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## Media Portrayals of Autism Spectrum Disorder: A CARS2 and Frame Analysis of the Sesame Street Character Julia

Sallyann Ficarrotta

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MEDIA PORTRAYALS OF AUTISM SPECTRUM DISORDER: A CARS2 AND FRAME  
ANALYSIS OF THE *SESAME STREET* CHARACTER JULIA

By

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A thesis submitted in partial fulfillment

of the requirements for the

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Hank Greenspun School of Journalism and Media Studies

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## Thesis Approval

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## ABSTRACT

Media Portrayals of Autism Spectrum Disorder: A CARS2 and frame analysis of the *Sesame Street* character Julia

Media portrayals of Autism Spectrum Disorder (ASD) are grossly exaggerated and inaccurate. Julia, a Muppet with ASD, is not depicted as having high-functioning autism, but most of the exaggerated portrayals depicted in movies and television are of a person on that end of the spectrum. The current study, a quantitative content analysis of Julia from *Sesame Street*, draws from framing theory, most importantly stigmatizing cues, and utilizes the professional assessment tool, the Childhood Autism Rating Scale (CARS2). The tool was used to rate the severity of Julia's autism symptomology. Frames were used to analyze the dialogue surrounding Julia, and the CARS2 was employed to analyze her portrayal. Fewer socially stigmatizing cues were found in this media content than were found in previous research, implying that Julia was stigmatized less than others. Julia's CARS2 scores placed her in the average autism symptomology group, implying that Julia's ASD symptoms are not exaggerated like other television shows have portrayed those characters with autism. She does, however, exhibit exceptional abilities or "peak skills". People with ASD have a lack of voice regarding their portrayals, so accuracy of representation is crucial. Ultimately Julia's character has the potential to improve the interactions between children with ASD and their typical peers.

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# CHAPTER 1

## INTRODUCTION

Previous content analyses have found portrayals of characters with Autism Spectrum Disorder (ASD) are grossly exaggerated and inaccurate (Holton, Farrell, & Fudge, 2014; Holton, 2013; Clarke, 2011; Belcher & Maich, 2014; Conn & Bhugra, 2011; Garner, Jones, & Harwood, 2015). The majority of stereotypes associated with ASD involve a high intelligence, or a super-human quality. They are portrayed as super geniuses (Belcher & Maich; Conn & Bhugra; Garner, Jones, & Harwood). The attempt on the part of the media to represent people with ASD has also constructed potentially widespread biases (Belcher & Maich).

Belcher and Maich (2014) found that media portray characters with autism as “heroes, conquering seemingly impossible odds” (p. 109). Conn and Bhugra’s (2011) study also found that autism in Hollywood films was mostly dramatic and rarely realistic. “Inevitably, most films are made for entertainment rather than education, but film auteurs have a public duty to ensure that their portrayals are reasonably accurate” (p. 61). On September 25, 2017, *The Good Doctor* premiered on ABC and *Young Sheldon* premiered on CBS. *Young Sheldon* is a spinoff of Sheldon Cooper’s character from *The Big Bang Theory*. These are recent examples of the stereotyped genius with ASD. *The Good Doctor* averaged 17.5 million viewers per episode, exceeding NBC’s *This is Us* and *NCIS*, the station’s highest watched shows (Jurgensen, 2017).

Television grants viewers an extended sense of “otherness”, a sense of social groups beyond their own (Saenz, 1994), and it might provide the best presentation of different types of people that children will see during their childhood (Reeves, 1979). “The ways in which children learn to differentiate people may be very important in determining... children’s real-life

perceptions and dealings with other people” (p. 116). Because of the large amount of television children, and people in general, watch there has been a lasting concern about what television is “doing” to children (Leibert, Sprafkin, & Davidson, 1982; Baran, & Davis, 1995). Television can teach and influence children and adults through examples of the roles, relationships, and values that are implicit in the TV they see, and they use that information to help themselves with everyday situations (Leibert, Sprafkin, & Davidson; Davis & Baran, 1981).

Media also provide information that stimulate changes (positive or negative) regarding health-related attitudes (Brown & Walsh-Childers, 1994), and might also contribute to the way in which people make decisions about their health (Brown & Walsh-Childers; Wallack, 1993). The measles, mumps, and rubella (MMR) vaccine was falsely accused of causing autism in children (Bedford & Elliman, 2010; Godlee, Smith, & Marcovitch, 2011; Rao & Andrade 2011; Thomas, 2010). Though the falsity that came from Wakefield’s (1998) study has been disproved by many, there is still fear associated with the MMR vaccine and an ASD diagnosis (Holton, Farrell, & Fudge, 2014; Schreck, Russell, & Vargas, 2013; Holton, Weberling, Clarke, & Smith, 2012; Smith, Ellenberg, Bell, & Rubin, 2008). It is reasonable to suggest that representations and portrayals of ASD have real-life implications.

### **Autism Spectrum Disorder**

Most of the exaggerated portrayals depicted in television and movies are of a person with Asperger’s syndrome (high-functioning autism) versus a person on the other end of the spectrum. The super-genius is the most commonly depicted character with autism (Belcher & Maich, 2014; Conn & Bhugra, 2011). All of the characters with ASD in film and television are played by actors who do not have ASD. This means the research behind their portrayals is extremely

important, but even so, the representations are not real. People with ASD have deficits in social communication (APA, 2013), so it is assumed they would also have difficulty speaking up about the accuracy of media portrayals of autism.

More than 3.5 million Americans live with ASD (Beuscher et al., 2014). The characters that play them (many detailed in Chapter 2) do not depict the medical costs and burdens real people face. Children with autism incur 2.5 times as much outpatient costs, 2.9 times as much inpatient costs, and 7.6 times as much medication costs as other children (Ganz, 2007). People might think of autism as a childhood disorder, but those children grow up. A majority of the costs for autism in the U.S. are in adult services, ranging from \$175 to \$196 billion, compared with \$61 to \$66 billion a year for children (Beuscher et al.). The lifetime per capita incremental societal cost for a person with ASD is \$3.2 million, and \$35 billion for an entire cohort (Ganz). Autism services cost U.S. citizens \$236 to \$262 billion annually (Beuscher et al.).

Direct medical costs are high the first 5 years of life (approximately \$35,000) (Ganz, 2007). Those costs decline (approximately \$6,000) between ages 8 to 12 and decline through the end of life. Direct nonmedical costs vary between \$10,000 to approximately \$16,000 during the first 20 years of life. That total peaks around ages 23 to 27 (approximately \$27,500). Direct nonmedical costs decline steadily to the end of life (approximately \$8,000). Indirect costs also decrease in early life (from approximately \$43,000), peak from ages 23 to 27 (approximately \$52,000), and then decline through the end of life (p. 346). The typical American incurs about \$317,000 over his or her lifetime in direct medical costs, incurring 60% of those costs after 65 years of age (Alemayehu & Warner, 2004). People with autism spend twice as much as other Americans over their lifetime and spend 60% of incremental direct medical costs after 21 years of age (Ganz). The above estimates are conservative because they do not include many important

elements, such as legal costs families incur, lost productivity of those other than parents, costs of genetic testing, full costs of alternative therapies, diets, and other factors. It is unclear how many people with ASD are employed, but as of (2014) 16.8% of the U.S. population with disabilities was employed compared to 65% of people without disabilities (Bureau of Labors Statistics).

As of May 2013, psychologists and psychiatrists use the criteria set forth in the *Diagnostic and Statistical Manual of Mental Disorders: DSM-5* to diagnose autism spectrum disorder. The *DSM-5* eliminated previous diagnoses such as, Asperger's syndrome (AS), pervasive developmental disorder-not otherwise specified (PDD-NOS) and Rhett's syndrome (RTS). All diagnoses now fall under the single category of ASD. The *DSM-5* contains the following medical definition for Autism Spectrum Disorder (APA, 2013):

There are diagnostic criteria that decipher a diagnosis of Autism Spectrum Disorder. The person must show persistent deficits in social communication and social interaction across multiple contexts, manifested by the following deficits either currently or in their history: 1) Deficits in social-emotional reciprocity ranging from abnormal social approach and failure of normal back-and-forth conversation; reduced sharing of interests, emotions, or affect; and/or failure to initiate or respond to social interactions; 2) Deficits in nonverbal communicative behaviors used for social interaction, from poorly integrated verbal and nonverbal communication; abnormalities in eye contact and body language or deficits in understanding and use of gestures; and/or a total lack of facial expressions and nonverbal communication; 3) Deficits in developing, maintaining, and understanding relationships, from difficulties adjusting behavior to suit various social contexts; difficulties in sharing imaginative play or in making friends; and/or absence of interest in peers (p. 50).

The diagnosed person must exhibit at least two of the following restricted, repetitive patterns of behavior, interests, or activities currently or in their history: 1) Stereotyped or repetitive motor movements, use of objects, or speech. For example, simple motor stereotypies such as lining up toys or flipping objects, or echolalia (repeating words back); 2) Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior. For example, one finds extreme distress at small changes and experiences difficulties with transitions, rigid thinking patterns, and greeting rituals. One might need to take the same route or eat the same food every day; 3) Highly restricted, fixated interests that are abnormal in intensity or focus, for example, strong attachment to or preoccupation with unusual objects, and/or excessively circumscribed or perseverative interests; 4) Hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment, for example, apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, and/or visual fascination with lights or movement (p. 50).

Symptoms must be present in the early developmental period but may not become fully manifest until social demands exceed limited capacities or may be masked by strategies learned later in life. Symptoms cause clinically significant impairment in social, occupational, or other important areas of current functioning (p. 50).

### ***Sesame Street History***

The non-profit organization responsible for *Sesame Street*, Sesame Workshop, was originally Children's Television Workshop (CTW) before the name changed in 2000. Despite the name change, *Sesame Street* and Sesame Workshop continued the same mission.

*Sesame Street's* mission statement: Sesame Workshop is the nonprofit educational organization behind *Sesame Street* and so much more. Our mission is to help kids everywhere grow smarter, stronger, and kinder—and we're at work in more than 150 countries, using the power of media and our beloved Muppets to meet children's development needs with critical early education, social impact programs, and a large dose of fun! (Sesame Workshop, 2017)

CTW was established in March of 1968. Joan Ganz Cooney was the first director. Cooney collaborated with Lloyd Morrisett, vice president of the Carnegie Corporation, in writing the original *Sesame Street* proposal. Cooney held five *Sesame Street* planning seminars with leadership from Harvard University professor Gerald Lesser and contributions from CTW members. The seminars led to a broad range of goals for *Sesame Street*: social, moral, and affective development; reading and language; mathematical and numerical skills; problem solving; and perception (Lesser & Schneider, 2001). CTW was backed by grants totaling \$8 million for a project that was expected to last two years. Half of the money was funded by the U.S. Department of Health, Education, and Welfare, and the remainder was funded mostly by Corporation for Public Broadcasting, Carnegie Corporation, and the Ford Foundation.

The Civil Rights movement of the 1960s had drawn national attention toward the needs of inner-city children, and provided an atmosphere for social change (Fisch, 2004). The goal of the program was to advance school readiness in children aged 3 to 5 with special emphasis on children from minority backgrounds and low-income households. *Sesame Street* was in the planning stage for 18 months. CTW utilized in-house researchers and educators. Educational Testing Service (ETS) was contracted to evaluate *Sesame Street's* impact. The script writers were comprised of successful, commercial television producers. They worked closely with the



in-house educators to ensure a nice balance between education and entertainment. After a year and a half of planning, *Sesame Street* was introduced to the public on November 10, 1969.

*Sesame Street* was the first television series that attempted a curriculum that detailed measurable outcomes (Palmer, 2001). The research team was on the set with the production team during filming. It was not common to incorporate research into a television production or an educational design. Although other producers had tested rough cuts on audiences before, no show had ever developed research methods that assessed the attributes that contributed to a program's effectiveness (Palmer). CTW had high production values and a wide range of important topics to cover. The team was committed to a number of goals and utilized research to test if they were achieved. Research was originally conducted in-house by CTW or contracted to outside researchers. *Sesame Street* has been researched more than any other program or series on television (Mielke, 2001). CTW strived to ensure that the audience was a diverse group of preschoolers, from different races, geographical locations, income, educational background, and those lacking adequate healthcare (Ball & Bogatz, 1970; Mielke, 1994).

Formative research played a critical role in *Sesame Street*'s production decisions (Fisch & Truglio, 2001). With so many different topics and measures to cover, the *Sesame Street* team developed a "Writer's Notebook" that researchers and experts utilized to construct ideas, enhance others' ideas, and form concepts. Early in-house research consisted of measuring attention span by observing how toddlers watched while providing distractions. Researchers also tested lasting versus immediate appeal by presenting content to small groups of children and later surveying them on different program features. Appeal research was utilized for a range of program decisions (Fisch & Truglio) including: the effects of music in various forms and applications; the most and least popular forms of live-action films, animations, puppets, and live

performers; the attention-holding power of various types of individual or interpersonal activities; the effects of incongruity, surprise, and fantasy, as compared with straightforwardness, predictability, and realism; the most and least effective uses of dialogue, monologue, and voice-over technique; and the relative effectiveness of ordinary or caricatured voices (p. 16). In-house researchers also developed techniques to test children's comprehension of the program's content. They either showed half of the program and asked children what had happened so far and what they expected would follow, or they played the full program, then played it again with either just the sound or video and asked the children to explain what was happening. Other methods included playing the program and asking children to recreate the story with dolls or recall everything they knew in as much detail as possible about the episode.

Summative research was also crucial to the production of *Sesame Street*. It gave validation to financial supporters and a means for gauging success for the research and production teams. Before the beginning of any production, ETS designed and conducted a summative evaluation for the premiere season. The summative evaluator was involved in the creation of season goals. Two ETS studies that had an enormous impact on the view of the program's educational effects were Ball and Bogatz (1970) and Bogatz and Ball (1971).

Ball and Bogatz (1970) studied the overall impact of *Sesame Street* after its first season. They looked for: differences on impact regarding gender, prior achievement level, and socioeconomic status; if children who watched *Sesame Street* at home benefited compared to children who did not; if children benefited from watching *Sesame Street* as part of their school curriculum; and if children from Spanish-speaking homes benefited from watching *Sesame Street*. Ball and Bogatz found that children who watched *Sesame Street* the most improved the most from pre-test to post-test, across all demographics examined. When comparing advantaged

and disadvantaged children, the disadvantaged children who watched *Sesame Street* gained more knowledge than advantaged children who watched less. Children gained the most knowledge in areas that had the most coverage. Letters and numbers were covered the most (14%). Because *Sesame Street* is a television show, it does not need a parent or teacher to supervise the learning. The authors found that children who viewed *Sesame Street* at home, in most cases, learned as much or more than children who viewed *Sesame Street* at school. The sample of Spanish-speaking children was small, but they made the most gains of any other group. The authors suggested that television programs have the ability to reduce the education gap that separates advantaged and disadvantaged children.

Bogatz and Ball (1971) found that African-American children were more accepting of Latino children and Caucasian children were more accepting of African-American and Latino children after viewing the second season of *Sesame Street*. In the 1980s *Sesame Street* focused their curriculum even more on race relations. They spent four years focusing on four different groups. Each season represented a different race: African Americans, Latinos, Asians, and Native Americans. In 1983 *Rechov Sumsum* (the Israeli version of *Sesame Street*) was released to promote a mutual understanding and respect among Israeli and Palestinian preschoolers. Sesame Workshop was involved with the production of *Rechov Sumsum*. The attitudes of all these different groups of children grew more positively toward each other because of these shows.

### **The Creation of Julia**

Julia is a Muppet (puppet) with Autism Spectrum Disorder on the PBS show *Sesame Street*. Julia made her *Sesame Street* debut on the “Meet Julia” episode on April 10, 2017 as part of its autism initiative “*Sesame Street* and Autism: see amazing in all children”. The initiative

was funded by American Greetings, Robert R. McCormick Foundation, and Kristen Rohr. Families of children with autism had asked Sesame Workshop to address issues related to autism for years (Sesame Workshop, 2017). Sesame Workshop consulted with over 250 organizations and experts in the field of autism for over five years (Sesame Workshop). Julia was designed by Louis Henry Mitchell. He was inspired by children on the spectrum that he had met. Julia intentionally looks more human than the other Muppets. Her diamond nose is different than past characters, and her eyes are more detailed with irises and eyelashes. They also mixed multiple hues of red in her hair to bring her to life, and Stacey Gordon, the voice of Julia, and Christine Ferraro, the writer of the “Meet Julia” episode, both have close family members with autism. Many different perspectives contributed to her portrayal.

