al., 2004). The lack of services is primarily due to the shortage of mental health professionals to deliver these services. The vast majority of therapists and psychologists, even those working directly with deaf people, are not proficient in sign language, the primary language used by deaf people (Lopez et al., 2004; Storch, 2010) nor knowledgeable about Deaf culture (Brauer, 2008; Wilson & Wells, 2009).

In addition to issues concerning effective communication, Munro-Ludders, Simpatico and Zvetina (2004) noted two additional reasons why mental health services for the deaf are lacking. The first being that the Deaf community makes up only a small portion of individuals seeking mental health services, it does not have a large impact overall on the general mental health system. Additionally, the Deaf community has yet to form "into a cohesive, politically powerful advocacy group" (p. 397) to address the issue of limited access.

Research on Telemental Health with Deaf Individuals

One of the earliest telemental health studies with deaf participants examined a pilot program

focused on delivering psychiatric services to the deaf population in South Carolina in 1995 (Afrin & Critchfield, 1997). At the time of the study, there was only one ASL-fluent psychiatrist in the state. Deaf clients seeking psychiatric services would either have to wait for the signing psychiatrist to be available or have a third-party interpreter present with a non-signing psychiatrist. In an effort to save money and increase access-to-care, workstations were set up throughout the state at hubsites and at the signing psychiatrist's house to provide clients with a video-to-video connection for psychiatric consultation. Preliminary results showed that clients were able to be seen for longer periods of time and more frequently. The money saved from eliminating travel and interpreter expenses in the first two years of the program covered the cost of the equipment. The psychiatrist and clients both reported high levels of satisfaction, although no standardized satisfaction assessment was used.

In a case study, Lopez and colleagues (2004) used teleconferencing to provide psychiatric consultation (e.g., medication adherence, discussion about side effects) to a deaf patient in a rural community. The patient had a history of depression with symptoms ranging from fatigue and tearfulness to poor appetite and social isolation. She traveled to a hubsite and communicated through video with a psychiatrist who had a sign language interpreter present. After five consultations, lasting one hour in duration, the patient experienced an increase in her affective range and improved mood, sleep, and appetite.

Austen and McGrath (2006a) studied access to telemental health of staff who worked with deaf people in the United Kingdom. They hypothesized that staff who work specifically with deaf people will have better access to, more frequent use of, and display better confidence with telemental health equipment than staff who have not worked in deaf services. Questionnaires were distributed to staff at centers that serviced deaf people ($n=78$) and the general population ($n=56$). Participants were asked to rate their confidence in their use of videophones and videoconferencing technology. Results indicated there was no significant difference in number of staff who used videoconferencing in deaf clients and hearing clients. There was also no significant difference in numbers of deaf and hearing staff in terms of videoconferencing and videophone use. More than 80% of staff indicated they knew what videoconferencing was but only 10% had used it previously. Qualitative data revealed clinicians were anxious about seeing themselves and having others

see them on camera; concerns about physical unattractiveness were also reported (Austen & McGrath, 2006b). Emotional accuracy was another concern, in that clinicians were worried the equipment would not be able to pick up client feelings, their distress, or non-verbal behaviors. Similarly, there were concerns that the equipment would break down or simply not work. Clinicians were also concerned that there may be unseen people in the room during consultation or that sessions may be video recorded without permission and that confidentiality could not be maintained (Austen & McGrath, 2006b).

A study by Wilson and Wells (2009) examined the efficacy of telehealth in teaching psychoeducational material to deaf and hard of hearing participants. Participants ($n=55$) were randomly assigned to the telehealth group or the control group. Both groups received the same information on depression, but the control group received it in a printed format and the telehealth group received it by lecture from a mental health professional with an ASL interpreter through videoconferencing. The groups were administered the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), Beck Hopelessness Scale (BHS; Beck, Weissman, Lester, & Trexler, 1974), and a depression knowledge test before and after the psychoeducational material was presented. A satisfaction questionnaire was completed by participants and mental health professionals. Participants returned one week later to complete the BDI-II and BHS. Results from the depression knowledge test analysis revealed significant pre- and posttest score gains and no significant difference on posttest scores between the two groups. Scores on the BDI-II in both groups at the one week retest were significantly lower than the initial test. Both groups indicated moderate to high levels of satisfaction on the satisfaction questionnaire and no significant differences were found between groups. Results from the satisfaction measures further showed that mental health professionals reported telehealth being satisfactory for disseminating psychoeducational material.

Although telemental health research with deaf has been positive, much like the general telemental health studies discussed by Richardson et al. (2009), many are methodologically weak. Only one study was randomized and utilized a control group (Wilson & Wells, 2009), while others were case studies (Afrin & Critchfield, 1997; Lopez et al., 2004). Austen and McGrath (2006a; 2006b) surveyed mental health professionals, but not the

people receiving those services. Furthermore, telemental health studies have failed to conduct psychotherapy with deaf people and none have focused on working alliance, which has been shown to be highly important in client outcome.

Telemental Health Applications for Deaf Individuals

Research has shown that working alliance can be developed between clinicians and deaf clients through videoconferencing similar to face-to-face psychotherapy. Videoconferencing allows many deaf individuals to access culturally and linguistically competent psychotherapists by removing barriers such as distance and cost. In addition to improved access, telemental health services can also address the concern of confidentiality.

The Deaf community is a small and often close-knit community; given the stigma surrounding mental health and the small number of qualified psychotherapists, confidentiality is often a primary concern for members in the Deaf community when receiving mental health services (Meador & Zazove, 2005). The use of telemental health may reduce awkward interactions or waiting room run-ins with members of the Deaf community when clients are arriving to or leaving from their appointment.

Although there are many benefits of adopting telemental health services for deaf and hard-of-hearing loss, there are a number of challenges that should be considered before using videoconferencing as a mode of providing mental health services to deaf individuals. Telemental health may not be appropriate for high-risk clients, regardless of hearing loss, including those who are or may be actively suicidal, psychotic, or dissociative (Luxton, Sirotin, & Mishkind, 2010). If psychotherapy using videoconferencing is deemed necessary for these high-risk clients, contingency plans should be discussed and clarified with the client, as well as any support staff at a hubsite or clinic where the video equipment is located. Ideally, support staff should be fluent in sign language in order to assist the client if the equipment malfunctions and to answer any questions. If this is not feasible, support staff should be familiar with signs pertinent to their work.

While many deaf and hard-of-hearing individuals rely on a visual mode of communication such as sign language, others may prefer to communicate orally and use assistive technology (i.e., hearing aids and cochlear implants). For these individuals, videoconferencing may present difficulties understanding the psychotherapist,

depending on the sound quality (for those using assistive technology) and visual quality (for those depending on speechreading). This is not to suggest these individuals could not benefit from telemental health, rather it will be important for the clinician to thoroughly assess the client's hearing loss and preferred mode of communication, and possibly conduct a trial run using the technology before scheduling telemental health psychotherapy sessions.

Individuals who are deaf may also have concomitant vision loss. Vision loss manifests differently depending upon factors such as etiology, severity of loss, and prior medical treatment. The characteristics of vision loss suggests the needs of these client are similarly diverse in terms of language access. Deafblind individuals, or those with hearing loss and vision loss, may require close vision signing or pro-tactile signing. Individuals who require these communication accommodations may not be appropriate candidates for telemental health given the nature of these accommodations. Simply using a large monitor may be helpful for some individuals but not for others, depending upon clients' individual needs. Similarly, it will be important to assess the presence of vision loss in older adult sign language users as they may have difficulties seeing the monitor due to normal vision loss associated with aging.

Certified deaf interpreters (CDI) may be utilized to assist clinicians who are providing services to deaf client who are language dysfluent as a result of limited sign language exposure, or whose mental illness impact language production. Incorporating a third person such as a CDI in the rendering of telemental health services may be difficult and less beneficial than in-person psychotherapy. Likewise, group and couples psychotherapy may not be appropriate for videoconferencing.