*See Amazing* launched in 2015, two years before Julia debuted on *Sesame Street*. Sesame Workshop aimed to reduce the stigma surrounding Autism Spectrum Disorders and build an understanding of the spectrum. In 2016 Sesame Workshop contracted Georgetown University Medical Center (GUMC) to test the autism initiative’s online materials. This included: videos featuring Julia and videos featuring real children with ASD, a digital storybook featuring Julia written by Leslie Kimmelman, “We’re Amazing, 1,2,3!”, and daily routine cards. The goal of this study was to: 1) gather reactions to the website content; 2) assess whether the *See Amazing* content promoted increased acceptance and knowledge of ASD; and 3) determine whether exposure to the material increased positive attitudes about ASD.

GUMC (2016) collected data online from 331 parents of children with ASD (mostly recruited from autism service and advocacy organizations) and 698 parents of neuro-typical children. Parents were sent a link to the “*Sesame Street* and Autism: see amazing in all children” content before participating in a survey. The website included information about autism and links

to resources for families and the public. It also featured narrated videos that reflected a diverse group of children with ASD, the electronic storybook featuring Julia, and eight daily routine card sets. One week later, parents were asked to utilize the content again and participate in another survey. Parents of children with ASD repeated these measures a third time one month later to gauge further changes in attitudes or behaviors. More than 87% of parents agreed they enjoyed visiting the website, would recommend it to others, would use it themselves, and felt that the website made information about ASD more accessible (p. 2).

Over 70% agreed they had a better understanding of autism after engaging in the *See Amazing* content. Participants' knowledge was tested by asking 21 questions about ASD. Just under 50% of those surveyed increased their knowledge of ASD (parents of children with ASD were already knowledgeable), and just over 50% showed an increased acceptance for ASD. Acceptance was measured using parents' responses to a short video of a child with autism. They answered a series of questions using a Likert scale. Parents of children with ASD were assessed for feelings of caregiving strain and parenting competence. From the start of the study to the one month follow up, almost 50% of parents showed reduction in caregiver strain, and almost 60% increased their feeling of parenting competence. GUMC concluded:

No website about ASD has been shown to have such powerful and wide-reaching effects. The *See Amazing* materials can invoke such remarkably positive changes in both the general community and in parents of ASD children makes Julia, the ASD Muppet, and this particular set of groundbreaking resources the easiest and most effective website to increase acceptance and community inclusion and should become the new standard for ASD resources. (GUMC, p. 6)

GUMC was contracted to test the materials (the majority featuring Julia) from the *See Amazing* initiative, and with consideration of their findings, Julia made her appearance on *Sesame Street* one year later. This study examines the online materials featuring Julia (see Table 1) and explores Julia’s portrayal of a person with ASD rather than reactions to the content.

**Table 1. List of Julia Materials used for Frames and CARS2 Analyses**

<b>Title</b>	<b>Frame Analysis</b>	<b>CARS2</b>	<b>Media Type</b>
Meet Julia	201 units of analysis	10 min. 8 sec.	episode clip
Julia’s Bunny	21 units of analysis	1 min. 38 sec.	episode clip
Blowing Bubbles	29 units of analysis	2 min. 6 sec.	episode clip
Butterfly Flapping	35 units of analysis	1 min. 50 sec.	episode clip
Twinkle Twinkle	21 units of analysis	2 min. 7 sec.	episode clip
Boing Tag	26 units of analysis	1 min. 17 sec.	episode clip
Sunny Days	9 units of analysis	1 min. 30 sec.	episode clip
We’re Amazing 1-2-3!	83 units of analysis	22 pages	digital storybook
We’re Amazing 1-2-3!	38 units of analysis	2 min. 3 sec.	video storybook

The Childhood Autism Rating Scale, second edition (CARS2) with the *DSM-5* are used together in this study to rate the severity of Julia’s symptoms. Her severity level is of interest because depictions of ASD in film have shown characters to exhibit the maximum level of severity. Garner, Jones, and Harwood used the tool in their (2015) study to rate the severity levels of 15 film characters’ ASD symptoms. The CARS2 gives median scores for the population with ASD diagnoses. They found that the median scores for each of the characters were higher than the median scores given by the CARS2. This study will compare Julia’s scores with past characters and population medians.

### **Media Framing**

The current study examined the dialogue surrounding Julia from *Sesame Street* using framing perspective. Framing serves as the theoretical anchor for studies reviewed in Chapter 2. It is used as the underlying concept informing how results from this study are interpreted.

Goffman (1974) was one of the first scholars that laid the sociological foundations of framing. Goffman argued that individuals constantly try to understand the world around them and do so by interpreting life experiences. Individuals apply interpretive schemas or “primary frameworks” to interpret information and give it meaning (p. 24). When explaining topics, frames are used to fill in the gaps when experience with a specific topic is lacking (Holton, Farrell, & Fudge, 2014). Framing stories often makes complex issues easier to understand (Holton, Farrell, & Fudge). It is the process in which people conceptualize an issue or reorient their thinking about an issue (Chong & Druckman, 2007) depending on how the issue is characterized or presented (Scheufele & Twesbury, 2007).

The media play a vital role in framing different health and social issues for the public and offer possible solutions for numerous problems (Kim, Carvalho, & Davis, 2010; Kim & Willis, 2007). Framing of health issues not only tell the audience which issues to think about but how to think about them as well (Kim, Scheufele, & Shanahan, 2002). Wallack (1993) found that health issues are framed to portray the overall social system as being fundamentally intact, and problems or inconsistencies are attributed to irresponsible individuals. Similarly, Holton et al. (2012) examined the “blame frame”, who media blame as the irresponsible individuals in the case of ASD diagnoses. “Refrigerator mothers”, mothers so cold and unloving, were the original blame for an autism diagnosis. It is now known that there is no official cause for ASD (APA, 2013), and it is likely caused by many environmental and genetic factors combined.

## Purpose/ Significance

There are two main purposes of this study. The first was to use multiple frames, most importantly stigmatizing cues, to analyze the dialogue of *Sesame Street* content featuring Julia. The other was to examine Julia's portrayal of ASD using the CARS2 with the *DSM-5*. The following materials were utilized: *Sesame Street* episode clips featuring Julia, a digital storybook featuring Julia, "We're Amazing, 1,2,3!", and a video version of the storybook. There have been many inaccuracies and exaggerations associated with media portrayals of Autism Spectrum Disorder. There have been numerous studies that suggest and highlight this case (Holton, Farrell, & Fudge, 2014; Holton, 2013; Clarke, 2011; Belcher & Maich, 2014; Conn & Bhugra, 2011; Garner, Jones, & Harwood, 2015). There has yet to be a character on a television show with autism designed to teach preschoolers about what to expect and how to act appropriately around a peer with autism (GUMC, 2016). "One of the characteristics that distinguishes *Sesame Street* from almost every other series on television is its foundation in a comprehensive educational curriculum and the process that surrounds it" (Fisch & Truglio, 2001, p. 234).

Julia was chosen as the focus for the current study because of *Sesame Street*'s educational background and because she does not fall under the stereotyped "genius" category that the majority of autism portrayals do. Julia does not have high-functioning autism. She is not portrayed as having an extremely high intelligence, as most of the characters with ASD depicted on television shows and movies are. She is depicted as a toddler with Autism Spectrum Disorder who can help educate neuro-typical children of her similarities and differences. This thesis will explore if Julia's character is a more realistic depiction of someone with ASD using the CARS2 and criteria set forth in the *DSM-5*, which can fuel future research regarding this character's impact.



## Organization of Thesis

Chapter 1 introduced *Sesame Street* and its history, how the show came to be, and its background in educating young children and promoting acceptance and positive attitudes. ASD and framing were defined. The purpose/significance of the study was explained: to use framing to analyze the discussions surrounding Julia and the CARS2 to analyze her portrayal and autism symptomology. Findings can lead to future research on the impact her character has on promoting positive attitudes toward ASD like other seasons of *Sesame Street* have done for race relations. *Sesame Street* has a 47-year-long track record of working with professionals to understand the needs of different groups of children and how best to address them and educate.

Chapter 2 discusses representation of ASD in the news and portrayals of ASD in television and film to give the reader a better understanding of the real-life implications. The chapter highlights the impact of media representations of ASD, from the MMR-autism controversy (the effect on vaccination rates and the part media played), exaggerated portrayals of the super genius and those with the most severe symptoms, and the lack of voice for people with ASD. Previous studies utilizing content analyses are examined for their representations and portrayals of autism across multiple media: news, television shows, and movies.

Chapter 3 details the method used for this study. A content analysis is used to analyze Julia's portrayal of a preschooler with autism. Frames are employed to analyze dialogue. The CARS2 is used to determine the severity of her ASD symptoms and determine if her symptoms are comparable to the population of children with ASD aged 2-12. If her CARS2 scores do resemble population medians that will suggest that she is a better representation of someone with autism and also might suggest that she does a better job of educating young people about autism

than other shows or movies currently. Multiple frames are used, most importantly stigmatizing cues. This chapter also discusses previous methods for conducting content analyses utilizing frames and the CARS2 and why those methods are used. It lays out the hypotheses that are tested. It explains the sampling that took place, and finally how it will be statistically analyzed.

Chapter 4 answers hypotheses and gives an analysis of the study results. Chapter 5 discusses those results, summarizes current findings and real-life implications, discusses strengths and weaknesses, and recommends paths for future theory building and research.

## CHAPTER 2

### LITERATURE REVIEW

This chapter provides a review of previous content analyses of media representations and portrayals of ASD. The first section focuses on media representation of ASD in the news media. The news section discusses the controversy about the inaccurate belief that vaccines cause autism. This chapter also discusses the most popular frames used in covering stories about people with ASD and highlights the issues with those misconceptions. The following section gives the reader a landscape of multiple media portrayals of ASD in television and film.

#### Media Representations of ASD

Studies on media portrayals of ASD are sparse. Analyses of high-functioning characters are more frequent because there are more portrayals of those characters. This chapter makes its way into reviewing those studies under *Character Narratives*, but the first section *News Media* highlights how the media represent ASD in the news. This gives the reader a better understanding of the real-life implications people with ASD and their families face.

#### News Media: Newspapers, Television, and Magazines

Different frames from studies in this section were utilized in the current study and others informed how it was conducted. This study does not aim to link media portrayals to vaccination rates or other health-related issues concerning ASD, but it is possible that portrayals of people with autism shape what people think about autism. If a parent hears that the MMR vaccine causes autism and believes it, what they think about autism could help them decide if they want

their child to get the vaccine or not. This section might help the reader understand controversial issues that surround autism, such as stigmatization or health-care approaches.

**Framing.** Clarke (2011) conducted a content analysis that examined portrayals of ASD in magazines directed at two different audiences. Women's magazines were one group, and general interest magazines were the other. The purpose of this study was to describe and offer possible explanations for the portrayals of children with ASD in popular media. The study examined different magazines' answers to the most popular questions about autism that could possibly lead to stereotypes and misconceptions. Clarke used a qualitative, cross-sectional frame analysis. Eight women's magazines from 2000 to 2009 were analyzed on one side, and five general interest magazines with two newspapers on the other. Women's magazines accounted for 61 articles, and gender-neutral accounted for 34. All articles were read looking for repeated topics, themes, and frames. Clarke looked for answers to the popular questions: what is autism, what is said to cause it, and what should be done about it?

The magazines for women described autism as a tragedy. The mother started out broken hearted but learned to fight for her child and normality. Most of the articles described a situation where the mother noticed her child was acting differently than she was used to her other children acting. The articles described the moms as being very emotional when they discovered the diagnosis, it being a tragic event in their lives. Some mothers talked about feeling alone and stigmatized or constantly crying every day. In the gender-neutral magazines autism was surrounded by stereotypical discourses valuing science, numbers, and genetics. The stories differed more from each other, unlike in the women's magazines. These magazines discussed that autism is a neurological disorder and that there are many symptoms that differ for everyone

with a diagnosis. They suggested the analysis of genes will eventually uncover the cause for ASD, and that it is crucial in stopping the growing epidemic.

Neither group focused on the perspective of someone who has ASD, and neither group addressed whether it is an actual problem or just a difference. None of the articles from either group came from the actual source, a person with ASD. There were no experts in any of the articles who had ASD. They weren't interviewed regarding their own disability. The experts were either mothers or scientists and doctors. There was very little discussion about different possible ways of thinking about ASD. There was little discussion about educational needs, policies, or self-help initiatives. "There is no attention to the ethical and human rights question of giving voice to the voiceless, diagnosed people" (p. 192).

The strength of Clarke's (2011) study was pointing out the issues with both sides. The gender-neutral magazines' theme was more noticeably problematic, speaking of ASD as an epidemic that needs to be solved. The problematic theme of the women's magazines, the mother with a broken heart who conquered the world for her child with autism, was less obvious. Though their theme may seem nicer, it is full of misconceptions. The weakness of the study was trying to make generalizations using one medium and a short time frame. There was not enough content to fully grasp the nature of ASD coverage, though the information was very informative and added to the larger picture of media representations of ASD. This article is important to the current study because it highlights major familial concerns about having a child with ASD. The child and mother faced tragedy followed by stigmatization. Most importantly it highlights the fact that people with ASD do not have a voice in how they are portrayed or represented. This article sets the scene for how ASD is portrayed by different groups in the media.

Kang (2013) examined news networks' coverage of autism regarding issues, sources, and personal (episodic) or social (thematic) framing perspectives. The purpose of this study was to analyze how television news frames ASD. American Broadcasting Company (ABC), Columbia Broadcasting System (CBS), Cable News Network (CNN), and National Broadcasting Company (NBC) were selected as the major national and cable news networks in the United States from Nielsen ratings. The networks' news transcripts from 1990 to 2010 were analyzed. The transcripts were collected from the LexisNexis database, and 1990 was chosen as the start year because it was the earliest year transcripts were available through LexisNexis. Transcripts of stories were chosen that used the term autism. After selecting every fourth transcript, eliminating redundant stories and stories with no mention of autism, the final sample resulted in a total of 511 stories (p. 249).

Research questions included the examination of: 1) the proportion of issues in autism covered by TV news; 2) whether there were changes in the types of sources used in TV news about autism over time; and 3) whether the news coverage about autism over the past 21 years would be skewed to either personal (episodic) aspects or social (thematic) aspects (p. 252). The total number of episodic coverage ( $n = 305$ ) was greater than thematic coverage ( $n = 117$ ). Episodic coverage from 1990-1997 was 37, from 1998- 2004 was 62, and from 2005- 2010 was 206. Thematic coverage also exhibited an increase over time: four from 1990-1997; 30 from 1998-2005; and 83 from 2005-2010 (p. 252). Cramer's  $V$  correlations for categorical variables revealed that cause was covered more thematically than episodically (p. 253).

Kang's (2013) study found that television news covered autism in various issues such as struggles, obstacles, frustrations, symptoms, warnings, and hopes. The findings showed that TV news usually avoid "offensive or discouraging" aspects of autism in comparison with print media

(p. 254). The authors suspected these findings are related to the differences in content regulation between broadcast and print media. Broadcast media are regulated at a higher level than print media. Results showed that personal story, child, and cause were identified as the top three issues. Doctors were the most interviewed sources, followed by families of people with autism, and then people with autism. The personal responsibility frame was more prominent than the social frame. The correlations between frames and issues suggested that the personal responsibility frame is dominant, but social responsibility is also emphasized in issues.

Media coverage have shown to cause fear in parents in matters such as the MMR vaccine causing autism, or that parents over 40 are more likely to have children with autism. “Continued efforts by TV news stressing social responsibility are called for because the coverage can influence politicians, health policy-makers, and the public” (p. 255). A weakness of the current study was the limited number of television networks included in the sample, however, there appeared to be a sufficient sample of stories (511).

The results of Kang’s (2013) study support Clarke’s (2011) findings, from coverage of women’s magazines, that personal story and the emotional journey are the most frequently covered news stories about ASD. The issue of stigmatization appeared again in this article, and the issue of people with ASD being the least likely to get interviewed. It was a strength to mention that real people with ASD are not interviewed or considered for expert advice because the same case will appear with portrayals of characters in television shows and movies. The characters are not played or written by people with ASD. This article is important to the current study because the current study will also utilize episodic and thematic frames.

Schreck and Ramirez (2016) conducted a content analysis that analyzed the representations of scientifically and non-scientifically supported treatments for autism seen on three popular television networks. The purpose of this study was to determine if the media impact public perception of appropriate treatments for people with autism. Schreck (2013) supported the idea that news reports and television media impacted the public's perception of people with mental illnesses. Schreck and Ramirez hypothesized that the same would be true for people with ASD. News stories from 2000 to 2012 from National Broadcasting Company (NBC), American Broadcasting Company (ABC), and Columbia Broadcasting System (CBS) were analyzed for the inclusion of autism treatment. The stories were collected using LexisNexis Academic News Source, Access World News, and Newsbank. The stories were analyzed if they indicated at least one treatment name and autism, which resulted in a sample of 312 transcripts. The authors examined whether the top television networks in the United States portrayed non-scientifically supported treatments more often and more favorably than scientifically supported treatments. Autism treatments were categorized into four scientific classifications: established; emerging; unestablished; and ineffective/harmful. The articles were reviewed for frequency of positive and negative evaluative phrases about each treatment using a keyword in context analysis. Positive comments were determined as referring to scientific research, benefit to child or family, medical necessity, or public acceptance. Negative comments were determined as referring to lack of scientific research, detrimental or harmful to the child or family, no progress, danger, or lack of public acceptance (p. 257).

Across all three television networks, approximately 70% of all the mentioned autism treatments were non-scientifically supported (p. 258). Network trends for coverage of applied behavior analysis (ABA) decreased over the 12-year-period, while non-scientifically supported



treatments consistently increased. ABC and CBS devoted over 70% of their news coverage to non-scientifically supported treatments. The authors concluded that parents could choose harmful treatments for their children with ASD based on information derived from the media. “Behavior analysts must take action to disseminate accurate, scientific information to journalists and television reporters” (p. 263). This study was a replication of Schreck’s (2013) analysis of print media’s representation of autism treatments. It was a strength of this study to show that non-scientifically supported treatments were covered 40% more than treatments that are supported by science. It can be assumed that media are covering Autism Spectrum Disorders inappropriately and lack the knowledge to do so effectively.

Schreck and Ramirez (2016) analyzed 312 stories, but the stories were all retrieved from three media outlets. Popular networks were examined, but at a time when people were receiving their news from many other places. The stations selected were not representative of all television networks or all media. Another weakness of Schreck and Ramirez’s study was the assumption that their study measured media impacts on public perception of ASD. It is possible to estimate media coverage of ASD from a content analysis, but public perception can only be inferred, not confirmed. Schreck and Ramirez’s article complements the current study because it supports the notion that media portray ASD inaccurately and distribute misinformation.

***Stigmatizing Cues.*** Holton, Farrell, and Fudge (2014) compared portrayals of people with ASD in print newspapers. The purpose was to examine the representations of ASD from the news media by analyzing stigmatizing cues and framing techniques. This study was valuable to the current study. The stigmatizing cues were used to analyze the dialogue surrounding Julia. Holton, Farrell, and Fudge were the first to examine the intersection of news frames and stigma in coverage of a disability, such as autism. The authors aimed to bring to light the fact that media

have brought awareness to ASD, but journalists may have created a threatening environment for people with ASD. The article described how agenda-setting theory and news framing created a stigmatization of autism.

Holton, Farrell, and Fudge (2014) hypothesized that news coverage of ASD might actually be doing more harm than good. They suspected a relationship between the stigmatization and the release of a study done in 1998 linking autism with the vaccine for measles, mumps, and rubella. The authors stated that the drop in MMR vaccines, at 92% in 1998 to 80% in 2003, could be attributed to that study (p. 191). Two of the research questions used were: “What stigmatizing cues have journalists used in their coverage of autism?” and “How have journalists used episodic and thematic frames in their coverage of autism?” (p. 195)

Holton, Farrell, and Fudge (2014) compiled articles from local, regional, and national papers in the United States and United Kingdom from February 27, 1998, to December 31, 2012, using a LexisNexis Academic database. Articles that didn't apply to this study were removed. The remaining 473 articles were grouped by year, and 20% of those articles were randomly selected and examined. The authors developed a codebook for gain and loss frames, episodic and thematic frames, and socially stigmatizing cues. Gain frames emphasized the benefits of a certain activity. Loss frames did the opposite. Episodic frames focused on the circumstance of a particular person, such as a story about one person with autism. Thematic frames focused on larger societal issues, (i.e. vaccination rates). Socially stigmatizing cues were recorded if the article contained one or more of the four major stigmatizing cues: 1) reference to a label; 2) psychiatric symptoms; 3) social skills deficits; and 4) physical appearance or symptoms.

The results demonstrated that journalists relayed mixed messages and contradictory perspectives about ASD. About two thirds of the coverage had “explicit stigmatizing cues” (p. 196). Over half of the coverage occupied loss frames. Of all the findings, the most significant to the authors was the indication that most journalists strive to frame stories in such ways that they feel society can relate to or connect with. In doing so, journalists might also tell society how to think and how to perceive people with ASD.

One strength of Holton, Farrell, and Fudge’s (2014) research was including the information about MMR vaccinations, which brought ASD into the media. By showing how the vaccination rate went down, it was also shown how the public fears an autism diagnosis and how people can be misled about the reasons for a diagnosis. The falsity mixed with the attention given by media led to the stigmatization. The current study will utilize this study’s codebook, employing the gain and loss frames, thematic and episodic frames, and the socially stigmatizing cues.

***MMR Vaccine.*** Holton et al. (2012) analyzed 281 newspaper articles about the controversial medical study done by Wakefield (1998) that linked the MMR vaccine with ASD. Many scholars have criticized Wakefield’s study. The authors hypothesized that mass media are potentially to blame as well because the study attracted noticeable interest from the public, and their coverage play a role in shaping public behavior. Holton et al.’s study applied Goffman’s frame analysis and examined whom news media blamed for the MMR vaccine and autism linkage. The researchers questioned who or what was viewed as responsible for the potential public health impacts of the (1998) Wakefield study. The authors were interested in whom the responsibility was attributed, and what that attribution says about “journalism practice and risk communication” (p. 690).

Holton et al. (2012) conducted a content analysis of global media coverage of the MMR-autism controversy from 1998 (when Wakefield's study was published) to 2011 (the starting point of this study). Holton searched U.S. and international newspapers using a LexisNexis Academic database search for all newspaper coverage containing the words "autism" (or similar words like autistic), "MMR", and "vaccination" (p. 694). After removing letters to the editor, entertainment articles, book reviews, news briefs, and duplicate articles, 1,011 articles remained. The articles were stratified by year, sampling 30% of each year's articles. After a final exclusion of duplicates, 281 articles made up the sample. The articles were coded into nine categories based on attribution of blame, such as: elected officials, science/medical, experts, or family members. Additionally, each article was coded as either fact or opinion. Articles came from 32 different news outlets and 10 different countries. The majority came from the United Kingdom (63.7%) and the United States (16%). Considering peripheral and dominant attributions, Wakefield was primarily blamed (55.9%), followed by science/medical (51%), society (33.5%), *The Lancet* (23.1%), other individuals (21.4%), the media (5%), and elected officials (2.1%). *The Lancet* (the journal that published Wakefield's study) only received dominant blame from 2.7% of the articles (p. 695). The media relied mostly on science/medical sources (67.3%), followed by nonprofit advocacy groups (19.6%), family members (19.2%), and elected officials (11.4%). It is most interesting that the media only received 1.8% of dominant blame out of all 281 articles.

Other scholars have studied the MMR-autism controversy, and scholars have studied news framing. A strength of Holton et al.'s (2012) study was filling in the gap by examining how articles frame the blame for the controversy over time. The researchers stated that media aimed to place blame on one or mostly one person. One weakness was not actually showing what part media played in this controversy. That needs further research. It is possible that content analyses

that have examined the MMR-autism controversy have put more blame on news media than is deserved. This article is important to the current study because it utilizes frame analysis and highlights the misinformation about autism. It is not necessarily important to the current study who society blames for the decline in vaccination rates, but it is important to see how people with ASD are stigmatized. No matter who is to blame, this research showed that people fear an ASD diagnosis and will risk not receiving a life-saving vaccine to avoid an ASD diagnosis.

Smith et al. (2008) conducted a two-part content analysis that assessed the relationship between media coverage of the MMR-autism controversy and MMR immunization in the United States. First, they surveyed households with children between 19 and 35 months old using the National Immunization Survey (NIS). Extensive demographics and medical information were obtained. Data on 215,643 children with sufficient provider data were collected from 1995 to 2004. The primary caretakers of the children were interviewed. Consent to contact primary care physicians was obtained from caretakers. Primary care physicians verified vaccination records. According to Smith, each year's NIS records were weighted to represent the entire 19 to 35-month-old U.S. population.

Factors of MMR non-receipt were considered, such as poverty or medical care access. The authors identified children who were most likely intentional non-recipients of the MMR vaccine by selecting children who were up to date for three hepatitis B, three polio, four diphtheria-tetanus-acellular pertussis, and three haemophilus influenzae type B vaccines but not MMR. This was an indicator that the child's caretaker had specifically declined the MMR vaccine versus a caretaker who merely neglected all vaccines.

Smith et al. (2008) utilized LexisNexis Academic Universe to estimate annual MMR coverage from 1992 to 2004. The start year of 1992 was selected because the oldest children in the study were born that year. The LexisNexis data included 295 newspapers in the U.S., all Associated Press newswires, all major television networks (ABC, CBS, Fox, NBC, and CNN), and National Public Radio broadcasts. Stories with the terms “MMR”, “measles”, or “Wakefield” matched with the term “autism” were recorded and analyzed (p. 837).

Frequencies for overall and selective MMR non-recipients were calculated for each year of the study. Media exposure for each year of the study was calculated as the possible total exposure for each cohort during the first year of the child’s life. The authors conducted repeated cross-sectional analyses using logistic regression models to assess risk factors for overall and selective MMR non-receipt (p. 837). MMR vaccination overall non-receipt increased from 8% in 1998 to 10% in 2000, following the Wakefield (1998) study. It fell to 7% in 2003 and 2004. Selective non-receipt increased from 1% between 1995 and 1999 to 2.2% in 2000 (p. 839). The percentage returned to 1% after two years. When comparing overall non-receipt, demographics played a big role. Being part of a minority group, having a single mother, and the younger the child all made the child less likely to have had the MMR vaccine. When comparing selective non-receipt, demographics had no influence. The variable that determined MMR non-receipt was public or private health care. Private health care recipients were less likely to have received the MMR vaccine.

The increase in MMR vaccine non-receipt spiked before media coverage of the controversy did a few years later. Smith offered the explanation that the brief increase in MMR non-receipt was likely the effect of parents learning about the controversy from other sources (physicians or other parents) rather than the mass media (p. 840). Selective MMR non-receipt

occurred in as few as 0.77% of children in the 1995 cohort. That number increased to 2.1% in 2000. There was a significant increase in selective MMR non-receipt temporarily associated with the original publication of Wakefield's (1998) study. The spike preceded heavy media coverage of the controversy. "This finding suggests a limited influence of mainstream media on MMR immunization in the United States" (p. 836).

One limitation Smith offered was the lack of knowledge regarding how the children's caretakers received their information. NIS does not record those data. It is likely that many parents used the internet to help guide them with decision making. This could mean they were more susceptible to the original, controversial study rather than the news coverage of the controversy a few years later. This study could and should be replicated to give a more up to date record of how media coverage influences MMR vaccination rates currently.

### **Character Narratives: Television and Film**

This section contains the Garner, Jones, and Harwood (2015) study that was replicated using a character with low-functioning autism (Julia) versus characters with high-functioning ASD. Julia was the first character on a television show with autism who was designed to teach preschoolers about the disorder. The other studies in this section give the audience a landscape of multiple media portrayals of ASD in television and film.

Holton (2013) examined the representation of ASD in a character named Max on the show *Parenthood*. The researcher conducted a qualitative, content analysis. The purpose of this study was to examine if portrayals of ASD were evolving to meet a more accurate representation, or if they were continuing to rely on constructs that appease the audience. The author

hypothesized that representations of ASD in television focus more on the family and friends of the people with ASD, and their hardships, rather than on the individual with the disability.

Representations of ASD in popular culture focused on isolation, fear, and familial and societal concerns. The show *Parenthood* portrayed the life of a middle-aged man and the lives of his siblings. The man had a son named Max who was diagnosed on the show with Asperger's syndrome. The show was studied using repeated observation. The author studied the 13 episodes in the inaugural season. Holton viewed each original weekly episode. The first stage included light note taking and some critical analysis. The episodes were viewed a second time, in sequential order, noting instances of representation. The episodes were viewed a third time with more attention on Max's environment, such as parents, siblings, school situations, and music choice. The researcher analyzed each episode for a fourth time one year later, totaling approximately 120 hours of overall *Parenthood* observation.

The results complemented Holton's hypothesis that television shows focus more on the experiences of family and friends, rather than the people with disabilities. This was shown in the previous content analyses of news coverage as well. *Parenthood* producer Jason Katims used his experiences with his son who has Asperger's to develop Max's character. There is knowledge from that perspective, but it "promotes an image of disability based on cultural views and perceptions rather than on lived experiences" (p. 52). *Parenthood* focused on how the people around Max dealt with his disability. They feared his disability. They isolated him because he was different. He was stigmatized. The show devoted more time to ASD than popular-culture productions in the past. However, "it has done so at the risk of alienating ASD individuals and reinforcing misrepresentations about the diagnosis" (p. 57).



One strength of Holton's (2013) study was the author effectively explained how the representations seen in *Parenthood* negatively affected the perceptions people had of ASD. This article showed another example of the family members of a person with ASD dominating the story. The tragedy that the family went through overshadowed what Max dealt with in his life and his emotions. Holton suggested that more longitudinal studies are needed because ASD is such a new area of research. Holton's article, like previous articles, highlights again the lack of voice for people with ASD.

Walters (2013) explored the complexities of humor in the context of the intellectual disability Asperger's syndrome. Walters provided an understanding of transformative contexts of humor and disability using the television shows *The Big Bang Theory* and *Community*. Walters applied Kenneth Burke's theory of perspective by incongruity to humor theory. The author examined three of Burke's frames or perspectives, claiming that they were unproductive. Burke's three frames are: wholly euphemistic; wholly debunking; and polemical. An individual using the term physically challenged to describe a person with a disability is an example of wholly euphemistic. The term physically challenged could be perceived as nicer, but it lacks specific information about the disability. Wholly debunking happens when someone attacks or discredits but cannot come up with any alternatives, and polemical is when only one point of view is considered fact and always defended. These frames were unproductive because they deny a way for disabilities and humor to coexist. The process of denying all humor associated with people that have disabilities gives an impression of increased abnormality. Walters hypothesized that comedies like *The Big Bang Theory* and *Community* represent characters on the autism spectrum as essential to social cohesion. Comedies like these crack the frames of typical, disability humor and invent new ways of understanding cognitive differences.

Walters performed a content analysis of *The Big Bang Theory* and *Community*. Characters were identified as “autistic” or “neuro typical”, and then categorized as “normal” or “abnormal” (p. 274). In *The Big Bang Theory*, one of the main characters, Sheldon Cooper, is assumed to have Asperger’s, though it was never stated in the show that he does. From the first episode, he exhibited idiosyncratic qualities that are stereotypical of someone with ASD. His character does not like changes in his routine. He doesn’t understand sarcasm or certain jokes, and he takes language literally, rather than understanding the intended meanings. Sheldon is blunt and lacks important social skills.

In *Community*, the character Abed is not the main character of the show but he was explicitly identified as having Asperger’s. Abed was first introduced to the show when the main character Jeff enrolled in the same community college as Abed. He sat next to Abed in class and asked him for the time, which was followed by a long, descriptive story about numerous unrelated facts. Jeff asked Abed about a girl in class and was met with another long spiel of unrelated information. The goal was likely to show the audience how people with ASD can have obsessive interests and their words can extend the limit of another person’s interest. The author concluded that the shows involve a, “shaking up and breaking through of traditional ways of understanding difference and similarity” (p. 286). Walters said the frames of euphemistic, debunking, or polemical shattered and made way for new perspectives of neurodiversity.