Conclusion

Research has shown that clients using telemental health or videoconferencing psychotherapy can develop a strong working alliance with the clinician similar to services rendered in-person. Working alliance research including deaf and hard-of-hearing also suggests alliances can be formed similarly to hearing individuals. There are many benefits of utilizing telemental health with the deaf population, as well as a number of challenges that should be considered and addressed. Furthermore, although adopting telemental health for deaf individuals is beneficial in providing access to knowledgeable and skilled clinicians, it does not as Wilson and Schild (2014, p. 329) state, "solve the larger problems in the Deaf community regarding the

general lack of qualified sign-fluent mental health professionals.”

Thus far, telemental health and working alliance research has been promising; however, research involving deaf participants is limited. Studies with deaf participants have examined the cost and travel time associated with telemental health (Afrin & Critchfield, 1997; Wilson & Wells, 2009).

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The Effects of Terror on Decision Making

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Fans of horror movies may be aware of a phenomenon known as “horror movie logic” where protagonists engage in seemingly illogical behaviors when they are in danger. The purpose of this review was to develop a theory that helped to explain these behaviors. The proposed theory was then applied to real life scenarios. The application of this theory with clinical and real-life situations were discussed.

Keywords: terror, decision making, information processing, horror movies

Humans are fascinated by a variety of things. Some enjoy the sensation of thrills such as riding a roller coaster, and others are fascinated by a therapeutic hike through a beautiful landscape. However, there is one thing that tends to grab the attention and fascinate everybody: movies! For some, they enjoy the thrills and explosions found in action movies, but others may enjoy the more casual genre of a romantic comedy. Some individuals, on the other hand, are fascinated with and enjoy horror movies.

For individuals that enjoy horror movie, they are aware of the bizarre phenomenon where protagonists, in the eyes of the viewer, make irrational decisions in the midst of terror (e.g., investigating a scream in the middle of the woods). This kind of phenomenon is so prevalent throughout the genre that horror movie enthusiasts have coined the term “horror movie logic” in order to make fun of these types of behaviors exhibited in horror movies. It is understandable that Hollywood does, in fact, exaggerate behaviors in films, but a review of the literature can argue that “horror movie logic” is not so far-fetched after all.

Most individuals who have taken courses in introduction to psychology or even biology know of the fight, flight, or freeze response towards threat. The fight, flight, or flee response is a biological response the body has towards threat (Eilam, 2005). This threat needs to be perceived as a real threat in order for the fight, flight, or freeze response to occur (Curtis & O’Keefe, 2002).

The process begins when there is an actual threat (e.g., an attack, harmful event, or a threat to one’s survival). Then, the brain processes these

signals in: the amygdala, which is involved with decision-making processes and emotional responses to stimuli and the hypothalamus, which is an important component of the nervous system that stimulates the release of pituitary hormones. Adrenaline and cortisol is released which results in a myriad of biological effects to prepare an individual to either defend themselves against the threat, flee to safety (Curtis & O’Keefe, 2002), or freezing to eliminate visual or auditory cues to be spotted by the threat (Eilam, 2005).

The fight, flight, or freeze response is actually demonstrated accurately in horror movies. When a perceived real threat is seen by the protagonist, they will either flee to safety, try to fight to defend themselves, or freeze and hide in the hopes that the threat will go away (Curtis & O’Keefe; Eilam, 2005). However, when the individual is unsure whether or not the stimulus is a real threat, the fight, flight, or freeze response does not factor into their safety. Instead, they require a higher-order cognitive processing approach to decide what to do.

This can be quite difficult for them, since research has shown that emotions can impact cognition in various ways. One well-known example is that when someone forces themselves to smile, they will eventually feel happier (Gab4le & Harmon-Jones, 2010). The current theory, however, is looking at how fear can disrupt cognitive processing to a degree where the individual’s decision-making process becomes impacted. Therefore, theories looking at how fear disrupts cognitive processes will be discussed and summarized to develop a model of how terror affects decision making.

Emotions Disrupting Cognition

For one, research has shown that negative emotions can contribute to an increase in risk-taking behaviors. In a gambling study where participants were elicited to feel positive emotions, negative emotions, or neutral emotions, those who were elicited to feel negative increased their gambling behaviors in the hopes of obtaining a positive outcome. In other words, when someone is currently feeling negative emotions such as sadness, fear, or anger, they may act in more impulsive and reckless ways in the hopes of obtaining a result that will make them feel positive (Cahir & Thomas, 2010).

Research has demonstrated that some of these increase in risk-taking behaviors can be attributed to a decreased ability in individuals to calculate the costs, risks, and benefits of their actions (Cahir & Thomas, 2010; Crawford, 2014). Therefore, these individuals will demonstrate more rash and impulsive behaviors.

Research has also demonstrated that negative affect high in intensity can cause a narrowing of attention (Gable & Harmon, 2010). In other words, people will focus exclusively on the stimulus that caused their affective sensation. In this context, hearing a loud scream in the middle of the woods will result in a high intensity affective experience of fear. The person will narrow their attention to focus exclusively on this stimulus.

It has been found that when individuals fixate on the fearful stimulus, they become motivated to learn more and better educated about the situation (Kligyte et al., 2013; Nunez et al., 2015). So, the person who becomes afraid after hearing the scream in the woods now has a desire to figure out the source of the scream, so that they can better assess their situation.

One would think that if an individual heard a scream in the middle of the woods, they could impulsively flee the scene in the other direction in order to save themselves. This is certainly a logical suggestion, but research shows this would be highly unlikely due to the concept of low versus high infusion strategies (Cahir & Thomas, 2010).

Low infusion strategies are used when the task is simplistic and does not require much cognitive processing in order to solve. Therefore, affective experiences do not disrupt the ability to do these tasks. There are two types of low affect infusion strategies: direct access and motivated processing (Cahir & Thomas, 2010).

Direct access is a processing strategy that is used when the task is familiar and not complex. For example, eating. If a person is terrified that a killer is lurking around them, this feeling of terror will not disrupt a person's ability to eat. Their motivation to eat may be impacted, but their ability to act out the eating process of chewing and swallowing is not impacted. In fact, eating may actually be used a coping strategy (Cahir & Thomas, 2010).

Motivated processing is a processing strategy that is used when a particular outcome is desired. For instance, running away from a killer. Even though a person may be extremely terrified when they see a killer running towards them, their feelings of terror does not impact their ability to run away and get themselves to safety (Cahir & Thomas, 2010).

High affective infusion strategies are initiated when the task encountered is complex and require extensive cognitive processing to complete. Therefore, affective experiences highly disrupts the ability to do these tasks successfully. There are two types of high affect infusion strategies: heuristic processing, and substantive processing (Cahir & Thomas, 2010).

Heuristic processing is initiated when the task is unfamiliar but not that complex to complete. An example is what a person is supposed to do immediately after getting into a car accident. Even though it is common knowledge what the person is supposed to do (i.e., call the police), their affective experiences of being scared and in shock result in them momentarily being stuck and not knowing how to proceed. This type of processing can explain why some people will hit-and-run, because their emotions during that time impacted their ability to act logically (Cahir & Thomas, 2010).

Substantive processing is used when the task is novel and complex. This type of processing applies to the scenario discussed in this review: hearing a scream in the middle of the woods. Hearing a scream in the middle of the woods is unlikely a scenario most people have experienced, and there is not any clear and obvious way to approach this situation. For one, the scream could be one of euphoria, and not necessarily someone screaming for help (Cahir & Thomas, 2010).

Research has shown that when individuals are fearful and anxious, this creates a cognitive overload and impacts performance on cognitively demanding tasks (Kligyte et al., 2013). So, in theory,

when the situation requires substantive processing, but the individual is highly anxious and fearful, their ability to decide on a logical solution to this situation is severely impacted. Therefore, this explains the “horror movie logic” phenomenon of why individuals, upon hearing a scream, will go and investigate it. It is proposed that this phenomenon is not only exclusive to horror movies, but would also be applicable to individuals in real life who happened to fall into the same situation.