One strength of Walters’ (2013) study was demonstrating how *The Big Bang Theory* portrayed Sheldon’s character as a contributor to the show’s humor without making fun of a person with a disability. The author explained how Sheldon was portrayed as a genius scientist, but also that his character is not realistic of most people with ASD. This article brought to light that people with disabilities should be included in humor to feel normal. On the other hand, it

also shows another exaggerated character with ASD. A weakness of this study was that Walters' research was a critical, descriptive study. It couldn't be replicated because it was essentially the author's description of the shows. This article is important to the current study because it detailed how one of the most popular character with ASD on television, Sheldon Cooper, is an exceptional case of someone with ASD.

Belcher and Maich (2014) explored how representations of characters with ASD are typified in a world increasingly influenced by popular media. Twenty samples of different media from 2006-2012 were chosen. For this study, the movie category was analyzed. A social content analysis was done using Krippendorff's six-step approach. The steps are: design, unitizing, sampling, coding, drawing inferences, and validation.

Belcher and Maich's (2014) study was designed to show how media portray people with ASD as intellectual geniuses. The authors hypothesized that perspectives of people with ASD are rooted in popular media. "Socially storied representations" (p. 99) show people with ASD in a positive light, but not necessarily an accurate one. The attempt on the part of the media to represent people with ASD has also constructed potentially widespread biases. Media are framed in an exaggerated way that is meant to be entertaining. Belcher and Maich noted their view and the view of many, that there is no process of educational conversation about the accuracy of representations after a movie (debriefing). People are left with the potential of believing the exaggerated portrayals. The 20 units were selected using purposive, maximum variation sampling, analyzed through Krippendorff's six-step approach to social content analysis. The samples provided representations of people with ASD across four categories of media. By using these steps, it was shown that different media types contain themes that have the potential to highlight and create understanding of ASD, and themes that contrast the reality of ASD.

The results showed that movies portray people with ASD as “heroes, conquering seemingly impossible odds” (p. 109). The five movies sampled were: *Temple Grandin* (2010), *Salmon Fishing in the Yemen* (2011), *Extremely Loud and Incredibly Close* (2011), *Dear John* (2010), and *My Name Is Khan* (2010). “Movies, whether made for the home TV or big screen, tend to impact the affective and cognitive appetites of the viewer” (p. 105).

*Temple Grandin* depicted the life of an animal behaviorist and university professor self-diagnosed with autism. Belcher and Maich considered *Temple Grandin* an excellent example of popularity of ASD in the media. Grandin had a successful career and received awards, but this is not the norm for people with ASD. Grandin was born into a rich and famous Boston family. Because Grandin was self-diagnosed, it is uncertain how severe Grandin’s autism is. Grandin should not be discredited of achievements, but audiences should be aware that Grandin’s case is not typical of other scenarios of people with ASD. *Salmon Fishing in the Yemen* portrayed a man with Asperger’s who was the British government’s expert in salmon fishing. *Extremely Loud and Incredibly Close* featured a nine-year-old child with traits of ASD. He was portrayed as a child hero, solving a mystery after the death of his father on 9/11. *Dear John* featured the father of the protagonist to have recognizable characteristics of Asperger’s. His disconnect with conventional emotional expression was shown when dealing with his son’s coping after war trauma. *My Name is Khan* portrayed a Muslim man with Asperger’s syndrome who embarked on a life-changing challenge to speak with the president and save the world from environmental disaster. He was met with controversies but ultimately succeeded.

Belcher and Maich (2014) pointed out the fact that all five examples represent characters with extremely high-functioning autism. They were all represented as “heroes” who conquered “larger-than-life situations” (p. 106). It is misleading to show people with ASD only in heroic

situations and without any extreme distress when met with seemingly impossible odds. Viewers might believe people with ASD have heroic abilities during times of crises. Considering people with ASD prefer routine and struggle in social situations, it is likely they would have a harder time than others in dealing with crises. This research highlighted some strengths associated with ASD, while showing how misrepresentations of those strengths can be damaging. This study showed how the majority of the stereotypes associated with ASD involve a high intelligence, or a super-human quality. Those could all be seen as good characteristics, but it is misleading to leave out all the negative aspects of ASD, such as weak verbal or non-verbal communication skills or health-related issues. This article is important to the current study because it supports the notion of the super-genius character. The current study will look for traits of the super genius in Julia.

Conn and Bhugra (2011) examined recent Hollywood films that portrayed a person with ASD. Films were selected if either the movie's script or promotional material stated the character was diagnosed with autism. The sample resulted in 23 films that were analyzed. The authors studied the impact those films had on the public's understanding of ASD. They conducted a qualitative content analysis to examine only movies that specifically identified the character to have ASD. The 23 films ranged from 1981 to 2010. The representation of ASD in films is much more recent than representations of other disabilities or disorders. The goal of this study was to answer the question of why portrayals of autism have become increasingly prominent in cinema and to deconstruct the common themes of the genre. Conn and Bhugra's work was grounded in previous research on cinematic representations of psychiatric disorders, specifically schizophrenia and amnesia. It was found that the stigma experienced by those people was heightened due to their representations in Hollywood films. The authors suspected the same was true of representations of ASD.

Conn and Bhugra (2011) could not say whether the increasing frequency of these films had a relationship to the increase in diagnoses of ASD. They determined autism in Hollywood films was mostly dramatic and rarely ever realistic. Most films are made for entertainment rather than education, but film creators have a public duty to ensure that their portrayals are at least reasonably accurate (p. 61). According to Conn and Bhugra, the first Hollywood film that portrayed autism appeared in 1969. They could not find any movies depicting a character with ASD in the 70s. The number of films grew dramatically each decade after. In the 80s they found three movies, they found seven in the 90s, and 12 in the 2000s. The authors suggested that public awareness of ASD has grown most likely due to Hollywood films.

This research should be taken a step further to generate statistical analyses of the relationship between the number of ASD films produced and ASD diagnoses. The authors imply the increase in ASD films could be attributed to an interest in its dramatic effects. People with autism sometimes have a physical response to stimulus over selectivity. Rocking or head banging “provides a mesmerizing visual spectacle” (p. 57). Hollywood exploits that fact. All films in this study depicted the character with ASD as having an exceptional ability. The authors identified six genres from the ASD films examined. More than half of the films were dramas. A few films were thrillers. Even less were horror, crime, romance, and fantasy films.

One weakness of Conn and Bhugra’s (2011) study was the authors were not very detailed in their methodology. It was clear how they chose the films they analyzed but not how they coded them. This study could be replicated, but the new researcher would have to design their own method for coding films. Although the methodology for this study cannot be used in the current study. The article further supports the idea that characters with ASD are exaggerated or inaccurate in television shows and films.

**CARS2 Study.** Garner, Jones, and Harwood (2015) used the empirical assessment tool, the CARS2, used by ASD professionals in the field, to analyze character representations of ASD. The current study uses the same tool to rate Julia's severity levels. The *Childhood Autism Rating Scale, Second Edition* includes the CARS2-ST (Standard) version for the general autism population and CARS2-HF (High Functioning) version for people on the high-functioning end of the spectrum, such as people diagnosed with Asperger's syndrome, which is no longer a diagnosis in the *DSM-5*. Both scales rate the participant in 15 areas. Garner, Jones, and Harwood used the CARS2-HF. The current study uses the CARS2-ST. The primary value of the CARS2 is in providing a brief, quantitative, specific, and reliable summary of comprehensive information that can be used to help develop diagnostic hypotheses for individuals of all ages and functioning levels (Schopler & Van Bourgondien, 2010). Ratings are based on the frequency of behaviors, their intensity, peculiarity, and duration (p. 3) This tool allows for great flexibility in integrating information about a case, but still yields consistent quantitative results. Professionals use CARS2 results with aiding in giving diagnostic feedback to parents, creating functional profiles, and guiding intervention planning (p. 3).

Garner, Jones, and Harwood used this tool because it is an observational-based tool that can be used in person or through film because no manipulation of stimuli is essential. The CARS2 does provide parent questionnaires, but they were not used for either study. In the researchers' (2015) study two independent raters from different professional backgrounds conducted a content analysis and assessed character portrayals from 15 films using the CARS2. The goal was to determine the distribution of autism symptomology in film relative to the distribution in the actual population with a diagnosis. The CARS2 is reported to have a 95% inter-rater reliability among professionals from different backgrounds (p. 416). The CARS2 has

15 behavioral categories: relating to people; imitation; emotion response; body use; object use; adaption to change; visual response; listening response; taste, smell, and touch response and use; fear or nervousness; verbal communication; non-verbal communication; activity level; level and consistency of intellectual response; and general impression. When utilizing the CARS2, each category is given a score from one to four. A score of one represents age-appropriate difficulty or no evidence of difficulty. A score of two represents minimal difficulty. A score of three represents moderate difficulty, and a score of four represents severe difficulty. Each behavioral area was given a mean score provided by the CARS2 that represents the average score expected for the population with a diagnosis of ASD. The researchers evaluated characters with ASD in the chosen films and compared those scores with the given averages. The criteria for choosing the films were: 1) the film had been released in cinema; 2) the DVD explicitly stated autism, Asperger's syndrome, or ASD; and 3) the film had been released prior to December 31, 2010. Fifteen films fit the criteria.

All but one film character showed character portrayals as more severe in their display of autism symptomology than would be expected in the average population of people with ASD, as assessed using the CARS2, with 13 films in the "Severe Symptoms of ASD" group (see Table 2). "The distribution curve for filmic portrayals, is skewed to the left, indicating that the portrayals are extreme versions of autism affectedness" (p. 419). T-scores between 45 and 54 are classified as autism symptoms similar to the autism population. The higher the score is, the more severe the symptoms are. The films examined had T-scores between 60 and 70.



**Table 2. Characters Rated by Garner, Jones, and Harwood (2015)**

<b>Character</b>	<b>Film Title</b>	<b>Release Year</b>	<b>Genre</b>	<b>DVD Box Description</b>	<b>CARS2 Severity Grouping</b>
Ben	<i>Ben X</i>	2007	Drama	Mildly autistic	Severe
Charlie	<i>The Black Balloon</i>	2008	Drama	Autistic brother Charlie	Severe
Cody	<i>Bless the Child</i>	2000	Horror	Thought to be autistic	Minimal-to-no
Zen	<i>Chocolate</i>	2009	Action	Young autistic girl	Severe
Eddy	<i>Guarding Eddy</i>	2004	Drama	Autistic sports jabbering	Mild-to-moderate
Wesley	<i>Killer Diller</i>	2004	Drama	An autistic savant	Severe
Max	<i>Mary and Max</i>	2009	Anime	Asperger's Syndrome	Severe
Simon	<i>Mercury Rising</i>	1998	Action	Nine-year-old autistic boy	Severe
Molly	<i>Molly</i>	1999	Drama	Autistic, retarded sister	Severe
Donald & Isabelle	<i>Mozart and the Whale</i>	2005	Drama	A math savant Asperger's	Severe
Khan	<i>My Name is Khan</i>	2010	Drama	Has Asperger's Syndrome	Severe
David/Dafu	<i>Ocean Heaven</i>	2010	Drama	Childhood autism	Severe
Raymond	<i>Rain Man</i>	1988	Drama	Autistic savant	Severe
Tim	<i>Silent Fall</i>	1994	Thriller	An autistic child	Severe
Linda	<i>Snow Cake</i>	2006	Drama	Suffers from autism	Severe

*Note.* The DVD descriptions above do not use person-first language. They are written as they appeared on the DVD box. Garner, Jones, and Harwood selected the 15 characters based on these descriptions.

Garner, Jones, and Harwood's (2015) study could have benefitted from a larger sample. Some of the 15 films were in different languages. It was hard for the CARS2 raters to read subtitles while effectively interpreting the character's actions and cultural nuances. The inter-rater agreement was 87.4% for the total scores and 93.5% when foreign language films were eliminated. The strength of this study was utilizing a tool used by professionals in the field. The CARS2 is an excellent device for studies like this because the tool only loses minimal effectiveness when ratings subjects on a screen. The raters can observe the characters as they would a person who was actually there. The CARS2 was employed in the current study to measure Julia's severity of symptoms. The *DSM-5* was used along with the CARS in identifying characteristics and rating for *general impression* (CARS2 category).

### **Summary of Literature Review**

Previous scholarship has informed the current study about the most commonly portrayed media representations of ASD. Holton, Farrell, and Fudge (2014), Holton et al. (2012), and Smith et al (2008) demonstrated the fear associated with the MMR- autism controversy. The studies showed a decline in MMR vaccination rates but cannot show if that drop continued over the years or was just a temporary dip. The MMR vaccination rate is not necessarily important to the current study. Although previous studies do not inform what the vaccination rate is today, they do inform about the fear and stigmatization surrounding an autism diagnosis. These studies are important to the current study because they expose the fact that many people would risk other illnesses to avoid a vaccine they believed could cause autism. The articles also demonstrated how easily society can be misinformed. Society fears an ASD diagnosis but does not necessarily understand what an accurate portrayal of someone with autism looks like because all portrayals studied thus far have been exaggerated.

Clarke (2011), Kang (2013), and Holton (2013) displayed how the story of the mother of a child with ASD can often overshadow the story of the actual person with autism. These studies highlighted the major familial concerns about having a child with ASD and discussed the stigma mothers face. Coverage did not focus on how an ASD diagnosis affects the person who receives the diagnosis. It was also demonstrated how the character with ASD was not interviewed, even when the story only existed because of them. The family members almost always dominated the interviews in news stories about real people with ASD. They also dominated the dialogue in shows based around a character with ASD. The previous studies indicated that people with ASD are not considered experts on their own disability and they are rarely the person interviewed, but the studies do not make clear why that is. Characters with ASD are never played by people who actually have ASD. Though Julia is not a real little girl with ASD, she was designed by professionals with close family members with autism.

Walters (2013), Belcher and Maich (2014), and Conn and Bhugra (2011) exposed the super-genius character. They showed how the characteristics exhibited by these characters were exceptional cases of someone with ASD and not realistic of an actual person with ASD. The descriptions of the characters were helpful in understanding the most commonly depicted character, but the authors did not do a good job of explaining their methods. It seemed as though the researchers observed the shows and movies, detailed what they saw, and then gave their opinions about them.

Holton, Farrell, and Fudge (2014), Kang (2013), and Garner, Jones, and Harwood (2015) conducted research methods that proved worthy of replication. Holton, Farrell, and Fudge's frames are replicated in the current study. They examined gain and loss frames, episodic and thematic frames, and socially stigmatizing cues. Kang also examined episodic and thematic

frames. Garner, Jones, and Harwood utilized the CARS2, which is an exceptional tool for a content analysis because no manipulation of stimuli is necessary. Subjects can be analyzed through the television screen. The CARS2 is used to gauge the severity of Julia's ASD symptoms across 15 different categories. Previous studies have demonstrated that portrayals of ASD are exaggerated, either by showing them as geniuses or with the most severe of symptoms, and they have shown that those with ASD and their families, mainly mothers, are stigmatized.

Julia might be the first character on a television show or movie to not exhibit exaggerated symptoms of ASD or super-genius qualities. That is what this study aims to discover. Julia's character is the first character with ASD created to educate others about her disability (GUMC, 2016). Previous research has yet to show if a realistic portrayal of a person with autism would exhibit the same level of stigmatization as an exaggerated or inaccurate character has. If Julia's character proves to resemble ASD symptomology similar to that of the population of people diagnosed with ASD (determined by CARS2 scores) then she might also exhibit less stigmatization, more *gain frames* (emphasis on the benefits of an activity versus the negatives), and more *episodic frames* (emphasis on the individual with ASD rather than societal concerns).