The Effect of Terror on Decision Making

A review of the literature indicates that there are various ways where negative emotions can disrupt a person’s cognitive processing and influence them to act in irrational ways. Though the behaviors of protagonists appear far-fetched, a review of the literature suggests that their behavior is actually quite plausible. A combination of various cognitive theories will be used to develop a model that explains the thought process in protagonists minds when they engage in, perceived by the viewer, irrational behaviors.

The proposed model to explain how fear impacts an individual’s cognitive processing can be found in the appendix (See Appendix A). First, a fearful complex and unknown stimulus is experienced by the individual (e.g., a scream nearby) (Step 1). This fearful stimulus causes the person to feel highly anxious and fearful and thus they fixate on it (Step 2). The individual then wants to figure out the source of the stimulus in order to hopefully find out that it is nothing and to feel positive again and for a desire to learn more so that they can better assess their situation (Step 3). However, since this is a novel situation, their fear and anxiety highly influences and impairs their rational decision-making process. This then leads to illogical decision-making that puts them at risk (Step 4). The purpose of this model is not only for horror movie enthusiasts to understand why characters in movies they watch act in irrational ways. Instead, it is proposed that this model has some clinical applications for psychologists to understand behaviors exhibited by their therapy and assessment clients.

Clinical Applications

It is proposed that this model can explain some behaviors that clients demonstrate in clinical situations. For instance, this model can be applied to understand the thought process of people with severe phobias. A person with agoraphobia, for example,

will avoid public places and situations that could cause them to feel anxious. This avoidance of public places will only contribute to their distress, because they are not able to function in their day-to-day lives. However, they are so fixated on sources that may cause their anxiety that they make harmful decisions to avoid all public places and situations in order to avoid that feeling.

In assessment, when working with parents referred by Departments of Family Services, they are administered self-report measures on child abuse potential. Usually, these parents invalidate these measures by getting a false-positive result. However, these parents usually were determined to not be at risk of abusing a child. If this was the case, then they should not have a reason to invalidate the measure. According to the proposed model, their fear of losing their child, along with what is likely their first time going through a psychological evaluation, leads them to illogical believe that they need to excessively demonstrate that they are a good parent instead of answering the measure honestly.

Lastly, this model can also be applied to individuals who are deaf or hard of hearing. Though they might not hear a fearful stimulus, if loud enough, they should be able to feel the fearful stimulus. One example that could be used is a gunshot going off in the woods. A gunshot is an extremely loud sound that can oftentimes be felt as well as heard. For a deaf person, they would feel the pounding sensation of a gunshot, and be unaware where this fearful stimulus came from. This then begins their advancement through the model where the fearful stimulus creates them significant anxiety, and in order to relieve their anxiety, they wish to find out more about the stimulus which then leads to them doing something illogical such as leaving the cabin they are in.

In conclusion, it is believed that the proposed model is a rough start to understand how fear impairs and disrupts rational decision-making in the majority of individuals. Like all good theories and models, this model would benefit from research and more critical analysis of theories and cognitive processing models in order to someday become a reputable theory. Then, maybe people will realize that characters in horror movies make irrational decisions because their cognitive processing was disrupted due to feeling overwhelmed with unresolved anxiety.

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Hard of Hearing Individuals: Implications of the Between-Group Status

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Individuals who are Hard of Hearing (HoH) comprise a unique group as they fall in the middle between the deaf and hearing dichotomies, thus constituting a “between-group.” Although unique, a between-group identity status may have implications for psychological functioning, including areas such as self-esteem, identity formation, and social acceptance as seen in other between-groups (bi-racial or bi-ethnic). Factors of identity formation and social acceptance are theorized to be associated with self-esteem. Research has found low self-esteem in adults and children who are Hard of Hearing; however, to this date, research has not specifically considered the impact of a between-group status on identity formation and social acceptance, which in turn can influence self-esteem. Because of their between-group status, individuals who are Hard of Hearing may be particularly vulnerable to the effects of social rejection or exclusion. The purpose of this paper is to consider the complexities of between-group status on identity formation, social acceptance, and self-esteem in Hard of Hearing individuals to offer recognition of a group that is often overlooked or erroneously grouped.

Keywords: Hard of Hearing; Between-group; Social Acceptance; Identity; Self-esteem

Evolutionary Model of Reproduction

The complexity of identity and self-perception arise upon the examination of Hard of Hearing individuals. The World Health Organization defines Hard of Hearing (HoH) as “people with hearing loss ranging from mild to severe, who usually communicate through spoken language, and can benefit from hearing aids, cochlear implants, and other assistive devices” (WHO, 2017). Out of 1000 children born in the US, about two or three are born with a detectable level of hearing loss (CDC, 2010). Hard of Hearing individuals serve as a subcategory on the continuum between hearing and deaf. However, as a subcategory, they are not complete members of either the larger hearing group, nor the more visible deaf group. Researchers have looked at psychological development in those with severe to profound hearing loss, examining topics such as self-esteem and group identification (Bat-Chava, 1993; Bat-Chava, 1994; Jambor & Elliot, 2005). In contrast, research is lacking on the effects of mild to moderate hearing loss on identity formation, social acceptance, and self-esteem as compared to profound and severe hearing loss (Bess et al., 1998; Wake & Zeffie, 2004).

Research has studied the effects of being Hard of Hearing on well-being of children, adolescents, and adults. Bess, Dodd-Murphy & Parker (1998) examined a sample of 3rd, 6th, and 9th graders (N=1,218) in which 5.4% had minimal sensorineural hearing loss. Results indicated that children with hearing loss demonstrated significant

differences in behavior, energy, stress, social support, and self-esteem compared to typically hearing peers. Comparatively, Kent (2003) found evidence suggesting that mainstreamed HoH adolescents (ages 11-15) experienced more loneliness than did hearing peers. Further analyses indicated that adolescents who identified being Hard of Hearing as a disability experienced more loneliness than those who did not perceive being Hard of Hearing as a disability. It may be that the Hard of Hearing adolescents who self-identify as having a disability feel like they have significant factors that differ from their peers (Kent, 2003).

Researchers have examined aspects of well-being in Hard of Hearing individuals; for example, Weisel & Kamara (2005) specifically studied self-esteem and attachment in mainstreamed Deaf/HoH individuals (n = 38) as compared to hearing peers (n = 42). Both the Deaf/HoH and hearing sample had participants between 18 and 35-years of age, and from the middle and upper middle socioeconomic status. Deaf/HoH individuals communicated a greater fear of attachment, lower self-esteem, and lower well-being than did hearing counterparts. Results allow us to consider the discrepancies in the process of individuation and self-esteem in deaf/HoH individuals as they significantly differed from the hearing matched group based on sex, age, education, socioeconomic status and marital status. But, Weisel & Kamara (2005) considered deaf and Hard of Hearing as a single sample and utilized self-report to determine hearing loss. Therefore, it is undetermined

how much of low self-esteem is accounted directly from Hard of Hearing individuals.

Between Group Status

Weisel and Kamara (2005) did not look at deaf and Hard of Hearing adults separately, and may have missed important differences. As previously mentioned, Hard of Hearing individuals are not complete members of either hearing or deaf groups. Not being a full member of either of two larger or more salient groups may lead to a feeling of being in between, and thus having a “between group” experience. A participant in a qualitative analysis on Hard of Hearing adolescents and identity construction stated, “Being HoH is like being trapped between two worlds. It is like you are surrounded by a variety of options—hearing, deaf, and HoH—which makes it complicated to determine where one stands in life” (Israelite, Ower, & Goldstien, 2002).

While not phrased in this way, there is research extant on groups that have been identified as between groups (Lyles, Yancey, & Carter, 1985; Gibbs; 1987; Khanna, Johnson, & Johnson, 2010; Judith, Beatty, & MacLean, 2005). Lyles, Yancey, & Carter (1985) utilized a case presentation of a biracial 11-year-old girl, “Mary,” to exemplify the complexity of identity and self-esteem as a biracial individual. Mary described, “My skin is light, but I don't like it the way that it is. Everybody kids me and calls me 'mixed zebra,' 'red-faced dog' and 'black-eyed pea.' I laugh, but it hurts. Black and white kids pick on me. It is rough being mixed. People do not understand that being mixed is not bad” (Lyles, Yancey, & Carter pg. 152). Mary's statement serves as an exemplification of challenges to obtaining a sense of self when confronted with being a between-group member. Moreover, research has identified that defense mechanisms and coping strategies may be employed by adolescents who are biracial to protect their feelings of low self-esteem as they are struggling with identity conflict (Gibbs, 1987). Strategies employed by individuals in between-groups to conceal or pass their preferred identity may serve as protective mechanisms for self-esteem, but also demonstrates the complexity of such decisions between-groups have to make in everyday life.

Being a part of a between-group may prompt you to pick and choose how you may identify for the potential purpose of a formalized identity and social inclusion. Khanna, Johnson, and Johnson (2010) examined 40 black-white biracial individuals, ages ranging from 18 to 45, and their strategies to present their preferred identity to others.

Open identification/disidentification, selective disclosure, manipulation of observable characteristics, use of cultural symbols, and selective association were some of the strategies utilized by participants. Selective disclosure and manipulation of observable characteristics were tactics used to either selectively cover or inflect particular aspects of their racial identity to others, or to arrange their personal appearance to cover or downplay their racial identity.

Although being Hard of Hearing is different from race, Hard of Hearing individuals may still employ similar strategies if they decide to disclose their identity as hearing or deaf to achieve sense of belonging. Individuals who are Hard of Hearing may selectively disclose their Hard of Hearing identity to others, or make the effort to mask their Hard of Hearing identity through their appearance (e.g., covering hearing aids with their hair). The extent to which Hard of Hearing individuals work, alongside other between-groups, to present their preferred identity in attempt to gain a sense of identity and belonging may have an effect on self-esteem.

The fear of stigma and being perceived as different are additional concerns that individuals with health, physical, or psychological concerns may face, particularly if the individuals possess invisible social identities such as religion, national origin, social group membership, illness, or sexual orientation (Judith, Beatty, & MacLean 2005). Similarly, hard of hearing individuals, who can be considered to have an invisible social identity, may need to consider if they prefer to pass or reveal their identity based on stigma related concerns. For example, a stigma related concern may be worrying that others will think them less competent or able should they know they have a hearing loss (Wallhagen, 2009).

Judith, Beatty, and MacLean (2005) examined nonvisible characteristics or invisible social identities and the logistics of passing or revealing their identity in the workplace. Given the repercussions or the fear of being stigmatized, people with invisible social identities may invest in time to strategize about whether, when, and how to disclose their invisible social identity. A personal motive to pass or reveal includes maintaining self-esteem. Outcomes of passing may challenge authenticity, cause one to feel like a fraud, and isolation. But outcomes of revealing may open an individual to stigmatization and discrimination (Judith, Beatty, & MacLean 2005). Relatedly, individuals who are Hard of Hearing may find themselves in a similar impasse of deciding to pass or reveal their Hard of Hearing identity. The expenditure utilized to pass their Hard

of Hearing identity (e.g., efforts to appear as hearing) for the purpose of social acceptance or self-esteem may be taxing on an individual who is Hard of Hearing. In contrast, revealing their identity may impact self-esteem if they experience stigmatization and discrimination.

As a between-group, individuals who are Hard of Hearing may be particularly susceptible to identity conflict and therefore difficulties in social acceptance, which is theorized to impact self-esteem. Individuals who are Hard of Hearing also may employ various methods to reveal or conceal their identity as an effort to become socially accepted or to protect their self-esteem. Such efforts may improve self-esteem if a solidified identity is obtained and if perceived social acceptance is achieved; however, low self-esteem may be exacerbated if efforts are not effective or considerably more harmful due to stigma related concerns.

Theoretical Connections

Jones (1990a) defines self-esteem as the positive and negative views of the self that are both relatively stable over time and responsive to external components (praise, punishment, achievements, and audience reactions) (Jones, 1990a). Although not specified by Jones (1990a), these external components appear to be social related components in regards to acceptance and rejection. Jones' (1990a) definition allows us to consider the basic relationship between internal perceptions of the self and external (social factors); however, it lacks specificity on what factors are sensitive to social components that in turn influences perceptions of self. The consideration of identity permits further understanding on the causative relationship between social acceptance and perceptions of self.

The interrelationship between identity formation, social acceptance, and self-esteem has been theorized and investigated (Cast, 2002). The interrelation of these components can also be extracted from various viewpoints of the development of self-esteem: psychosocial development theory, theories on acculturation, attachment theory, sociometer theory, and social identity theory (Lee & Hankin, 2009; Henri Tajfel 1979; Erikson, 1959; Leary et al., 1995).

It is evident that a commonality of self-esteem theories is the involvement of a stable sense of self and social influence. Therefore, our self-esteem is grounded by how we see ourselves and perceptions on how others perceive us. Based on self-esteem theory, individuals who classify as a between-

group (i.e., Hard of Hearing, biracial, bisexual, and bi-ethnic) may be susceptible to identity conflict and difficulties with social acceptance, thus impacting self-esteem.

Self-Esteem and Identity Formation

Erickson's (1959) theory of psychosocial development recognizes the importance of identity or a stable sense of self on self-esteem. Particularly, his proposed stages of Industry vs. Inferiority (ages 5 through 12) and Identity vs. Role Confusion (ages 12 to 18). Erikson believed that the inability to complete a stage results in conflict with implications for personality and self-esteem.

The Industry vs. Inferiority period of psychosocial development is a precedent to identity development. Children begin to develop feelings of more advanced competency in their skills, particularly in academia where teachers, peers, and parents play an influential role. Children begin to feel confident in their abilities when their ingenuity is supported and reinforced or inferior about their abilities if restricted and/or reprimanded. A positive identity formulates from affirmed definitions of self—if disapproving or mixed messages were communicated, a less healthy identity often resulted.

In the Identity vs. Role Confusion stage, adolescents start to consider and explore different aspects of themselves as related to current beliefs, goals, and values. If such exploration is unaccomplished, role confusion and a weak sense of self may occur (Block, 2011). Role confusion or identity crisis consists of the apprehension of where the individual fits in society. Whether or not coupled with previous established inferiority, role confusion may further contribute to the development of low-self-esteem.

James Marcia extended Erikson's theory by proposing identity domains based on the range in which adolescents explored and committed to values and choices: Identity Diffusion, Identity Foreclosure, Identity Moratorium, and Identity Achievement (Marcia, 1980). Despite the plethora of research on self-esteem and Marcia's domains, results remain unclear on the direct association of identity commitment on self-esteem. But there is some evidence from a meta-analysis completed by Ryeng, Kroger & Martinussen (2013) that recognized a link between high-esteem with committed identity statuses (Ryeng, Kroger & Martinussen, 2013).

Acculturation is another identity process applicable to Hard of Hearing individuals and their

self-esteem and quality of life. Deaf and Hard of Hearing persons who struggle to acculturate tend to demonstrate lower self-esteem and psychosocial well-being (Hintermair, 2008; Bat-chava, 2000; Maxwell-McCaw, 2001). These findings on acculturation suggest the importance of a cultural anchor on identity and subsequently self-esteem (Hintermair, 2008).

Self-Esteem and Social Acceptance

Attachment theory serves as an influential guide for understanding the reciprocal relationship of early important social relationships on self-esteem. The original attachment theorist, Bowlby (1969) proposed that the template derived from experience with secure caregivers allows a child's understanding of the world, self, and others, or their internal working model, to develop. Instances where a caregiver is unresponsive, thus leading to insecure attachment, may not only teach the child to feel as if others are not reliable, but may lead the child to feelings of rejection thus perceiving themselves as unworthy of support or affection (Rogers, 1961).

As we develop and start to categorize, identify, and compare ourselves to those around us, the consideration of group membership starts to become more apparent. Social Identity theory proposed by Tajfel (1979) argued that group membership is an important contribution to self-esteem (Tajfel, 1979). The establishment of this theory encompasses the constructs of in-groups and out-groups (Tajfel, 1979). Further, on the relationship between self-esteem and social acceptance, Leary and colleagues introduced the sociometer theory (Leary et al., 1995).