## CHAPTER 3

### METHODOLOGY

A content analysis was conducted using all materials featuring Julia from *Sesame Street* as part of the show's autism initiative, "*Sesame Street* and Autism: see amazing in all children". Frames (Holton, Farrell, & Fudge, 2014; Kang, 2013) and a professional tool (Garner, Jones, & Harwood, 2015) from previous ASD research were utilized to compare Julia's character with other ASD narratives. This study attempts to identify if ASD, in Julia's case, was discussed similarly to how it was in past reports regarding the different frames and if Julia's character is a more realistic depiction (average symptomology) of a person with ASD than past television and movie characters regarding CARS2 scores. As discussed in the previous chapter, the frames analyzed were: gain, loss, episodic, thematic, and socially stigmatizing cues. The tool used was the CARS2, and the *DSM-5* was used along with the CARS2 to inform rating.

#### Content Analysis

Content analysis is the study of recorded human behavior (Babbie, 2010). This method was chosen because it is the most objective way to study media portrayals. Content analyses are objective because the method allows multiple researchers to examine the same content and come to the same conclusion; the method is systematic (Sparks, 2006, p. 21). Analysts might assume that the behavioral patterns, values, and attitudes found in the material they analyze reflect the behaviors, attitudes, and values of the people who create the material. The objective is not to study media effects because that is not possible with a content analysis, but one might make assumptions about the attitudes and values of *Sesame Street* based on the portrayals examined.

## Data Collection and Sampling

Data were collected by visiting *autism.sesamestreet.org* and searching “Julia”. The search produced 10 results. The results included: seven clips from *Sesame Street* episodes, one animated digital storybook “We’re Amazing 1-2-3!”, and an animated video version of the storybook also titled “We’re Amazing 1-2-3!” All materials featuring Julia were analyzed for this study, excluding the first clip, which was about the making of Julia and not a character portrayal. Five different frames were analyzed: gain, loss, episodic, thematic, and socially stigmatizing cues. Julia’s character was also given CARS2 scores. The *DSM-5* was used to highlight different symptoms and deficits that were apparent in Julia’s depiction.

## Measures

This section discusses how the frames were coded and analyzed and how the CARS2 was employed. The frames were compared between two media types and with previous studies (Holton, Farrell, & Fudge, 2014; Kang, 2013). The CARS2 scores were recorded using all media and were not compared across the media types. The scores were compared with Garner, Jones and Hardwood’s (2015) study. No study has utilized the *DSM-5* to diagnose a fictional character to date. This study does not attempt to diagnose Julia but identifies symptoms and deficits that suggest an ASD diagnosis. Each of the frames and the CARS2 are explained below. Some of the frames are mutually exclusive, while others allow for the occurrence of multiple frames.

### Media Type

The five frames were analyzed across two different media types: episode clips (coded 1) and storybooks (coded 2). The episode clips portray Muppet Julia, and the digital and video

storybooks, both titled “We’re Amazing 1-2-3!” portray an animated version of Julia. The coders analyzed Muppet Julia by viewing seven episode clips: “Meet Julia” (10 minutes 8 seconds); “Julia’s Bunny” (1 min. 38 sec.); “Blowing Bubbles” (2 min. 6 sec.); “Butterfly Flapping” (1 min. 50 sec.); “Twinkle Twinkle” (2 min. 7 sec.); “Boing Tag” (1 min. 17 sec.); and “Sunny Days” (1 min. 30 sec.).

The coders analyzed animated Julia by viewing the digital storybook (22 pages featuring Julia) and the video storybook (2 min. 3 sec.). The two media are referred to as either the episode clips (Muppet Julia) or the storybooks (animated Julia). The coders viewed over 22 minutes of video and 22 pages of text in total. The frames were analyzed, and the two media types were compared. The CARS2 scores and *DSM-5* symptoms were generated after analyzing every portrayal of Julia at least three times. There was no comparison among media types because all character portrayals of Julia were needed to efficiently score her ASD symptom severity.

### **Title**

Depending on the media type, episode clips (1) and storybooks (2), each unit of analysis (sentence) was labeled with the title of the episode clip it came from (*Meet Julia*, *Julia’s Bunny*, *Blowing Bubbles*, *Butterfly Flapping*, *Twinkle Twinkle*, *Boing Tag*, or *Sunny Days*) or *digital* or *video* storybook (they both have the same title). Sentences from the same title were each numbered next to the title for tracking purposes (see Appendix A). Titles were only important for analyzing frames, not using the CARS2.

### **Source**

If the unit of analysis (sentence) was spoken by Julia it was coded (1). If the sentence was spoken by someone other than Julia it was coded (2). Source was only important for analyzing frames. Only speech or behavior exhibited by Julia was analyzed using the CARS2.

### **Analysis of Frames**

The unit of analysis for the five frames was any sentence spoken by Julia (coded 1) or any sentence spoken by another character in reference to Julia or ASD (coded 2). Closed captioning was used to visualize the sentences. The end of a sentence was determined by a period, question mark, or exclamation point. One exception was when a character said one word followed by a period and then another sentence. The word and the following sentence were considered one unit of analysis. For example, if Elmo said, “Oh. Julia you love to play tag”, that would count as one sentence. The unit of analysis remained the same for all frames and for both media types (see Appendix A for coding guidelines and coding sheet).

**Gain and loss.** *Gain* frames are employed with coverage of low-risk, preventative actions. They focus on what a person can do beforehand. The focus is on the benefits of actions versus the negatives of avoiding actions (Holton, Farrell, & Fudge, 2014). The unit of analysis was coded 1 “yes” for the occurrence of gain framing if emphasis was placed on the benefits of a certain action or activity. A gain frame can appear simultaneously with any other frame except a loss frame.

*Loss* frames typically assign causes for health risks or societal responses to others. Loss frames generate fear that can lead to positive behavioral changes (Holton, Farrell, & Fudge, 2014). The focus is placed on the negative one wants to avoid rather than the positive one wishes to obtain. The unit of analysis was coded 1 “yes” for loss framing if the emphasis was placed on



negative outcomes. A loss frame can appear simultaneously with any other frame except a gain frame. The authors defined gain and loss frames using Kahneman and Tversky's (1979, 1981) definitions. A similar approach was used by Major (2011). The unit of analysis cannot exhibit both a gain and loss frame but can exhibit neither, coded 0 "no" occurrence.

**Episodic and thematic.** *Episodic* frames focus on personal lifestyles and suggest individual solutions or cures. Episodic coverage does not have to feature the voice or perspective of the person with a disability (Holton, Farrell, & Fudge, 2014). Episodic frames are focused on a case or event in which individuals are involved. Episodic frames promote individual responsibility with emphasis on the origin of a problem, such as individual behaviors or personal condition (Kang, 2013). The unit of analysis was coded 1 "yes" for episodic framing if it was apparent that the focus was placed on the individual, either Julia, or the friends around her. For example, if Elmo told Abby Cadabby that Julia is not responding to her because she has autism and sometimes takes a little longer to respond, that would be coded as 1 "yes" for episodic. Episodic frames can appear simultaneously with any other frame.

*Thematic* frames place emphasis on the connection between the issue and society, promoting shared responsibility regarding health issues (Holton, Farrell, & Fudge, 2014). Thematic frames focus on issues from a broader perspective. Social responsibility is placed on the people who have the power to control the problem such as the government and policy makers (Kang, 2013). The unit of analysis was coded 1 "yes" for thematic framing if it was apparent that the focus was placed on ASD at the societal vs. individual level. Thematic frames can appear simultaneously with any other frame. Holton, Farrell, and Fudge defined episodic and thematic framing based on Iyengar's (1991, 1996) research. Kang utilized Iyengar's (1991) definition as well. The unit of analysis can be coded as having one, both, or neither, 0 "no"

occurrence, for episodic or thematic frames.

**Socially stigmatizing cues.** The *socially stigmatizing cues* were: 1) labeling: identifying Julia based on her diagnosis, saying she has autism or calling her things like shy or different; 2) psychiatric symptoms: focusing on responses to external stimuli, such as rocking, shaking, or sensitivities to light, or sounds; 3) social deficits: identifying impaired social interactions or other verbal and nonverbal communication issues; and 4) physical appearance symptoms: referencing physical development, impairments, or abnormalities, such as mismatched clothes. Though children with autism often resemble “typical” children, these stigmatizing cues might identify them spoiling their “normal” identity (Holton, Farrell, & Fudge, 2014). The socially stigmatizing cues were gathered from Corrigan’s (2000) study, which was based on Goffman’s (1963) stigma research.

Most units of analysis (sentences) only exhibited one socially stigmatizing cue, if any. If more than one socially stigmatizing cue appeared in a sentence, the most predominant cue was the one that was coded. If the sentence exhibited labeling it was coded 1 “yes”. If the sentence exhibited a psychiatric symptom it was coded 2 “yes”. If the sentence exhibited a social deficit it was coded 3 “yes”. If the sentence exhibited a physical appearance symptom it was coded 4 “yes”. If the sentence did not exhibit any of the socially stigmatizing cues it was coded 0 “no occurrence”. This frame can appear simultaneously with any other frame.

### **Analysis of ASD Severity**

The unit of analysis for the CARS2 was any portrayal exhibited by Julia. This included all of Julia’s speech and behaviors observed by the investigators. The unit of analysis for the

CARS2 differed from the unit of analysis for the frames because both analyses measure different things. The CARS2 details symptom severity based on Julia's portrayal, while the frames are used to detail the dialogue. Other's communication was irrelevant to Julia's behavior and CARS2 scores. The coders watched all media portrayals of Julia before scoring her. Julia was given 15 CARS2 scores, and the *DSM-5* was used to detail Julia's symptoms in comparison to its guidelines. It was not possible to compare the episode clips and the storybooks because all materials were needed to have enough information to effectively use the scale.

**CARS2.** The *CARS2* is a professional tool utilized by practitioners to determine the presence and severity of ASD characteristics. Garner, Jones, and Harwood (2015) were the first researchers to employ the tool on media characters with ASD. The current study duplicates their research utilizing one character with ASD, Julia. The manual provides detailed steps for deciphering scores for 15 different categories. Julia was rated on the 14 behavioral categories and also given a general impression score. The categories were: relating to people; imitation; emotion response; body use; object use; adaption to change; visual response; listening response; taste, smell, and touch response and use; fear or nervousness; verbal communication; non-verbal communication; activity level; and level and consistency of intellectual response. For each category Julia was given a score between 0 and 4. The scores were coded 1 "no difficulty with age appropriate tasks", 2 "mild", 3 "moderate", or 4 "severe". Half points were an option as well (see Appendix B for coding sheet). The two coders independently scored Julia on each of the categories using all of her character portrayals. The principal investigator totaled Julia's scores for all 15 categories calculating a raw score. The raw score was translated to a T-score that corresponded with a severity of autism symptomology group.

**DSM-5.** The *DSM-5* provides a list of deficits in social communication and interaction and restricted, repetitive patterns of behavior, interests, or activities that suggest an ASD diagnosis (see Appendix B for guidelines). The *DSM-5* was used to highlight the symptoms and deficits apparent in Julia's portrayal, and it was valuable in informing the rating process.

## **Hypotheses**

Twelve hypotheses were generated. There are three hypotheses for each grouping of variables: gain and loss; episodic and thematic; and socially stigmatizing cues. The first hypothesis for each grouping compares the current study's findings regarding media type one (the episode clips) with past findings (Holton, Farrell, & Fudge, 2014; Kang, 2013). The second hypothesis for each grouping compares the current study's findings regarding media type two (the storybooks) with past findings (Holton, Farrell, & Fudge, 2014; Kang, 2013). The third hypothesis in each grouping compares findings from the two media types analyzed: Muppet Julia (episode clips) and animated Julia ("We're Amazing 1-2-3!" storybooks).

All materials featuring Julia were needed to calculate CARS2 scores. Those findings are addressed in H10 and H11. The CARS2 findings were compared with previous findings (Garner, Jones, & Harwood, 2015) and population statistics (Schopler & Van Bourgondien, 2010), but there was no comparison between the two media types. The current study is concerned with whether Julia exhibits severe autism symptomology or average symptoms for someone her age. The *DSM-5* contributed especially when scoring the *general impression* category of the CARS2.

## **Gain and Loss**

Holton, Farrell, and Fudge (2014) studied other research that utilized gain and loss frames. They found gain and loss frames applied to numerous health-related studies, such as smoking (Kenterelidou, 2012), condom use (Garcia-Retamero & Edward, 2011), alcohol abuse, (Quick & Bates, 2010), the human papillomavirus vaccination (Nan, 2012), and breast cancer (Gallagher, Updegraff, Rothman, & Sims, 2011). Those studies found loss frames to be more relevant, persuasive, and effective than gain frames (Holton, Farrell, & Fudge). The authors found more loss frames (59.2%) than gain frames (32.6%) in television news coverage. Because of the nature of *Sesame Street*, it is likely there will be more focus on positive ways of looking at health. Therefore, this study should find the opposite of previous studies.

H1: The episode clips (Muppet Julia) will exhibit more gain than loss frames.

H2: The “We’re Amazing, 1-2-3!” storybooks (animated Julia) will exhibit more gain than loss frames.

H3: The episode clips and the storybooks will not exhibit a difference between occurrence of gain and loss frames.

### **Episodic and Thematic**

Episodic and thematic frames assign responsibility for an issue at either the individual (episodic) or societal (thematic) level. Kang (2013) found more episodic than thematic frames in television news consistently from 1990-2010. Episodic frames doubled thematic frames. Holton, Farrell, and Fudge (2014) found more thematic frames (72.5%) than episodic (60.7%) in newspaper coverage of autism from 1998-2012. It is likely that this study will find more episodic frames than thematic because the focus is on one character versus news stories about many

different people and topics. Because past studies have found that print media exhibited more thematic than episodic frames and television exhibited the opposite, the animated media might exhibit more thematic frames than the episode clips.

H4: The episode clips (Muppet Julia) will exhibit more episodic than thematic frames.

H5: The “We’re Amazing, 1-2-3!” storybooks (animated Julia) will exhibit more episodic than thematic frames.

H6: The storybooks will exhibit more thematic frames than the episode clips.

### **Socially Stigmatizing Cues**

Holton, Farrell, and Fudge (2014) found nearly two thirds of the coverage they analyzed contained “explicit stigmatizing cues” (p. 200). One of the goals for *Sesame Street*’s autism initiative is to reduce the stigma associated with ASD (Sesame Workshop, 2017). For that reason, it is likely that Julia’s portrayal will exhibit less stigmatization than previous findings.

H7: The episode clips (Muppet Julia) will exhibit fewer socially stigmatizing cues than previous findings of ASD coverage.

H8: The storybooks (animated Julia) will exhibit fewer socially stigmatizing cues than previous findings of ASD coverage.

H9: The episode clips and storybooks will not exhibit a difference between occurrence of socially stigmatizing cues.

### **CARS2 and DSM-5**

Using the CARS2, Garner, Jones, and Harwood (2015) found that filmic portrayals of autism exhibited higher levels of severity than the actual population of people diagnosed with ASD for every category except *imitation*, *visual*, and *activity*. They were the first and only researchers to use the CARS2 in such a way. There was no attempt to diagnose Julia, only to observe the symptoms of ASD in Julia's portrayal. Because of *Sesame Street*'s background and years of research before presenting Julia to the public, it is likely she will exhibit the symptoms listed in the *DSM-5*, and it is likely her symptoms will result in lower CARS2 scores than previous characters received.

H10: Julia's character will receive CARS2 scores that are lower than the median scores collected in Garner, Jones, and Harwood's (2015) study.

H11: Julia's character will receive CARS2 scores that resemble the median scores given for the actual population of children aged 2-12 diagnosed with ASD.

H12: Julia's portrayal of a person with ASD will exhibit three out of three social communication and social interaction deficits and two out of four restrictive, repetitive behaviors listed in the *DSM-5* guidelines for ASD.

## **Coding**

### **Frames**

There were two coders, one of whom was the principal investigator. For each medium, the unit of analysis was coded 1 "yes" or 0 "no" for the occurrence of each of the different frames: gain, loss, episodic, and thematic. Socially stigmatizing cues were coded 1, 2, 3, 4, or 0. Only gain and loss frames were mutually exclusive. Both coders analyzed seven video clips of

Muppet Julia from *Sesame Street* episodes, and they analyzed the animated digital storybook “We’re Amazing 1-2-3!” and the animated video version of the storybook, as the other media type, to compare Muppet Julia and animated Julia. The two coders coded both media types for the occurrence of the five frames.