Sociometer theory challenges the theorists such as Maslow (1986), who considered self-esteem as a need; sociometer theory, in contrast, describes self-esteem as an internal system that gauges relational evaluation (e.g., rejection, disapproval, lack of interest) (Maslow, 1986; Leary et al., 1995). The theory assumes that our goal is to seek to improve relational value and social acceptance, using self-esteem as an indicator for relational satisfaction (Leary, 2005).

Research by Leary et al., (1995) solidified the perspective of sociometer theory as participants with low relational value were found to have a

significant decrease in self-esteem when they discovered that another peer did not want to socialize with them and when they could not rationalize that another peer may mistakenly hold a bias towards them. Further, participants who were excluded from a group with an understanding that other participants perceived them as the worst member did not demonstrate significantly lower self-esteem as compared to participants who were still included, but were perceived as the worst member (Leary, 2005). Such experiments conducted by Leary (2005) exemplify the significance of relational value on self-esteem despite erroneous assumptions and inclusion and exclusion with peers.

Conclusion

Based on theory and the examination of other between-groups, an association between identity formation, social acceptance, and self-esteem is evident, even though causal direction is undetermined. We know that individuals who are Hard of Hearing, as a between-group, are particularly open to the effects of their group status on identity formation and social acceptance. Therefore, applying such reasoning we may predict that they are vulnerable to low self-esteem.

Hopefully, future research could validate our theorizations by expanding the examination of self-esteem in individuals who are Hard of Hearing by specifically investigating implications on identity and social acceptance due to their between-group status. Although we are lacking such specific empirical evidence now, we may begin by taking into account the unique but challenging circumstances Hard of Hearing individuals may be experiencing. In light of Hard of Hearing individuals, we may gain appreciation for other between statuses and strengthen psychological well-being for these groups.

Examination of Hard of Hearing individuals may provide us a lens for the development and application of a between group model on identity and self-esteem in general. Such development and application gives us more flexibility on how we think about and apply psychological theories on identity and self-esteem in complex circumstances. As we start to understand the complexity of between statuses, we may begin to develop interventions to mitigate repercussions on self-esteem or well-being.

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Stereotype Threat and Deaf Individuals' English Performance

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Misconceptions and stereotypes about deaf people's verbal intelligence may lead to a social phenomenon known as stereotype threat. When a person is conscious of a stereotype about their group, they may experience stereotype threat, whereby apprehension related to a negative stereotypes undermines performance (Steele, 2010). Participants for the study were 27 deaf undergraduate students, who were randomly assigned to high-threat or low-threat conditions. Threat was induced with a brief introductory statement, and participants were then asked to solve seven anagrams and five questions from the verbal portion of the Graduate Record Exam. Participants were also asked to evaluate their performance. Participants in the high threat condition performed significantly worse than those in the low threat condition on the sample GRE questions indicating that deaf individuals are susceptible to stereotype threat.

Keywords: Deaf, stereotype threat, education

Stereotype Threat and Deaf Individuals' English Performance

There are several stereotypes about deaf¹ people, one of which is the generalization that deaf people have weak English language skills. Braden (1994) found that on average, deaf people receive a verbal IQ score of 85.54, one standard deviation less than their hearing peers. When non-verbal measures of IQ are used, this score rises to an average of 99.95 (Braden, 1994). The underperformance of deaf individuals on measures of verbal intelligence stems in part from a history of faulty intellectual testing on deaf individuals and a lack of research on the impact language deprivation has on verbal reasoning (Braden, 1994). In addition, misconceptions and stereotypes about deaf people's verbal intelligence may also lead to a social phenomenon known as stereotype threat, which occurs when a person is conscious of a stereotype and that they are being evaluated based on this stereotype, resulting in a change of performance.

Although there is research on how stereotype threat impacts people of different ages, genders, and races, there is little research on how stereotype threat impacts people with disabilities, such as deafness. Outdated and faulty intelligence testing perpetuates stereotypes that deaf people have lower English skills, which could impact performance through stereotype threat. If stereotype threat is found to impact deaf individuals, it could perpetuate the achievement gap by causing deaf students to underperform in high stake testing

situations. Accordingly, the current study examines the impact of stereotype threat on deaf students' English language performance.

Stereotype Threat

Kanahara (2006) defined a stereotype as a generalized belief about a group of individuals. When members of stigmatized groups are aware of the stereotypes about their groups, stereotype threat can result. Steele and Aronson (1995) tested the impact of stereotypes of intellectual inferiority on African American undergraduates using standardized testing. When participants were told the purpose of study was to evaluate the intelligence of the African American population relative to other groups, the African American participants faced direct pressure related to the stereotype. As a result, African American participants underperformed relative to their white peers and to the African American participants who were not under direct evaluative pressure (Steele & Aronson, 1995). Stereotype threat has been demonstrated with multiple social groups (e.g. race, class, and gender), and in multiple domains of performance (e.g. verbal ability, math and spatial ability, and athletic ability) (Keller, 2002).

When stereotype threat occurs, a person's chemical arousal heightens, causing anxiety and fear of negative feedback, which can impact one's performance (Baddeley, 1983). The changes in chemical arousal due to stereotype threat also impact cognitive functioning related to working memory, the ability to temporarily store information relevant to

the performance of cognitive tasks (Baddeley, 1983). Schmader and Johns (2003) found that women in stereotype-threatening environments had a lower working memory capability than women in the control group, who were not exposed to a stereotype-threatening environment (Schmader & Johns, 2003). Similarly, Latinos showed a marginally higher working memory capability than white men when not exposed to stereotype threat, but when stereotype threat was applied, Latinos performed worse than white men (Schmader & Johns, 2003).

Stereotype threat does not only impact actual performance but perceived performance as well. In a series of experiments, Forbes and colleagues found that women who completed math tests in stereotype threatening situations rated their performance Differences in performance are moderated by family and educational background, suggesting the importance of privileges and opportunities, especially exposure to rich language environments negatively than women who did not experience stereotype threat (Forbes, Duran, Leitner, & Magerman, 2015). Individuals experiencing stereotype threat were more likely to encode negative feedback than positive feedback. When experiencing stereotype threat, the individual's chemical arousal increases memory encoding, producing increased anxiety and negative perception on performance even if the stigmatized person performed as well as peers (Forbes, Duran, Leitner, & Magerman, 2015). Consequently, experiencing stereotype threat can undermine confidence and can decrease motivation to persist in domains relevant to the stereotype (Steele, 1997).

Stereotype threat is highly situational, depending on the relevance of the stereotype involved, the task, and the features of the situation (Nguyen, & Ryan, 2008; Steele, Spencer, & Aronson, 2002). The impact of stereotype threat is determined, in part, by the strength of the stereotype itself (Steele, Spencer, & Aronson, 2002). If a stereotype were to demean the person's whole group, the impact of stereotype threat is likely to be greater. Stereotype threat may be less likely to occur when individuals do not believe the stereotype or believe that the stereotype does not apply to them or their current situation (Smith and Huang, 2008; Steele, Spencer, & Aronson, 2002). For example, when African Americans believed that they were tested on ability alone and that the expectations of stereotypes did not apply, their performance was equal to their peers (Smith & Huang, 2008). Consequently, stereotype removal strategies (i.e. presenting individuals with counter-stereotypic information), may buffer

individuals from the negative effects of stereotype threat (Nguyen & Ryan, 2008). The effect of stereotype threat can also depend on how subtly or blatantly the stereotyping trigger is presented (Keller, 2002), but the direction of this effect seems to vary based on the population and performance outcome measured (Nguyen, & Ryan, 2008).

Additional situational factors for stereotype threat include task difficulty and diagnosticity. A difficult and frustrating test increases pressure on the person to disconfirm the stereotype and also requires greater cognitive resources, making stereotype interference more disruptive. As a result, meta-analysis shows that effects of stereotype are stronger on difficulty tasks than on easy or moderate tasks (Nguyen, & Ryan, 2008). Additionally, if the task can directly measure and confirm the stereotype (diagnosticity), participants will feel a heightened amount of pressure, resulting in greater impact of stereotype threat (Steele, Spencer, & Aronson, 2002).