### **CARS2 and DSM-5**

The CARS2 is an exceptional tool for a study like this because no certification is needed to use the scale. The CARS2 comes with step-by-step instructions for generating scores. Julia’s character was given CARS2 scores by following the protocol set forth in the *CARS2 Manual*. The coders considered all media in deciphering CARS2 scores. They did not compare the two media types because it was necessary to include all of Julia’s portrayals in deciphering scores. Symptoms were highlighted based on the *DSM-5* criteria.

### **Intercoder Reliability**

For analysis of frames the principal investigator and the second coder coded 100% of the sample for the occurrence of each frame for a total of 463 sentences. The units were analyzed independently of one another. Both the principal investigator and the second coder used closed captioning when observing the episode clips and video storybook to help visualize each unit of analysis (sentence). The principal investigator trained the second coder by practicing with another popular show portraying a character with autism, *The Good Doctor*. After analyzing 20% of the sample, the results from both coders were used to assess intercoder reliability using Cohen’s kappa ( $\kappa$ ) coefficient. It was important to test for intercoder reliability to ensure both coders were coding the same way before coding the remainder of the content. The agreement for the first 20% of the content coded for media type, title, source, gain, and loss was  $\kappa = 1.000$  ( $p <$



.000), a 100% agreement. For episodic  $\kappa = .818$  ( $p < .000$ ). For socially stigmatizing cues  $\kappa = .851$  ( $p < .000$ ). Kappa for thematic framing was not calculated because no occurrences of that frame were observed.

The principal investigator discussed the results with the second coder. The two specifically addressed the episodic frame and socially stigmatizing cues to increase intercoder reliability for the remaining content. The coders coded the remaining 80% of the sample and ran Cohen's kappa coefficient tests one final time. Kappa for media type, title, source, gain, and loss remained  $\kappa = 1.000$  ( $p < .000$ ). Kappa for episodic increased to  $\kappa = .929$  ( $p < .000$ ). Agreement for socially stigmatizing cues increased to  $\kappa = .890$  ( $p < .000$ ). All of the variables had very high agreement, 89% being the lowest.

After analyzing the content for the occurrence of frames, the coders viewed all of the media three more times and independently scored Julia using the CARS2-ST version. Kappa could not be calculated for CARS2 scores because each investigator only scored each category once, combining the two media types. Out of 15 categories, the raters gave Julia the same score for 11 of the categories. For the other four categories, the scores only differed by half a point.

### **Data Analysis Plan**

Hypotheses 1 through 6 will be tested utilizing Chi Square and Cross-tabulations. Hypothesis 9 will be tested using a *t*-test. Frequencies and measures of central tendency including median will be generated for hypotheses 7, 8, and 10, and outcomes will be compared to findings from previous research. Median scores from the CARS2 will compare population statistics for ASD in order to test hypothesis 11, and hypothesis 12 addresses *DSM-5* findings.

## CHAPTER 4

### RESULTS

This chapter reports general results and outcomes from hypotheses tests. The episode clips analyzed were: “Meet Julia” (201 units of analysis (UA), 10 minutes and 8 seconds); “Julia’s Bunny” (21 UA, 1 min. 38 sec.); “Blowing Bubbles” (29 UA, 2 min. 6 sec.); “Butterfly Flapping” (35 UA, 1 min. 50 sec.); “Twinkle Twinkle” (21 UA, 2 min. 7 sec.); “Boing Tag” (26 UA, 1 min. 17 sec.); and “Sunny Days” (9 UA, 1 min. 30 sec.). The episode clips totaled 342 sentences that qualified as units for frame analysis and 20 minutes and 36 seconds of overall content (used for assessing CARS2 scores). The animated media were: “We’re Amazing 1-2-3!” the digital storybook (83 UA, 22 pages) and “We’re Amazing 1-2-3!” the video (38 UA, 2 min. 3 sec.). The animated media totaled 121 sentences that qualified for frame analysis out of 22 pages and 2 minutes and 3 seconds of overall content. All frames totaled 463 units and overall content totaled over 22 minutes of video and 22 pages of text.

#### General Description of Frames

For examining frames, the unit of analysis was any sentence spoken by Julia, or any sentence spoken in reference to Julia or ASD. A sentence was determined by using the “closed captioning” option for each video and using ending punctuation marks such as periods, exclamation marks, and question marks. If one word was separated by an ending punctuation mark but the character continued to say a full sentence, it was counted as one unit of analysis.

The principal investigator first ran frequencies for each variable to view a general landscape of the occurrence of each frame. The gain frame only appeared in 0.9% of the total

sample, while the loss frame occurred even less, 0.2%. The episodic frame occurred in 43.8% of the total sample, while the thematic frame had no occurrence. In total, 26.1% of units analyzed exhibited socially stigmatizing cues: psychiatric symptoms 14.9%; social deficits 8.2%; labeling 3%; and physical appearance 0%.

### **Hypotheses 1 through 3**

Hypothesis 1 speculated that the episode clips would exhibit more gain than loss frames, Hypothesis 2 speculated that the “We’re Amazing 1-2-3!” storybooks would also exhibit more gain than loss frames, and Hypothesis 3 speculated there would be no difference in occurrence of gain and loss frames across the two media groups. The reader will recall in the general description of the data that there were very few observations for the evidence of gain and loss frames, arguably no occurrence. Cross-tabulation on these variables was rendered useless because of that reason. Therefore, it was impossible to test the first three hypotheses. When Holton, Farrell, and Fudge (2014) used these frames they were looking at health-related stories. These frames might not have been suitable for this particular character (discussed further in Chapter 5).

### **Hypotheses 4 and 5**

Hypothesis 4 suggested that the episode clips (Muppet Julia) would exhibit more episodic than thematic frames, and Hypothesis 5 expected the same of the “We’re Amazing 1-2-3!” storybooks (animated Julia). Cross-tabulation and Chi Square tests of these variables rendered useless as well because there were no occurrences of thematic framing. The minimum expected cell count was not met for each variable; therefore, the tests were not meaningful. Though the data do not show statistical significance, the data do support H4 and H5 based on frequency

tables alone. There were no occurrences of thematic framing, but episodic framing was observed in 43.8% of the total sample. Episodic framing occurred in 44.2% of the episode clips and 43% in the storybooks. Both media groups exhibited more episodic than thematic frames. Therefore, it is reasonable to suggest that H4 and H5 were supported.

### **Hypothesis 6**

Hypothesis 6 suggested that the storybooks would exhibit more thematic frames than the episode clips. Since thematic framing was not observed in either media group, Hypothesis 6 was rendered useless for testing and unsupported by the data.

### **Hypotheses 7 and 8**

Hypothesis 7 speculated that the episode clips would exhibit fewer socially stigmatizing cues than previous research found analyzing news content about ASD. Hypothesis 8 speculated that the animated storybooks would also exhibit fewer socially stigmatizing cues than previous research. Holton, Farrell, and Fudge (2014) found 67.3% of the content they analyzed had socially stigmatizing cues. Psychiatric symptoms occurred in 52.6% of the content, labeling occurred in 50.7%, social deficits occurred in 44%, and physical appearance occurred in 15.9% of the content.

The episode clips were observed to contain 25.4% overall socially stigmatizing cues: psychiatric symptoms 15.8%; social deficits 6.4%; labeling 3.2%; and physical appearance 0%. The storybooks contained 28.1% overall socially stigmatizing cues: social deficits 13.2%; psychiatric symptoms 12.4%; labeling 2.5%; and physical appearance 0%. Socially stigmatizing

cues occurred less in both media groups compared to past findings. Therefore, Hypotheses 7 and 8 were supported by these findings.

### **Hypothesis 9**

Hypothesis 9 suggested that the episode clips and the storybooks would not exhibit a difference in the occurrence of socially stigmatizing cues. A *t*-test showed that there was no significant difference between socially stigmatizing cues in the episode clips and the storybooks ( $p = .114$ ). The episode clips portrayed 25.4% socially stigmatizing cues, and the storybooks portrayed 28.1% socially stigmatizing cues. The overall percentage of socially stigmatizing cues is arguably close, therefore supporting H9. Physical appearance cues did not occur in either media. Labeling occurred least often in both groups: episode clips (2.5%) and storybooks (3.2%). Psychiatric symptom cues were similar for each group: episode clips (15.8%) and storybooks (12.4%). Social deficit cues differed slightly among the groups: episode clips (6.4%) and storybooks (13.2%).

### **General Description of CARS2**

For deciphering CARS2 scores, the unit of analysis was all actions and behaviors exhibited by Julia. The CARS2 raters who scored the severity levels of Julia's ASD symptoms were the same investigators that analyzed the occurrence of frames. Together the raters read the *CARS2 Manual* and how to rate each category. They utilized a sample in the manual for another child the same age as Julia (4). The two raters reviewed all media content for a second time (the first time for the frame analysis), each keeping notes of where they saw portrayals by Julia that suited each category. They then read through each category a second time, rating the categories

while reviewing specific content they noted would apply to each category. All content was viewed at least three times before rating Julia. Some content was viewed more than three times when it applied to one of the categories specifically. The two raters decided on CARS2-ST scores independently of one another. Each category was ranked from 1 to 4 with half points offered as an option. Table 3 below shows how the two raters scored Julia in each of the 15 categories.

**Table 3. Current Findings using CARS2-ST**

CATEGORY	RATER 1 SCORES	RATER 2 SCORES
RELATING	2.5	3
IMITATION	1	1.5
EMOTION	2.5	2.5
BODY	3	3
OBJECT	2.5	2.5
ADAPT	1	1
VISUAL	3	3.5
LISTEN	3	3
TASTE/TOUCH/SMELL	1	1
FEAR	2	2
VERBAL	2.5	3
NONVERBAL	1.5	1.5
ACTIVITY	2.5	2.5
INTELLECT	3.5	3.5
GENERAL IMPRESSION	3	3

For 11 out of 15 categories the two raters scored Julia the same. For the other four categories, the two raters' scores differed by no more than 0.5 of a point. Rater 2 scored 0.5 higher than rater 1 in all four of those instances. Hypotheses 10 and 11 compared Julia's scores first with past findings (Garner, Jones, and Harwood, 2015) and then with population statistics (Schopler & Van Bourgondien, 2010).

## Hypothesis 10

**Table 4. CARS2 Scores for Past Characters, Julia, and Population Medians**

CATEGORY	GARNER, JONES, & HARWOOD	JULIA'S SCORES	POPULATION MEDIANS
RELATING	3.5	2.5	3
IMITATION	2.42	1	2.5
EMOTION	3.35	2.5	3
BODY	2.64	3	2.5
OBJECT	3.14	2.5	2.5
ADAPT	2.78	1	2.5
VISUAL	2.5	3	2.5
LISTEN	2.9	3	2.5
TASTE/TOUCH/SMELL	2.5	1	2
FEAR	3	2	2.5
VERBAL	3.57	2.5	3
NONVERBAL	3.5	1.5	2.5
ACTIVITY	2.21	2.5	2.5
INTELLECT	3.64	3.5	2.5
GENERAL IMPRESSION	3.4	3	3
RAW SCORE	45	34.5	39
T-SCORE	66	45	51

*Note.* >70 represents extreme level of autism-related symptoms; 60–70 represents very high level of autism-related symptoms; 55–59 represents high level of autism-related symptoms; 45–54 represents average level of autism-related symptoms; 40–44 represents low level of autism-related symptoms; 25–39 represents very low level of autism-related symptoms; and <25 represents minimal-to-no autism-related symptoms. Population medians are from children aged 2-12.

Hypothesis 10 speculated that Julia's character would receive CARS2 scores that were lower than the median scores found in Garner, Jones, and Harwood's (2015) study that rated television characters with high-functioning autism. It was suggested that Julia would receive lower scores because her autism symptoms were less exaggerated than previous characters on the spectrum. Garner, Jones, and Harwood rated 15 film characters on the 15 different categories using the CARS2-HF (High Functioning) version. They calculated the median scores for each category based on all 15 characters. Table 3 details the scores for Garner, Jones, and Harwood's study. In 12 out of the 15 categories Julia's CARS2-ST scores were lower than the median scores found in Garner, Jones, and Harwood's study.

*Body use, visual response, and listening response* were the three categories where Julia did not receive lower CARS2 scores. For *body use* Julia was scored 3 in the current study compared with 2.64. Julia received a score of 3 mainly because of her excessive arm flapping. Self-stimulation (flapping or other repetitive movements) was apparent with Julia. Rater 2 from the past study rated *body* 2.92, very close to Julia's rating. *Visual response* was rated 3 in the current study and 2.5 in the past study. Julia was given a 3 because she rarely, if ever, made eye contact and rarely looked in the appropriate direction. It took Julia time to respond and pick her head up when she was spoken to. Finally, *listening response* was also not lower for the current study. Julia was scored a 3 while the past study median score was 2.9, essentially the same score.

Julia's CARS2-ST raw score totaled 34, placing her autism symptomology in the *mild-to-moderate level of behaviors related to autism* category. The previous study found a median CARS2-HF raw score of 45.05 placing their characters in the *severe level of behaviors related to autism* category. The only other possible category was *likely no autism*. Raw scores are interpreted differently for the standard and high-functioning scales, the appropriate translations



of scores were used for both. Once translated to T-scores, those numbers are interpreted the same for standard or high-functioning autism. Julia received a T-score of 45, implying she has the average level of autism-related symptoms. Garner, Jones, and Harwood's (2015) characters had a median T-score of 66, implying a *very high* level of autism-related symptoms. Hypothesis 10 was supported. Julia received CARS2 scores lower than previous findings of characters with ASD.

### **Hypothesis 11**

Hypothesis 11 speculated that Julia's CARS2 scores would resemble median CARS2-ST scores gathered from the population of children aged 2 to 12 tested using this rating scale. Out of 15 categories, 10 of the categories were either scored the same for Julia and the median given for children aged 2 to 12 or were 0.5 of a point off (see Table 3). Most of Julia's scores do resemble the median scores for actual children with an ASD diagnosis.

Julia's raw score was 34 (calculated by adding the scores from all the categories). Her raw score translated to a T-score of 45. T-scores between 45-54 represent average autism-related symptoms compared to those with an autism diagnosis for Julia's age range. Therefore, Hypothesis 11 was supported.

### **Hypothesis 12**

Hypothesis 12 addressed observations of Julia portraying symptoms and deficits detailed in the *DSM-5*. It was suggested in Chapter 3 that Julia's portrayal of a person with ASD would exhibit three out of three social communication and social interaction deficits and two out of four restrictive, repetitive behaviors (see Appendix B for guidelines). Julia portrayed examples of all

three social communication and social interaction deficits. Julia lacked the ability of sharing a back-and-forth conversation. She failed to respond to each character when they initially met or addressed her for the first time in each particular segment (video clips or storybooks). She portrayed deficits in nonverbal communicative behaviors, such as dismissing a high-five or turning her body away from people who tried talking to her. Julia also avoided eye contact nearly all of the time. Lastly, Julia had trouble relating and interacting with her peers, mainly this was observed by Julia looking down and not acknowledging the other characters. She did not lack an interest in her peers but had a harder time making friends.

Julia portrayed two out of four restrictive, repetitive behaviors. Julia portrayed repetitive motor movements by flapping her arms excessively. She also lined her toys, spun the wheels of her toy car versus making the car drive, and she exhibited echolalia (repeating words back). Julia portrayed signs of hyper-reactivity to sensory aspects in her environment. She showed an adverse response to temperature, sound, and touch. Julia refused hot chocolate because she did not want any drink that was hot. She was upset by any loud noises, such as a siren in one segment and a blender in another. Julia also reacted adversely to finger painting. She did not want to feel the squishy paint in her hands, so she used a paint brush. The other two deficits were not observed.

This analysis was not meant to diagnose Julia. This analysis was conducted to observe if Julia did portray the specific symptoms listed in the *DSM-5* and contributed to the *general impression* category of the CARS2. Three out of three social communication deficits were observed, and two out of four restrictive, repetitive behaviors were observed. Therefore, Hypothesis 12 was supported. Julia not only showed average autism-related symptoms compared with children her age but also met the criteria for ASD in the *DSM-5* guidelines.

## Summary of Hypotheses Testing

Hypotheses 1 through 3 were not tested because there were insufficient occurrences of gain and loss frames. Hypotheses 4 and 5 were supported by the data because episodic framing occurred in 43.8% of the sample, but the complete lack of thematic frames hindered the testing of hypothesis six.

The second half of hypotheses were all supported by the data and were ultimately more interesting. Hypotheses 7 through 9 addressed socially stigmatizing cues. One goal for the “*Sesame Street* and Autism: see amazing in all children” initiative was, reduce the stigma for people with autism. Past research (Holton, Farrell, & Fudge, 2014) found 67.3% of their content contained socially stigmatizing cues. In Julia’s case, socially stigmatizing cues only occurred in 26.1% of the overall sample.

Hypotheses 10 and 11 addressed the CARS2 findings. Past research (Garner, Jones, & Harwood, 2015) found the severity level of autism symptomology for their characters with autism was in the *severe* autism symptomology group. The current study found Julia’s severity level by calculating a raw score that translated into a T-score that determined a severity group. Then that number was compared with population data. Julia’s scores placed her in the average autism symptoms category compared with the population of children her age with ASD. Hypothesis 12 addressed portrayals exhibited by Julia detailed in the *DSM-5* guidelines for ASD. Julia was observed portraying the criteria in the *DSM-5*.

The most interesting of all the results is that Julia scored in the average autism symptomology group, implying that Julia’s ASD symptoms are not exaggerated to the extreme like other television shows have portrayed their characters with autism. Some of Julia’s

symptoms were more severe than others, and some of her symptoms were comparable to typically developing children. The other key finding is that fewer socially stigmatizing cues were found in this media content versus previous content, implying that the *Sesame Street* content stigmatized Julia less than previous content stigmatized its subjects.

## CHAPTER 5

### DISCUSSION

As indicated in Chapter 4, not all of the hypotheses were supported. Eight of the 12 hypotheses were supported by the data. Findings are discussed further in this chapter. First the frame analysis, regarding the first nine hypotheses are discussed. Then findings from the last three hypotheses are discussed regarding the use of the CARS2 and the *DSM-5* guidelines for ASD. Finally, implications, strengths, limitations, and recommendations for future research are provided.

#### Discussion of Frames

Cross-tabulation and Chi-Square testing were rendered useless for the first six hypotheses because of inadequate numbers of observations for gain, loss, and thematic framing. This was a disappointing finding.

#### Hypotheses 1 through 3

The *gain* and *loss* frames did not suit this study. When Holton, Farrell, and Fudge (2014) conducted their study using gain and loss frames they were observing if the framing of autism in the news was creating a stigmatizing environment for people with ASD. Many of the stories they analyzed regarded health-related issues, which corresponded nicely with those frames. Julia's autism was discussed throughout all of the segments, but her health was never a topic that was mentioned.

### **Hypotheses 4 through 6**

Hypotheses 4 and 5, which suggested that both media types would exhibit more *episodic* than *thematic* frames were supported because 43.8% of the total sample contained episodic frames, and there were no occurrences of thematic frames. Previous research analyzed the framing of autism in news stories. Those stories were about many different people and topics surrounding autism. Julia is only one character. The focus was always on her. There was no mention of ASD from a societal level. Finding many individual frames is a positive outcome in the current analysis of Julia's portrayal. However, the presence of at least some societal-view frames would suggest a connection between the individual with autism and society's responsibility to that person. The complete lack of thematic frames suggests a disconnect from social responsibility (Kang, 2013). Hypothesis 6 was rendered useless for testing and was unsupported by the data because it suggested the animated media would exhibit more thematic frames than the episode clips. Neither exhibited thematic frames.

### **Hypotheses 7 through 9**

Findings regarding the *socially stigmatizing cues* frame contributed a valuable discovery for the current study. Sesame Workshop announced that one of its goals for its autism initiative was to reduce the stigma that surrounds ASD. This study did not test if *Sesame Street* did in fact reduce any stigma that surrounds people with autism. What this study does show is that *Sesame Street*'s content contained far fewer socially stigmatizing cues than Holton, Farrell, and Fudge found in their (2014) study, 26.1% compared to 67.3%. Potentially the nature of the show *Sesame Street* accounted for most of that difference. Focusing on one person with autism and her friends was different than analyzing news stories. The audience can make a connection with

Julia's character. The show creators meant to make her likable and they meant to use labels and point out psychiatric symptoms and social deficits. They did so in a way that was informative versus branding or exposing of her disability. Elmo and Alan both told the other characters that Julia has autism (labeling her). They also pointed out that she is shy and different (also labeling her), but they did so to inform the other characters, ultimately informing the viewers about different characteristics they might see if they met someone in real life who has ASD. The same was true for the other socially stigmatizing cues that were observed (psychiatric symptoms and social deficits). When these stigmatizing cues occurred, they were meant for educating. When Julia heard a siren, her adverse response was prolonged. When she flapped her arms, it was very excessive and greatly discussed by the other characters. However, with only 26.1% of the content containing socially stigmatizing cues, it was shown that the conversations consisted of more than just labeling Julia or pointing out her psychiatric symptoms and social deficits. Stigmatizing cues occurred in only about  $\frac{1}{4}$  of the content and presented itself as vital to the learning process.

## **Discussion of CARS2**

Hypotheses 10 through 12 addressed findings from the CARS2 and *DSM-5*. This section first addresses those hypotheses. Then, detailed below are explanations for how Julia was rated. The *CARS2 Manual* detailed the importance of four elements when rating a subject: peculiarity, frequency, intensity, and duration. Each of those elements were considered for every category.

### **Hypotheses 10 through 12**

Hypothesis 10 suggested Julia would receive CARS2 scores lower than the median scores rated by Garner, Jones, and Harwood (2015). Julia did receive lower CARS2 scores than the 15

characters Garner, Jones, and Harwood analyzed on every category except *body use*, *visual response*, and *listening response*. The past characters were rated using the CARS2-HF. Self-stimulatory behavior, such as Julia's arm flapping, was not depicted in characters with high-functioning autism, so past characters scored lower in body use for that reason.

Hypothesis 11 suggested that Julia would receive CARS2 scores that resembled the median scores for the actual population of children aged 2 to 12 diagnosed with ASD. The hypothesis was supported because 10 of the categories were rated similarly to the given median scores (half a point off or less). Julia's T-score of 45 placed her ASD symptomology in the average autism symptoms category compared with other children diagnosed with autism her age.

Hypothesis 12 suggested that Julia's portrayal of a preschooler with ASD would exhibit three out of three social communication and social interaction deficits and at least two out of four restrictive, repetitive behaviors listed in the *DSM-5*. Julia did meet that criteria. Julia was observed exhibiting behaviors specifically listed in the *DSM-5*, like lining her blocks and spinning the wheels on her toy car. The *DSM-5* informed all CARS2 categories but was especially valuable in rating Julia on *general impression*.

### **Rationale for CARS2 Ratings**

*Relating to People* was a rating of how Julia behaved in a variety of situations with Alan and her peers. Julia was rated a score of 2.5 because the other characters had to make persistent attempts to get Julia to respond. Each time Julia met a new character (Big Bird and Abby Cadabby) they expressed feeling nervous that Julia did not like them because she did not answer and walked away. Then Elmo or Alan had to explain that Julia has autism and does not respond right away. When a familiar character engaged Julia, she did not walk away from them but still



took time to respond. Julia did not make eye contact and rarely faced in the appropriate direction. She did not receive a 3 for relating because, although her portrayal sometimes had an impersonal quality, she appeared very personal at other times when she attended to other characters or events.

*Imitation* was a rating of how Julia was able to imitate both verbal and nonverbal actions portrayed by the other characters. Julia was rated a score of 1 because there were many situations in which she copied the language and movements of the other characters without prompting. In one scene Elmo played peek-a-boo with his stuffed animal. He said, “Where’s Baby David?” then he paused, “peek-a-boo”. He said that a couple times while Julia was next to him holding her stuffed animal. He then said, “Where’s Fluffster?” Julia immediately said “peek-a-boo” holding her stuffed animal Fluffster up with excitement. She knew Elmo wanted her to copy his actions without him explicitly telling her. After Julia responded adversely to the sound of sirens, Alan asked Julia to do deep breathing exercises with him. He used his arms to motion up and down representing air going in and out of his body. He motioned to Julia and she imitated his breathing and lifted her chest and arms the same way he did. She appeared to have no difficulty with imitation.

*Emotional Response* was a rating of how Julia reacted to different stimuli and how appropriate those reactions were in a given situation. Julia was rated a score of 2.5 because she occasionally displayed somewhat inappropriate degrees of emotional response. She had a lack of emotion toward situations when the other characters complimented her, such as when they praised her singing and painting skills. She also laughed at random times. She did not score a 3 because, although her reactions to things like sirens were excessive, her reactions were related to

the situation. Julia only reacted with a tantrum in situations where it was obvious why. She never had mysterious outbursts.

*Body Use* was a rating of coordination and appropriateness of body movements. Julia was rated a score of 3 mainly because she exhibited repetitive movements. She flapped her arms so intensely and bounced during most of the activities. In order to receive a 4 for this category the rater needed to attempt to stop Julia from flapping her arms or bouncing and see if those movements persisted. That was not possible. In fact, the other characters promoted her flapping. There was an entire clip about Julia moving her arms, “Butterfly Flapping”, and an entire clip about bouncing while playing tag, “Boing Tag”. It appeared they cared more about making her feel comfortable and informing the audience. The other characters had to position themselves in ways that directed them at Julia. Julia did not position herself appropriately to communicate with others. Her movements were not clumsy but at times unusual. However, she did dance appropriately with the other characters as they all sang and danced in multiple scenes.

*Object Use* was a rating of Julia’s interest in toys and other objects and her use of them. Julia was rated a score of 2.5 because she was intentionally shown lining her blocks in a row versus building with them. She also spun the wheels of her toy car instead of pushing the car and making it drive. This category recommends the child be given a large selection of toys and items to play with. That was not possible. Having only seen two depictions of Julia playing with her toys in the digital storybook, it was hard to say if those behaviors would have a greater frequency if observed more. It is, however, obvious that *Sesame Street* intentionally used text-book examples of this symptom to highlight this particular characteristic in Julia.

*Adaption to Change* was a rating of the difficulty for Julia to adapt to change. Julia was rated a score of 1 because she went from one activity to another without a hiccup. When painting, the other characters suggested they play tag, and Julia joined in without hesitation. When swinging, it was suggested they play I Spy, and Julia ran around excitedly saying “Play Spy”. Yes, it took time to get her attention, but once she acknowledged the other characters she had no problem playing different games with them or singing different songs. Julia was not observed having any difficulty changing established routines.

*Visual Response* was a rating of unusual visual attention patterns. Julia was rated a score of 3 because she did not look the other characters in the eye and rarely looked in the appropriate direction. She sometimes glanced at the characters talking to her but mostly looked at the ground. It was hard to rate a puppet on visual patterns because puppets do not track their surroundings with their eyes like humans do. Despite this fact, it was very obvious that Julia’s visual behavior was very abnormal compared to the other characters.

*Listening Response* was a rating of unusual listening behavior or unusual response to sounds. The category was also concerned with interest in various sounds. Julia was rated a score of 3 because she was sensitive to loud noises. Her response to sounds such as sirens or the blender were debilitating to Julia’s functioning. When she heard sirens, she kept repeating “no” over and over. She covered her ears. She had to leave the group and seek a variety of soothing methods. On the other side, Julia also ignored certain sounds, like the other characters trying to engage her in conversation. Julia did not receive a score of 4 because, although the sounds forced her to cover her ears and become very agitated, her reactions depended on the type of sounds. She would not have the same reactions to any type of sound. She also appeared to really enjoy music and singing with her friends.

*Taste, Smell, and Touch Response and Use* was a rating of Julia's response to taste, smell, and touch, and whether or not she made appropriate use of those senses. Julia was rated a score of 1 because there were different textures and foods that she expressed distaste for, but she never over reacted. She said "no hot" when Alan offered her hot chocolate. She grunted and shook her head no when Abby Cadabby mentioned squishing the paint in her fingers while finger painting. Abby Cadabby then said, "Sorry Julia. I know you don't like the way it feels." Julia scored a 1 because she expressed she did not like those things and quickly moved on. She was never seen smelling any obscure items or tasting anything that was inedible.

*Fear or Nervousness* was a rating of unexplainable or unusual fears. Julia was rated a score of 2 because she was extremely frightened by the sirens. She was shaking even into the next scene. The duration and intensity of her fear and nervousness scored her a 2. Her fear of the sirens took her away from playing with her friends. She did not score higher than a 2 because the reason for her fear was identifiable. She was not fearful for no apparent reason, so her behavior was not peculiar or frequent.

*Verbal Communication* was a rating of all facets of Julia's use of language and speech. This included: peculiarity and appropriateness, vocabulary, sentence structure, and tonal quality. Julia was rated a score of 2.5 because her language was very repetitive. She repeated words like "play" over and over when she appeared excited or "no" when she appeared upset. She repeated other words like "Big Bird", "red", and "bubbles". She also exhibited echolalia. When Alan said, "Can Big Bird see your painting?" she said, "See your painting, yes". She did not say lengthy utterances. Usually she only said a few words tops, but the speech she did use made sense in every situation. Her speech appeared delayed but always deliberate.

*Nonverbal Communication* was a rating of Julia's communication through posture, gestures, and body movement. Facial expressions were more difficult to rate for a Muppet (puppet) than they would be with a human subject. For that reason, Julia's facial expressions were compared with the other characters, and not as if she were human. Julia was rated a score of 1.5 because she exhibited a slightly abnormal use of nonverbal communication for her age. She seemed unaware of others' gestures. She walked past Big Bird when he tried to high five her. That did not seem peculiar only because she was not looking at him. In most cases her unawareness of gestures was likely attributed to visual response versus nonverbal communication. She seemed receptive of others' communication and acquired enough verbal skills that she did not have to rely on nonverbal communication.

*Activity Level* was a rating of over activity or lethargy. Julia was rated a score of 2.5 because she appeared hyper most of the time. She was able to stay calm while engaging in specific activities, such as painting. She never appeared lethargic. Julia bounced and flapped her arms a lot. She ran around much more than the other kids her age. Instead of just running, she ran and bounced at the same time. It was not possible to encourage Julia to calm down or stay still, which the manual recommends. Julia could have received a higher score if it were possible to test her persistence at remaining so active. The other characters never tried to restrict her behaviors. They started bouncing with her while they played tag, encouraging her repetitive behaviors.

*Level and Consistency of Intellectual Response* was one of the most interesting categories Julia was rated on. This category was not a measure of Julia's IQ. This category was meant to identify extremely unusual (peak) skills. She was rated a score of 3.5, the highest score she received for any category. Julia remembered all the words to every song her and her friends sang.

Though she could only talk in few word utterances, it was mentioned that the other characters (Abby Cadabby in particular) forget the words while Julia remembers them all. She has other skills, like knowledge of numbers and letters, but the portrayal that contributed the most to her score of 3.5 was a portrait she painted in the “Meet Julia” clip. Elmo painted a stick-figure person. Abby Cadabby painted some trees and smeared blue for a sky. Their paintings were probably above average for real 4-year olds but still looked typical. Julia’s painting, on the other hand, was a realistic-looking bunny that was a portrait of her stuffed-animal Fluffster. Her painting looked above average for any person to have painted, let alone someone who is 4.

*General Impression* was a rating of overall impression and not an average of previous scores. Julia was rated a score of 3 because she portrayed a child with many different symptoms of ASD. Julia showed almost a textbook depiction of a toddler with autism. She portrayed examples of all three social communication and social-interaction deficits listed in the *DSM-5* (see Appendix B). She did not look people in the eye, but she engaged in communication with them. She lacked portraying a real back and forth conversation. She did not say many words, but she said the ones she knew, and she excitedly played with her friends. Julia portrayed two out of four restrictive, repetitive behaviors from the *DSM-5* guidelines, arm flapping being the most excessive. Although she demonstrated many different symptoms, the severity of those symptoms (peculiarity, frequency, intensity, and duration) were moderate or low. Julia scored a 3 for general impression and no higher or lower because she portrayed many symptoms, but they did not all drastically impede on the quality of her life.