Stereotype Threat and Deaf Children's Academic Performance

Evidence of deaf children's performance on standardized tests in a general educational setting finds that the average deaf child underperforms relative to hearing peers (Antia, Jones, Reed, & Kreimeyer, 2009). In math, sixty-three to seventy-nine percent of deaf children performed on the average grade level. In language and writing, fifty-five to seventy-six performed on average, equal to their hearing peers. In reading, forty-eight to sixty-eight percent of deaf children performed within an average range over the course of five years. As a whole, deaf people scored an entire standard deviation lower than their hearing peers in standardized testing (Antia, Jones, Reed, & Kreimeyer, 2009).

Family and educational background moderate differences in performance. This suggests the importance of privileges and opportunities, especially exposure to rich language environments. Children typically acquire some degree of language from their parents. Deaf people with deaf parents are more likely have increased access to American Sign Language mirroring linguistic developments of their hearing peers. Although many hearing parents do provide their children with access to sign language, many deaf children of hearing parents may not be exposed to a rich language environment during sensitive periods of language development (Braden, 1994). Braden (1994) found that on average, deaf people with hearing parents tested as having an IQ of 99.21. However, deaf people with hearing parents

and deaf siblings were found to have an average IQ of 103.63. Deaf people with deaf parents were found to have an average IQ of 108 (Braden, 1994). Padden and Ramsey (2000) assessed deaf children's performance on standard tests of reading ability and found that deaf children of deaf parents performed better in residential schools for the deaf than in mainstreamed environments. Deaf children from hearing parents, however, performed equally well in the two environments (Padden & Ramsey, 2000).

Currently, there is little research documenting the extent to which deaf individuals are aware of the existing stereotypes related to deafness. Evidence does suggest, however, that deaf children may perceive biases in the classroom and may be held to different standards than their hearing peers. Smith (2013) found evidence that teachers often held low expectations of deaf students or did not invest in their learning. In regards to learning English, one participant in Smith's study reported that teachers would correct her grammar without providing feedback. She had to take the initiative and constantly ask for feedback and not just corrections. Another participant reported that she felt, "spoon fed" because her teacher would make all the corrections for her without being involved in the process. Deaf participants identified their worst teachers as having low expectations and insensitivity to their needs as deaf individuals (Smith, 2013). Should deaf individuals be exposed to stereotypes and lower expectations related to the skills of reading and writing skills, stereotype threat could occur, further undermining deaf people's performance in various testing environments.

One approach to educating deaf people is the mainstreaming approach, when a deaf person is placed in a public school with special accommodations (Braden, 1994). Previous research has shown that being the sole member of a stigmatized group can be a trigger for stereotype threat (Schmader & Johns, 2003). If stereotype threat is found to impact deaf people, mainstreamed children may be more likely to be exposed to stereotype threat. The stereotype expectations may be more salient in mainstreamed environment due to the large presence of hearing people in the environment. This may contribute to the underperformance of deaf students in mainstream educational settings (Padden & Ramsey, 2000).

To our knowledge only one study has directly assessed stereotype threat in deaf populations. Kelly and colleagues (Kelly, Hauswer, Jamieson, & Berent, 2018) tested the effects of

stereotype threat on deaf and hard of hearing undergraduate students math performance. Half of participants were told that hearing students perform better than deaf and hard of hearing students on math tests, while the other half was told there was no difference in math performance between the two groups. Deaf and hard of hearing students who were exposed to the threatening condition performed significantly worse on arithmetic problems than those in the non-threatening condition. Stereotype threat also seemed to affect performance of math questions from the Graduate Record Exam (GRE), but this association was only significant among hard of hearing students. The data further show that the effects of stereotype threat were moderated by gender. Deaf and hard of hearing women scored lower than deaf and hard of hearing men, regardless of threat condition, and the negative effect of exposure to the threatening condition emerged only among men (Kelly et al., 2018). For participants in both conditions, the initial prompt may have served to emphasize the diagnosticity of the tests. Given the prevailing stereotype that men are better than women at math (Keller, 2002), emphasizing the tests' diagnosticity may have elicited stereotype threat and suppressed women's math scores regardless of any threat associated with being deaf or hard of hearing.

The goal of the current study is to explore if the stereotype that deaf individuals have inferior skills in reading and writing can elicit stereotype threat, thereby impacting performance among deaf individuals. Steele and Aronson (1995) examined the impact of stereotype threat on African American students' English language performance, and found that African-American students in a high-threat condition performed significantly worse on sample Graduate Record Examination (GRE) questions and anagrams, than students in a low threat condition. Based on Steele and Aronson's (1995) study, we expect that the participants exposed to the stereotype that deaf individuals are inferior in reading and writing skills will perform worse on sample GRE questions and anagrams. Furthermore, based on work by Forbes, Leitner, and Magerman (2015), we expect that participants exposed to the negative stereotype about deaf individuals will evaluate their performance more negatively than participants who were not exposed to the stereotype.

Methodology

Participants

The participants ($N=29$) recruited for this study deaf and hard-of-hearing students at Gallaudet University. The participants were recruited by an

advertisement in the Student Pulse newsletter that is distributed to all undergraduate students at Gallaudet University. One psychology professor allowed students to participate for extra credit.

Procedure

Each participant was tested in the same experiment room with the same examiner. When the participants arrived to the room, they were given an informed consent form explaining that the purpose of the study was to better understand the relationship between Deaf identity and language skills.

Participants first responded to demographic questions and completed the Deaf Acculturation Scale, which measures a person's Deaf social identity based on one's acculturation to Deaf culture and one's acculturation to hearing culture in five domains: cultural identification, cultural involvement, cultural preferences, cultural knowledge, and language competence (Maxwell-McCaw & Zea, 2010). Participants responded to 58 questions, with response options ranging from 1 (strongly disagree) to 5 (strongly agree). Responses were scaled to reflect two dimensions, acculturation into Deaf culture and acculturation into hearing culture.

Next, participants were randomly assigned to condition, and stereotype information was presented to participants in the high-threat group. Following the work of Steele and Aronson (1995), stereotype threat was triggered through the brief introduction to the purpose of the study. Specifically, the experimental (high-threat) group received a brief explanation that deaf people tend to underperform in English, whereas the control (low-threat) group received no such explanation. This was the only difference between the two groups.

All participants were then asked to solve seven anagrams. Each anagram consisted of five letters written on an index card and were selected because they were commonly used words that college students would be familiar with.

Participants also completed five questions from the Graduate Record Exam (GRE) verbal portion. Since the sample groups were comprised of college students, the participants were expected to have the competency of high school English or better. Questions from the GRE were chosen because it is a well-known and respected test that would challenge college level students. The verbal portion of the GRE tests participant's English skills like completing sentences, analogies, antonyms, and reading

comprehension (Peterson, 2015). The questions were selected from each question format of the verbal portion in a GRE practice booklet. Responses were scored on whether or not the answers were correct, and the total number of correct responses was used as a measure of GRE performance. After completing the anagram and GRE questions, participants were asked to rate their performance on each task on a scale from 1 (badly) to 10 (great).

Overall, this procedure resulted in four dependent variables: number of anagrams solved, evaluation of anagram performance, GRE score, and evaluation of GRE performance. After completing all measures, participants were debriefed on the true purpose of the study.

Results

Preliminary Analysis

Twenty-seven of the original 29 participants matched the criteria of the study. One participant was hearing and the other had dyslexia and opted not to complete the anagrams. Accordingly, these two participants were excluded from analyses. The average age of the participants was 21 years old ($SD=2.08$). Eighteen of the participants were female, eight were male, and one did not identify with either category. Twenty participants (74%) identified as White, two (7%) identified as African-American, one (4%) identified as Latinx, and four (15%) identified as biracial. On average, participants self-reported an ASL competency of 8.43 out of 10 ($SD=1.29$) and an English competency of 8.15 on a scale of 1 to 10 ($SD=1.34$). The Deaf Acculturation Scale showed that participants had an average Deaf acculturation of 4.16 ($SD=0.43$) out of 5 and a hearing acculturation of 2.83 ($SD=0.45$) out of 5, indicating that, on average, the sample was highly acculturated into Deaf culture, but only moderately acculturated into hearing culture.

Testing the Impact of Stereotype Threat

The four dependent variables of this study are the number of anagrams solved, self-evaluation of performance on the anagrams, the number of correct answers on GRE questions, and the self-evaluation of performance on the GRE questions. The mean (M) and standard deviation (SD) of each dependent variable for the high- and low-threat conditions is shown in Table 1 in the Appendix.

MANOVA was used to evaluate the effect of threat condition on the four dependent variables, with age, gender, race, Deaf acculturation, and hearing acculturation included as covariates. Overall, there was a significant effect of threat condition, $F(4,16)=6.46, p=0.003, \eta^2=0.62$. Analysis of the

univariate tests indicate that this effect was significant only for GRE scores. Participants in the high-threat condition performed significantly worse on the sample questions from the GRE ($M=1.35$, $SD=0.80$) than the participants in the low-threat condition ($M=1.89$, $SD=0.86$), $F(1,19)=6.59$, $p=0.02$, $\eta^2 = .26$. There were no significant effects of threat condition on the number of anagrams solved, $F(1,19)=0.40$, $p=0.53$, $\eta^2 = .02$, self-reported feeling of performance on the anagrams, $F(1,19)=1.15$, $p=0.30$, $\eta^2 = .06$, or self-reported evaluation of performance on the sample GRE questions, $F(1,19)=0.36$, $p=0.55$, $\eta^2 = .02$.

Deaf acculturation was also associated with performance $F(4,16)= 4.7$, $p=0.011$, $\eta^2 =0.540$. Univariate analyses revealed that this association was significant only for score on the GRE questions. Participants with stronger connections to and identification with Deaf culture performed significantly better on the GRE questions than participants whose connections were not as strong $F(1,19)=9.51$, $p=0.01$, $\eta^2 = .33$. Additionally, gender was associated with performance at the multivariate level, $F(4,16)=7.99$, $p=0.001$, $\eta^2 = .66$. Inspection of the univariate analyses found no significant associations between gender and performance, however there were non-significant trends. Specifically, while women tended to score better on the GRE questions ($M=1.69$, $SD=0.88$) than men ($M=1.38$, $SD=0.83$), $F(1,19)=3.71$, $p=0.07$, $\eta^2 = .16$, evaluations of GRE performance tended to be higher among men ($M=5.75$, $SD=1.75$) than women ($M=4.06$, $SD=1.80$), $F(1,19)=3.86$, $p=0.06$, $\eta^2 = .17$,

Discussion

Deaf individuals have a long history of faulty research that allows for the assumption and stereotype that deaf individuals have weak English skills (Braden, 1994). Results from the current study show that exposure to negative stereotypes about deaf individuals English skills can undermine performance on challenging English language tasks. Accordingly, stereotype threat may contribute to achievement gaps between deaf and hearing individuals in educational and work environments.

In this study, participants in the high-threat condition performed significantly worse than participants in the low-threat condition on the GRE questions, but there was no effect of conditions on anagram performance. Steele and Aronson's (1995) study aggregated anagram and GRE performance into a single indicator, and thus did not compare effects between the two outcome measures. One possible interpretation of the discrepancy between anagram

and GRE performance is that the anagrams did not meet Steele, Spencer, and Aronson's (2002) criteria for eliciting stereotype threat: task difficulty and diagnosticity. The anagrams may not have presented sufficient challenge for the participants and they may not have been seen as a formal, diagnostic measure of English language skills. In contrast, the GRE is a respected and well-known test, and highly relevant for college students.

Results also showed that participants with a higher Deaf acculturation performed significantly better on the sample GRE questions. Associations between Deaf acculturation and performance on the GRE questions may reflect the benefits of early exposure to ASL and family and educational experiences that provide a rich language environment. The Deaf Acculturation Scale (Maxwell-McCaw & Zea, 2010) includes questions about comfort and competence with ASL as well as knowledge of and immersion in Deaf culture. Accordingly, participants who grew up with Deaf parents, who attended Deaf residential schools, and who were immersed in Deaf culture and exposed to ASL at earlier ages are likely to score higher on this measure than individuals who grew up in immersed in hearing culture (Johnson, 1997). Early exposure to language is critical for subsequent language and cognitive development and may therefore explain the association between Deaf acculturation and GRE performance. Padden and Ramsey (1998) found that ASL usage, specifically fingerspelling, in deaf children had a positive impact on reading ability by promoting language development (Padden & Ramsey, 1998). The importance of exposure to environments rich in Deaf culture and ASL is further supported by findings that deaf children who have grown up in language rich environments with deaf parents and in a residential school for the deaf have outperformed other students (Braden, 1994). Schick and colleagues (2007) found that deaf children from deaf families were on par with their hearing peers in terms of vocabulary and understanding of syntactic complements being predictors of success on verbal and low-verbal tasks (Schick, DeVilliers, DeVilliers, & Hoffmeister, 2007).

Associations between gender and GRE performance and evaluation should be interpreted with caution. Women in our sample tended to rate their GRE performance lower than men did, even though their actual scores tended to be higher than men's. In conjunction with the findings of Kelly and colleagues (2018), these findings suggest that even when triggering other domains of stereotype threat, gender stereotypes might still impact women's

performance and their evaluation of their performance.

The finding of this study suggests that stereotypes that deaf individuals have lower skills in reading and writing skills may perpetuate achievement gaps by leading to lower performance in challenging situations. This should be taken into consideration when a deaf individual's intelligence, competence, or ability is being measured. Stereotype threat could impact formal assessments, such as standardized or IQ testing, or informal assessments, such as a job interviews conducted by hearing professionals. The findings of this study should be taken into consideration when deaf individuals undergo assessment. Emphasizing interviewees' or test takers' deafness could cause undue pressure to represent the entire Deaf community, and this pressure could impact performance. Professionals should avoid displaying bias or stereotypical expectations and also take stereotype threat into consideration when reporting the intelligence of deaf individuals. Future research should also examine the effectiveness of stereotype removal strategies among deaf populations. If shown to be effective, stereotype removal strategies could be applied in a range of settings to reduce performance gaps.

Future work is needed to replicate this finding and extend it to other settings and populations. The researcher who ran participants through the experimental protocol was a white, deaf, female, fluent in ASL, and visible on the campus of Gallaudet University, a University for the deaf, where the study took place. Participants may have been familiar with the researcher, and this may have lessened the impact of stereotype threat since the pressure to represent the Deaf community and people may have been less prominent. In contrast, a hearing researcher collecting data at a predominately hearing University might have heightened the pressure to represent the Deaf community, and consequently, strengthened the impact of stereotype threat. With further research, these findings could more fully contribute to the understanding of performance of deaf children in a mainstreamed environment where they are the only representation of deafness compared to a school for the deaf.

A further limitation of this study was the small and somewhat homogenous sample of Gallaudet University students. Recruiting from Gallaudet resulted in a sample with high levels of exposure to the Deaf community and ASL, as shown by the high average scores of Deaf acculturation. Future research should examine stereotype threat

among individuals who are less identified with the Deaf community. Future research should also include participants with varying educational backgrounds. McGlone and Aronson (2006) found that making women consciously aware of the positive expectations of their private college education mitigated the effects of gender based stereotype threat. Students in the current study might have used their identification as Gallaudet students to buffer some of the effects of stereotype threat, and future research should examine the impact of stereotype threat in various educational contexts. Deaf individuals working or being tested in an environment where they are the only deaf person may be especially susceptible to stereotype threat, and future research must address the impact of stereotype threat in a mainstream educational settings.

Despite the limitations, the current study is the first to document the experience of stereotype threat among deaf individuals, and suggests that deaf individuals are susceptible to stereotype threat. Future research should explore the possible impact of stereotype threat more broadly on the disability community. If deaf people's performance is negatively impacted by stereotype threat, research can identify ways to reduce stereotype threat and allow Deaf individuals to learn and be tested in an environment that is designed for them. This will promote accurate research and assessments on Deaf individuals.