### **Implications of the Study**

Two important findings emerged from the current study. First, Julia was surrounded by far fewer socially stigmatizing cues than previous subjects (people in news stories), and the stigmatizing cues that were found were arguably educational. In addition to the fact that fewer stigmatizing cues were found, the way they were presented differed as well from past studies. Holton, Farrell, and Fudge (2014) found labeling was used to call subjects “weird” or “abnormal” while Julia was labeled by saying she "has autism" and she’s “shy”. *Sesame Street* had to label Julia and point out her psychiatric symptoms and social deficits to educate the viewers. With 26% of the overall content containing socially stigmatizing cues, the majority of the dialogue amongst the characters did not contain socially stigmatizing cues, unlike what was previously found.

The other important finding, and potentially the most important finding, was that Julia received CARS2 scores that placed her in the average-autism symptomology group. That was a meaningful finding. Thirteen of the 15 characters Garner, Jones, and Harwood (2015) rated were placed in the severe category, and one was placed in the moderate-to-severe category. Those characters had symptoms more severe than the actual population of people with ASD. These findings imply that Sesame Workshop did their research when creating Julia because her symptoms were comparable to other 4-year-olds with autism.

Characters with ASD are often stereotyped as having super-human or genius qualities. Julia was not portrayed as a scientist or super genius. However, she was portrayed as a 4-year-old girl with autism who can paint remarkable photos. Her painting of her stuffed animal Fluffster was exceptional for not only a child but even an adult. Not all people with autism have some kind of peak skill or talent. Julia’s character was designed to educate, and she arguably did that. However, her portrayal might reinforce the idea that people with ASD have an outstanding

skill of some kind, which was the case for numerous characters with ASD detailed in Chapter 2 (Belcher & Maich, 2014; Conn & Bhugra, 2011; Garner, Jones, & Harwood, 2015). It is wonderful if a person with ASD has an exceptional skill, but not all people with ASD will have such an outstanding skill. It could potentially damage the overall perception of people with autism and affect the way their peers see them. Students might expect their classmate with ASD to have some exceptional skill and wonder why they do not. Parents might expect their child should have an exceptional ability after discovering their child's diagnosis.

Society needs more representation of real people with ASD. There is no debriefing after a movie or show that explains to the audience which parts of the content were factual or for entertainment (Belcher & Maich, 2014). People with ASD are the only people who can truly attest to the accuracy of their portrayals, and unfortunately, they do not always have the ability to speak up for themselves. Kang (2013) and Clarke (2011) both found that people with ASD were rarely ever interviewed about their disability. Their lack of voice on the issue of their portrayals makes the accuracy of their representations all the more important.

### **Strengths of the Study**

Only a small amount of research has been conducted that examined characters with ASD in television or movies, so there was not a lot of information in terms of character narratives to inform this study. However, The CARS2, borrowed from Garner, Jones, and Harwood (2015), and the stigmatizing cues borrowed from Holton, Farrell, and Fudge, (2014), both demonstrated great value as measuring tools for future research. With hit shows featuring a character with ASD, such as *The Good Doctor*, there are many opportunities to replicate this analysis using the stigmatizing cues and the CARS2. The CARS2 is a professional tool, but it is accessible to



anyone. Certification or training are not required to use the CARS2. The rater only needs a copy of the manual, good observation skills, and the ability to follow step-by-step instructions. It is a scale that is widely used in the field, so the results are generalizable. There is a standard version and a high-functioning version, so it can be used on any character with ASD.

### **Limitations of the Study**

The gain and loss frames did not occur in any of the media content. These frames have the potential to transpose over to a television character with ASD, but the plot needs to focus on the character's health. Julia's health was never the focus. All of the media in this study showed Julia in her school setting. The goal was educating her friends at school about her different characteristics. These frames would likely show up more in the home setting. Parents are the ones that discuss health-related issues and make health-related decisions. Those discussions do not occur amongst preschoolers. There is, however, some information in the lack of findings. *Sesame Street* is formulated with extensive research. Schreck and Ramirez (2016) found that non-scientifically supported treatments for autism were covered 40% more than treatments that are supported by science on the most popular television news networks. ABC and CBS alone devoted over 70% of their news coverage to non-scientifically supported treatments. Future depictions might address those issues, and should, because parents learn from watching *Sesame Street* with their children as well and would benefit from learning about the medical issues associated with ASD.

Garner, Jones, and Harwood, (2015) chose the CARS2 as their rating scale because it is strictly observation based with no need to interact with the subject. The CARS2 is suitable for observation-only subjects (a character on a show versus a real person), however the tool is most effective when the rater can engage the subject for some of the categories. To best test

persistence, some of the child's behaviors should face restriction. For other categories, like object use, the child should really be given a wide range of options. If Julia were a real child, her scores might have differed slightly based on those interactions or a parent questionnaire.

### **Future Research**

Future researchers could use the gain and loss frames on a character with ASD, but the plot needs to focus on that character's health. That research might render some interesting findings. The episodic and thematic frames should also be replicated in the narrative context. No thematic frames were found in this study, but future researchers might find a combination of the two. Ideally, content should contain both episodic and thematic frames used together to connect individual concerns and social responsibility (Kang, 2013).

The stigmatizing frames and the CARS2 (with the *DSM-5* guidelines) were the devices that proved worthy of replication. The stigmatizing frames were easily identifiable in both media (episode clips and storybooks). Health-related issues only apply to some, but social aspects concern everyone. Everyone has the potential of associating with someone with ASD. Stigma is socially constructed, and it reduces someone's worth, in the minds of others, from a whole "usual" person to a less than "unusual" person (Goffman, 1963). Characters with autism are more popular than ever, and those characters should receive analyses with this frame. It would be interesting to see overall percentages of stigmatizing frames, but it would also be interesting to see how different shows used those cues to effectively tell their story. In Julia's case the stigmatizing cues were used for educational purposes. It would be interesting to see how comedies like *The Big Bang Theory* used stigmatizing cues. In Sheldon's case the stigmatizing cues might have been used in conjunction with humor. This frame could be reconstructed to

identify not just the occurrence of stigmatizing cues but also the function.

The CARS2 should also be used to analyze more recent shows featuring characters with ASD. When Garner, Jones, and Harwood (2015) conducted their study, it was not long ago, but some very popular characters have emerged since then. Peak skills were found in Julia's portrayal, as previous studies have also shown. The CARS2 category *level and consistency of intellectual response* is important for measuring if a character has exceptional abilities. It is worth paying attention to in future studies if characters with ASD continue to exhibit genius or exceptional skills.

It was a goal of *Sesame Street* to reduce the stigma around ASD. This study did not test for that. However, this study did show that their content contained fewer stigmatizing cues. Future research should measure audience perceptions of content featuring Julia. A pre and post survey could measure if stigma was reduced after viewing the content. Most interestingly, future researchers could measure the real-life impact Julia's character has on preschoolers. GUMC (2016) found that parents gained knowledge about ASD after exposure to the *See Amazing* autism initiative. Preschoolers should be surveyed as well. Those analyses could even be taken a step further. An experimental design could be used to first observe typical preschoolers around preschoolers with autism. The typical peers would then watch the materials featuring Julia. Then the investigators could observe the typical peers around their peers with autism again to see how their behaviors changed. This show can have meaningful implications for society, starting right at the beginning of school. If future analyses can show that Julia helped educate preschoolers and created a better environment for children with ASD, those findings could contribute immensely to the creation of future training programs for students and teachers. Ultimately,

*Sesame Street* can help students interact with their peers with ASD because exposure to Julia can help them recognize that a peer has autism, and they might remember some of the skills they learned from the show.

## APPENDIX A

### FRAMES

#### Coding Guidelines for Frame Analysis

##### Frames/Variables

##### Episodic 1 “yes” 0 “no”

Focuses on autism at the individual level regarding Julia and/or her friends.

Example: Elmo tells Abby Cadabby that Julia is not responding to her because she has autism and sometimes takes a little longer to respond.

##### Thematic 1 “yes” 0 “no”

Focuses on ASD from a societal level rather than regarding Julia and/or her friends.

##### Socially Stigmatizing Cues 1, 2, 3, or 4 “yes” as labeled below 0 “no”

1. Labeling: Identifies Julia based on her diagnosis, with or without negative associations, such as using nouns or adjectives that emphasize abnormal traits.  
Examples: Mentioning that Julia has autism; calling her different, shy, loner, abnormal, etc.
2. Psychiatric symptoms: Focuses on responses to external stimuli, cognitive limitations, or other symptoms that impede one’s quality of life.  
Examples: Mentioning rocking, shaking of hands or other body parts, speaking very softly or very loudly, sensitivity to noises or lights etc.
3. Social deficits: Identifies impaired social interactions or other verbal or nonverbal communication issues.  
Examples: Identifies delayed language skills, trouble making friends, difficulty learning basic life skills etc.
4. Physical appearance symptoms: References physical development, impairments, or abnormalities.  
Examples: Trembling or shaky limbs, mismatched clothes, messy hair etc.

##### Mutually Exclusive Frames/Variables

##### Gain 1 “yes” 0 “no”

Emphasizes the benefits or rewards associated with partaking or avoiding certain actions.

##### Loss 1 “yes” 0 “no”

Focuses on the risks or disadvantages of partaking or avoiding certain action.

**Sample Coding Sheet (Frames)**

Write 1 “yes” for the occurrence of each frame or 0 “no” occurrence. For socially stigmatizing cues write the number for the predominate frame if more than one occurs in a sentence. Only gain and loss frames are mutually exclusive.

Media Type Episode Clips (1) Storybooks (2)	Title	Unit of Analysis number for tracking	Source Julia (1) Other (2)	Gain	Loss	Episodic	Thematic	Socially Stigmatizing Cues Labeling (1) Psychiatric Symptoms (2) Social Deficits (3) Physical Appearance (4)

## APPENDIX B

### ASD SEVERITY

#### Sample Coding Sheet (CARS2)

Provide the appropriate CARS2 scores in the score boxes below. There are seven possible CARS2 ratings for each category: (1) within normal age limits, (1.5) very mildly abnormal for age, (2) mildly abnormal for age, (2.5) mildly-to-moderately abnormal for age, (3) moderately abnormal for age, (3.5) moderately-to-severely abnormal for age, and (4) severely abnormal for age. There are many factors to consider when deciphering scores. Step-by-step guidelines are set forth in the *CARS2 Manual* (Schopler, & Van Bourgondien, 2010).

Category	Score	Observations
Relating		
Imitation		
Emotion		
Body		
Object		
Adapt		
Visual		
Listen		
Taste		
Fear		
Verbal		
Non-verbal		
Activity		
Intellect		
General Impression		

**DSM-5 Guidelines**

<p><b>The diagnosed person must show persistent deficits in social communication and social interaction across multiple contexts: 3 out of 3 deficits must occur</b></p>	<p>Deficits in social-emotional reciprocity ranging from abnormal social approach and failure of normal back-and-forth conversation; reduced sharing of interests, emotions, or affect; and/or failure to initiate or respond to social interactions.</p>	<p>Deficits in nonverbal communicative behaviors used for social interaction from poorly integrated verbal and nonverbal communication; abnormalities in eye contact and body language or deficits in understanding and use of gestures; and/or a total lack of facial expressions and nonverbal communication.</p>	<p>Deficits in developing, maintaining, and understanding relationships, from difficulties adjusting behavior to suit various social contexts; difficulties in sharing imaginative play or in making friends; and/or absence of interest in peers.</p>
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<p><b>The diagnosed person must exhibit at least two of the following restricted, repetitive patterns of behavior, interests, or activities: 2 out of 4 deficits must occur</b></p>	<p>Stereotyped or repetitive motor movements, use of objects, or speech. For example, simple motor stereotypies such as lining up toys or flipping objects, or echolalia (repeating back words).</p>	<p>Insistence on sameness, inflexible adherence to routines, or ritualized patterns of verbal or nonverbal behavior.</p>	<p>Highly restricted, fixated interests that are abnormal in intensity or focus, for example, strong attachment to or preoccupation with unusual objects, and/or excessively circumscribed or perseverative interest.</p>	<p>Hyper- or hypo-reactivity to sensory input or unusual interests in sensory aspects of the environment, such as apparent indifference to pain/temperature, adverse response to specific sounds or textures, excessive smelling or touching of objects, and/or visual fascination with lights or movement</p>
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## CURRICULUM VITAE

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### EDUCATION

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**University of Nevada, Las Vegas** **May 2018**  
**Master of Arts—Journalism and Media Studies**

**University of Nevada, Las Vegas**  
**Bachelor of Arts—Journalism and Media Studies, *cum laude*** **May 2016**

### TEACHING EXPERIENCE

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**Graduate Teaching Assistant** **Aug. 2017 to May 2018**  
**Journalism 107: “Foundations in Media and Communication”**  
University of Nevada, Las Vegas—Journalism and Media Studies

- Taught four sections of Journalism 107, an undergraduate course averaging 100 students per semester covering: Mass media, media convergence, media literacy, media effects, media culture, media business, and control and regulation of media.
- Developed course assignments and lab activities
- Graded all coursework

**Graduate Teaching Assistant** **Aug. 2016 to May 2017**  
**Journalism 101: “Critical Analysis of the Mass Media”**  
University of Nevada, Las Vegas—Journalism and Media Studies

- Taught four sections of Journalism 101, an undergraduate course averaging 100 students per semester covering: Journalistic writing, photography, media ethics, radio, and advertising.
- Developed course assignments and mentored students through projects
- Graded projects and quizzes
- Lectured media ethics

### RESEARCH EXPERIENCE

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**Thesis** **May 2018**  
**“Media Portrayals of Autism Spectrum Disorder: A CARS2 and frame analysis of the *Sesame Street* character Julia”**  
University of Nevada, Las Vegas  
Advisor: Paul J. Traudt Ph.D.

- Conducted two analyses using the Childhood Autism Rating Scale (CARS2) to rate Julia’s autism severity levels and multiple frames to gauge stigmatizing dialogue.

**Research Assistant**

**Jan. 2018 to May 2018**

University of Nevada, Las Vegas

Advisor: Cori More Ph.D.

- Created survey for autism teachers in CCSD aimed at gaining information about teaching practices that are currently working or need improvement and administration and faculty support.

**PRESENTATIONS & COMPETITIONS**

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**College of Urban Affairs Graduate Research Symposium (1<sup>st</sup> place)**

**April 23, 2018**

Graduate students competed in a poster presentation.

- Presented research entitled “Media Portrayals of Autism Spectrum Disorder: A content analysis of Julia from *Sesame Street* using the Childhood Autism Rating Scale and stigmatizing cues”

**UNLV Rebel Grad Slam**

**Oct. 30, 2017**

Graduate students from all colleges presented their research in a 3-minute presentation.

- Presented a project entitled: “Visualizing ASD: Are media portrayals accurate?”

**Hank Greenspun Photojournalism Contest (1<sup>st</sup> place)**

**March 31, 2017**

The theme of the contest was “Solutions Start Here” and focused on portraying problems that exist in the community and solutions.

- Photos represented characteristics of Autism Spectrum Disorder (ASD). Portrayals of people with ASD are often inaccurate or exaggerated. Four photos were submitted that represented a realistic account of someone living with ASD.

**Far West Popular Culture Conference**

**Feb. 25, 2017**

- Presented on a panel entitled: "The Modern Digital World in Law and Education" on a paper entitled: “Fake News and the MMR-Autism controversy”

**PROFESSIONAL AFFILIATIONS**

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**Graduate and Professional Student Association**

**Aug. 2017 to May 2018**

GPSA is UNLV’s graduate student government

- Journalism and Media Studies Representative

**Appeals and Legal Issues Committee**

**Aug. 2017 to May 2018**

- Heard graduate students’ cases regarding grade changes, credit transfers, and comprehensive exams
- Created university faculty recommendations

**Kappa Tau Alpha**  
National Honor Society for Journalism and Mass Communication.

**April 2018**

## **HONORS & AWARDS**

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**Alumni Association Scholarship**

**May 2017**

**Maury Stevens Scholarship**

**April 2017**

**MediaShift's Hack the Gender Gap: Women's Hackathon** **October 9-11, 2015**

The weekend-long program featured talks and team-building exercises in which students were grouped based on their strengths in tech, editorial design, and business. In the end, each team pitched to faculty and professionals from companies including Facebook and BuzzFeed.

- Received a grant to attend USC Annenberg School of Journalism and Communication in Los Angeles where the event was held.

**Governor Guinn Millennium Scholarship**

**June 2010**

## **REFERENCES**

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