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Appendix

Table 1: Descriptive Data for the Dependent Variables

	Low Threat <i>M (SD)</i>	High Threat <i>M (SD)</i>
Number of Anagrams Solved	4.71 (1.49)	4.54 (1.76)
Evaluation of Anagram Performance	4.50 (2.57)	5.77 (1.96)
GRE Questions Answered Correctly	1.89 (0.86)	1.35 (0.80)
Evaluation of GRE Performance	4.93 (2.09)	4.39 (1.81)



Jessica Kales, B.A., is a second year graduate student currently pursuing her Masters of Arts degree in Clinical Mental Health Counseling at Gallaudet University. She graduated in 2017 from Gallaudet University with a Bachelors of Arts in Psychology. Jessica Kales has a research interest in Social Psychology and it's application to therapy and education.

Editors-in-Chief



Gregory Farber, B.S., is a sixth-year deaf Clinical Psychology PhD student at Gallaudet University and has served as co-editor of the *Gallaudet Chronicles of Psychology* since 2014. As a co-Editor, Greg has overseen the publication of several volumes. Previously, Greg attended Rochester Institute of Technology where he obtained a Bachelor of Science degree in Psychology. Greg's research interests are closely related with areas of D/deafness, development of D/deaf individuals, and the Deaf community. In the future, Greg hopes to become a Clinical Psychologist serving Deaf community and a professor of psychology. He also hopes to specialize in Developmental Neuropsychology. While in Gallaudet, Greg

noticed that the majority of studies and research that his fellow students conduct remain unknown. This observation brought him to the idea of reactivation of the *Gallaudet Chronicles of Psychology*, a journal where Gallaudet students could publish their findings. He remains aligned with his goals for the *Chronicles of Psychology*- promoting psychological research related to disability and deafness and helping his fellow graduate students to share their works with the rest of the D/deaf community.



Garry Wright, M.S., M.A. is a clinical psychology doctoral candidate at Gallaudet University and has been co-editor of the *Gallaudet Chronicles of Psychology* since 2017. He took a more active role in the peer-review research process at Gallaudet University because he believed the *Chronicles* is crucial in the dissemination of literature and research, particularly in regards with research involving deaf and hard of hearing participants who have been historically underrepresented in the psychology literature. Garry received a bachelor's degree in psychology from Purdue University; a master's and educational specialist degree in counseling psychology from the University of Kentucky. While in Kentucky he completed a one-year internship at the Kentucky School for the Deaf. His previous practicum experiences include Gallaudet University's Counseling and Psychological Services (CAPS) and Parent-Child Interaction Therapy (PCIT) Clinic, Children's National Medical Center, Multicultural Clinical Center,

Community Counseling and Mentoring Services, and Kennedy Krieger Institute. He is currently completing his pre-doctoral internship at Nationwide Children's Hospital. His clinical and research interests include neurodevelopmental evaluation of children with hearing loss, neurobehavioral outcomes of children with congenital cytomegalovirus (CMV), performance and symptom validity testing in the pediatric population, and attitudes/beliefs of American Sign Language (ASL) interpreters regarding mental health interpreting.

Faculty Editorial Supervisor



Dr. Lori Day, Ph.D., received her Ph.D. in Clinical Psychology from Gallaudet University. She completed her internship at Baylor College of Medicine in Houston, Texas and her post-doctoral training in Pediatric Neuropsychology at The Kennedy Krieger Institute/Johns Hopkins Medical School. She has been a faculty member in the Clinical Psychology Doctoral Program since 2012, where her responsibilities include teaching, research, supervision, and mentoring of graduate students. Her current research interests include: adapting Parent-Child Interaction Therapy (PCIT) to be accessible for deaf individuals, adapting psychological measures for deaf individuals, and reducing stigma and bias in clinical training for deaf students. Dr. Day is a member of the Editorial Board for *The Journal of Deaf Studies and Deaf Education*. Her most recent publications

have included articles in *Rehabilitation Psychology* and *Cognitive and Behavioral Practice*. She has also presented her research at local, national, and international conferences. She is committed to involving graduate students in all aspects of the research process, including publication and dissemination of findings.



Mrs. Rena “Liz” Courtney, Ph.D., graduated from the University of Virginia in 2012 with a Bachelor’s Degree in Psychology, from Gallaudet University in 2016 with a Master’s Degree in Psychology and with a PhD in Clinical Psychology from Gallaudet University in August 2018. Mrs. Courtney is interested in research concerning the mind-body connection that occurs during exercise, as well as how exercise can be used to recover from trauma-related illnesses, particularly PTSD. She is currently completing her clinical psychology internship at the Salem VA Medical Center and has accepted a postdoctoral fellowship at the Salem VA Medical Center for next year with a focus on evidence-based practices.



Stacy Nowak, Ed.D. is a faculty member in the Communication Studies program at Gallaudet University. Born deaf to deaf parents, Stacy was educated in a variety of educational environments. She holds bachelor’s degrees in English and Communication Studies from Gallaudet University, a master’s degree in Deaf Education from McDaniel College, a master’s degree in Administration and Supervision from Gallaudet University, and a Ed.D in Deaf Education from Gallaudet University. She is currently pursuing her Ph.D in deaf education with a concentration on student athletes and deaf sports.



Allison Beckmann, B.A., is currently a Ph.D. student in the Clinical Psychology program at Gallaudet University. She earned her Bachelor of Arts degree in Psychology from Iona College, New Rochelle, N.Y. Allison’s research aims to identify prevalence of suicide risk in D/deaf and hard-of-hearing populations. More specifically, her current work examines the influence of attachment style and acculturation on risk for suicide in these groups.



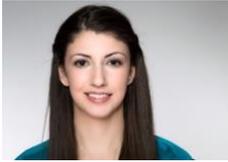
Julie Tibbitt, a PhD Candidate in the Department of Education at Gallaudet University, has been a peer reviewer for the Psychology Chronicles since 2014. Her main research interests lie in fair assessment of deaf and hard of hearing learners. She is currently Principal of American School for the Deaf I’m West Hartford, Connecticut.



Aileen Aldalur, M.A., is currently a 4th year student in the Clinical Psychology PhD program at Gallaudet University. She has been involved in research since her undergraduate career and has presented at several professional conferences and published papers related to Deaf acculturation, acculturative stress, media, body image, eating disorders, and writing accessible psychological reports for linguistic minorities. Her clinical interests focus on the provision of culturally appropriate mental health services to the Deaf and hard of hearing population. During her free time Aileen loves to run, cycle, backpack, dance salsa, and binge-watch Netflix series.



Jesús (Jay) Omar Barreto Abrams, M.A., is a fifth-year doctoral student in clinical psychology at Gallaudet University. He joins us this semester as a first-time peer-reviewer. However, he has been a peer reviewer in selecting abstracts for presentation in various national conferences in the past. Mr. Barreto Abrams has presented in local, state, and national conferences on topics of research interest such as early intervention for Deaf and Hard of Hearing infants and toddlers, vicarious trauma in interpreters, and assessments for Deaf, DeafBlind, and Hard of Hearing consumers. Mr. Barreto Abrams loves traveling during his free time with a pending trip to Iceland this summer.



Gillie Barrett, M.A., received her B.A. in Communication Arts and Sciences at The Pennsylvania State University. She is currently a PCIT certified therapist. At this time, Gillie has completed her predissertation titled, “Developing an Understanding of Quality Communication in Families with Hearing Caregivers and a Deaf Child, perceived by the Child,” and is beginning her dissertation. Her dissertation explores the skills taught in Parent Child Interaction Therapy (PCIT) with both oral and signing deaf individuals. She has also published an article titled “Deaf adolescents in a hearing world: a review of factors affecting psychosocial adaptation” with Patrick Brice, Ph.D. Previously, Gillie externes at the River School in Washington D.C., and she is now at the duPont Hospital in Wilmington, DE.

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